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ENVIRONMENTAL SCOPING REPORT (ESR)

(Historic police station structure, 2025)

DEVELOPMENT OF A LODGE, CAMPSITE AND ASSOCIATED ADVENTURE ACTIVITIES IN THE ORANGE RIVER TOURISM CONCESSION OF THE TSAU //KHAEB (SPERRGEBIET) NATIONAL PARK

Prepared for:

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Building Futures

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DOCUMENT INFORMATION		
Title	Environmental Scoping Report (ESR) for the Development of a Lodge, Campsite and Associated Adventure Activities in the Orange River Tourism Concession of The Tsau //Khaeb (Sperrgebiet) National Park	
ECC Application Reference number	**APP: 006235**	
Listed Activity (EMA, Act No. 7 of 2007 and EIA regulations of 2012)	**Activity 2. Waste Management, Treatment, Handling and Disposal** 2.1 The construction of facilities for waste sites, treatment of waste and disposal of waste **Activity 4. Forestry Activities** 4.1 The clearance of forest areas, deforestation, afforestation, timber harvesting or any other related activity that requires authorization in terms of the Forest Act, 2001 (Act No. 12 of 2001) or any other law. **Activity 6: Tourism Development** 6. Construction of resorts, lodges, hotels or other tourism and hospitality facilities **Activity 8. Water Resource Developments** 8.1 The abstraction of ground or surface water for industrial or commercial purposes	
Location	The Tsau //Khaeb (Sperrgebiet) National Park, Orange River Concession, //Kharas Region	
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[1] *EAP – Environmental Assessment Practitioner*

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ABBREVIATIONS

DEA	Department of Environmental Affairs
DSR	Draft Scoping Report
EA	Environmental Assessment
EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
ECO	Environmental Compliance Officer
EIA	Environmental Impact Assessment
EMA	Environmental Management Act (No. 7 of 2007)
ESMP	Environmental and Social Management Plan
ESR	Environmental Scoping Report
I&APs	Interested and Affected Parties
MEFT	Ministry of Environment, Forestry and Tourism
SM	Site Manager
TEC	Tortoise Environmental Consultant

1. INTRODUCTION

1.1 Overview of the Tsau //Khaeb National Park

The Tsau //Khaeb (Sperrgebiet) National Park (TKNSP) was proclaimed a national park in 2008 ((Tjihukununa , 2022). Formerly known as the “Sperrgebiet” or “Forbidden Area,” it was historically closed to the public for over a century due to diamond mining activities. Today, it forms part of the country’s largest conservation landscapes and is recognised for its ecological, geological, and cultural significance.

The park covers an area of 2.2 million hectares and is home to the Succulent Karoo biome, one of the world’s biodiversity hotspots, supporting unique plant and animal species adapted to the arid climate.

1.2 Project rationale

The Orange River Concession Project is proposed as part of the broader strategy to diversify the economic base of Oranjemund and reduce reliance on diamond mining, which is a finite resource (OMDis Town Transform Agency, 2025). With diamond mining scaling down and economic transformation identified as a priority in the Vision 2030 for Oranjemund, OMDis was established as a non-profit Special Purpose Vehicle to proactively accelerate the economic diversification of Oranjemund alongside mining and beyond .

Tourism development within the Tsau //Khaeb (Sperrgebiet) National Park (TKNSP) has been identified as one of the key driver for socio-economic transformation. The concession will leverage the park’s unique ecological, cultural, and adventure tourism potential to:

- Create sustainable employment and skills development opportunities for residents.
- Support the growth of existing small and medium enterprises (SMEs) and encourage entrepreneurship.
- Enhance Oranjemund’s profile as a tourism hub by integrating heritage, adventure, and eco-tourism experiences.
- Promote cross-border tourism synergies with South Africa through the Ai-Ais Richtersveld Transfrontier Park.

1.3 Project Location – Hohenfels Concession

The Orange River Concession is situated in the south-western corner, between approximately 26° and 28.5°S latitude and 13° and 17°E longitude. Stretching roughly 320 km in a north-northeast to south-southwest direction, and covers an area of approximately 22150 hectares (guided tours – sand sea zone of 22000ha and adventure river zone-2150ha) (OMDis Town Transform Agency, 2025)

The concession is situated on the banks of the Orange River, near Oranjemund, connects to the tourism route connecting Oranjemund to Rosh Pinah, Aus and Lüderitz.

Table 1-1: GPS Coordinates

Point	Longitude	Latitude
NW	16.604175	-28.505969
NE	16.617374	-28.505969
SE	16.611327	-28.521859
SW	16.604175	-28.521859

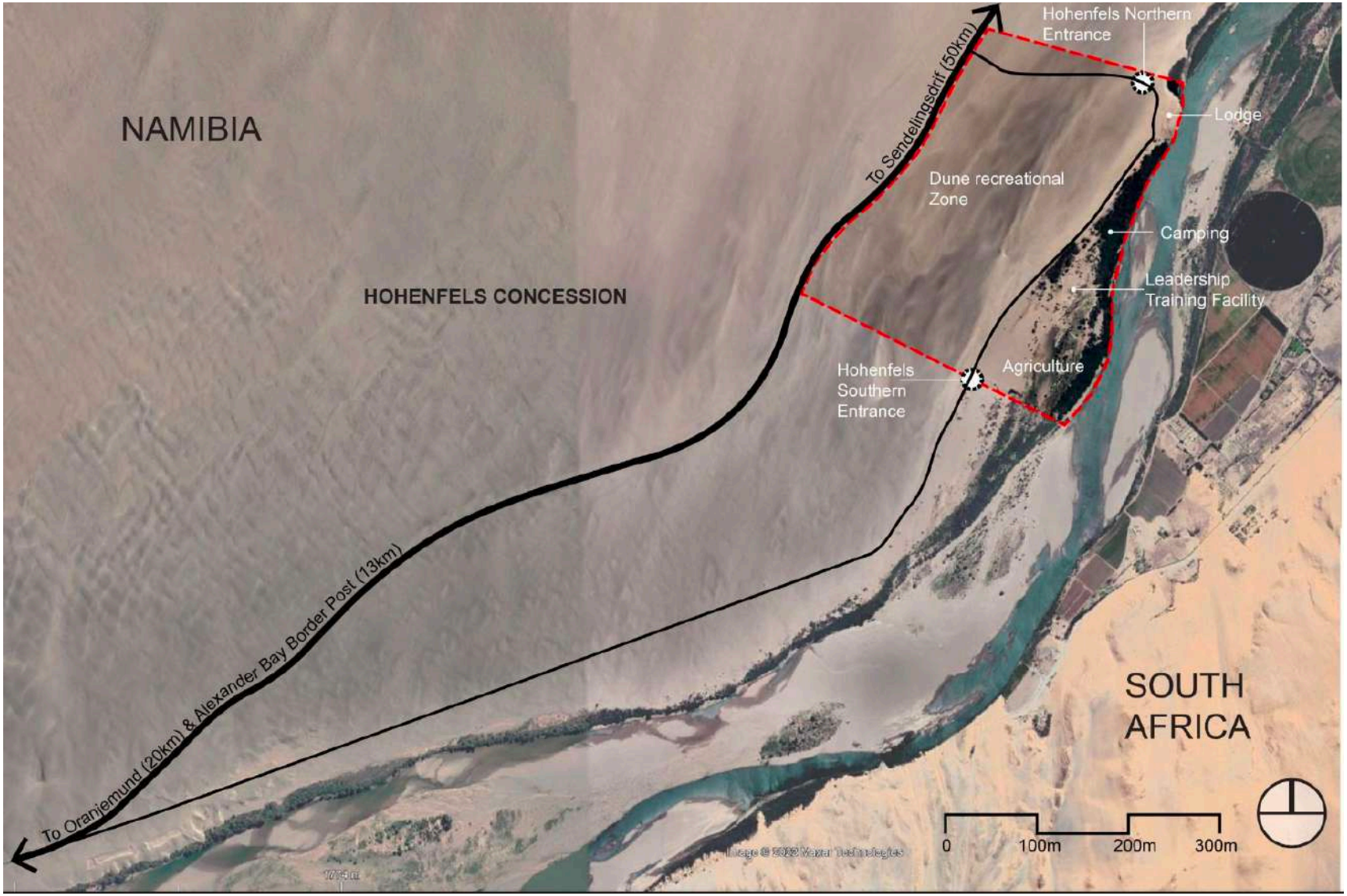


Figure 1-1: Hohenfels Tourism Concession

1.4 EIA Regulation

The EIA is regulated by the Environmental Management Act, 2007 and the EIA Regulations No. 30 of 2012, which is administered by the Ministry of Environment Forestry and Tourism (MEFT), through the Department of Environmental Affairs (DEA), which is headed by the Environmental Commissioner (EC).

1.5 Environment versus Economic Development

Namibia's economy is highly dependent on a healthy environment and striking a balance in meeting demands for economic development and maintaining biological diversity remains a priority. Therefore, it is of utmost importance that the environment and development sectors should work together and identify synergies to ensure that natural resources are utilized acceptably and sustainably.

The aim of undertaking environmental assessments is to mitigate negative impacts that would otherwise compromise socio-economic development.

1.6 EIA Process

An Environmental Impact Assessment (EIA) is a process of identifying, predicting, evaluating and mitigating the effects (negative impacts) of a proposed project on the natural and human environment.

The EIA process aims to apply the principles of environmental management, reduce negative impacts and provide an opportunity for the public to comment on the proposed activity.

The EIA Process entails the assessment and description of the study area, recommended site or affected environment. The EIA further investigates and identifies potential impacts that may arise from the proposed activity.

For every impact that is deemed significant, mitigation measures will be developed and will be outlined in the Environmental and Social Management Plan (ESMP).

2. PROJECT DESCRIPTION

2.1 Access to Project Site – Hohenfels Concession

The project area falls within a diamond mining licence area, and all access will be regulated according to the park's rules and security protocols.

2.2 Existing infrastructure / Current footprint

Figure 2-1: Old house

Figure 2-2: Old Water Tank

Figure 2-3: Historic Police Station

Figure 2-4: Aerial view of the proposed lodge site

2.3 Proposed Development

The project involves the phased establishment of tourism infrastructure and activities over an estimated eight-year period, allowing for gradual investment and adaptation to market demand.

2.3.1 Infrastructure

- 25 country style guest units all with en suite bathroom facilities
- Communal main area including lounge, fire pit, bar, restaurant,
- Shop, swimming pool and guest ablution facilities
- Conference Centre
- 4 group campsites with 2 ablution blocks,
- Each campsite will have their own private braai facility with uncover outdoor kitchenette.
- Staff village

2.3.2 Activities

- Private guided excursions to the previously restricted area
- Scenic Sundowner drives
- Bird Watching
- Walking and fat bike trails
- Private guest dinners on request
- Scenic flights
- Canoeing excursions
- Dedicated 4x4 driving training
- Fresh water fishing
- Horse riding trails

2.3.3 Site Plan

The development strategy involves defining broad zones of activity, implemented through a phased approach. This method optimises access to natural features and existing infrastructure while minimising initial infrastructure costs.

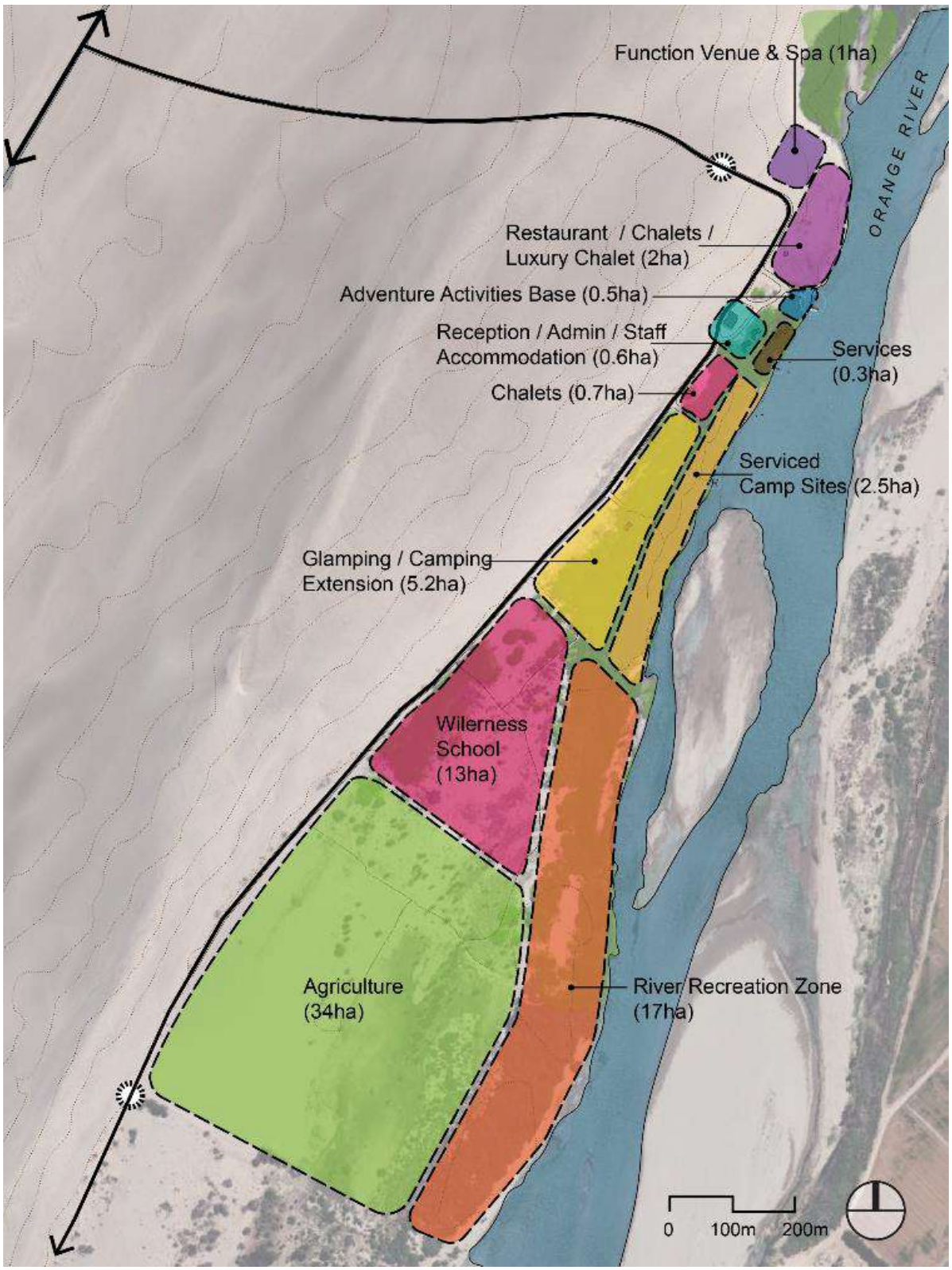


Figure 2-5: Site Layout (1)

Figure 2-6: Lodge Layout

03 Main Building

05 Pool Deck

04 Main Building

06 Luxury Chalet

Figure 2-7: Conceptual Design

2.3.4 Development phases

The phased implementation plan spreads the investment over a five to eight-year period, enabling returns to be generated before significant capital expenditure is required. This approach allows the project to progressively meet expected increases in demand, with the flexibility to adjust the sequence of phases to better align with market conditions. These phases are presented below:

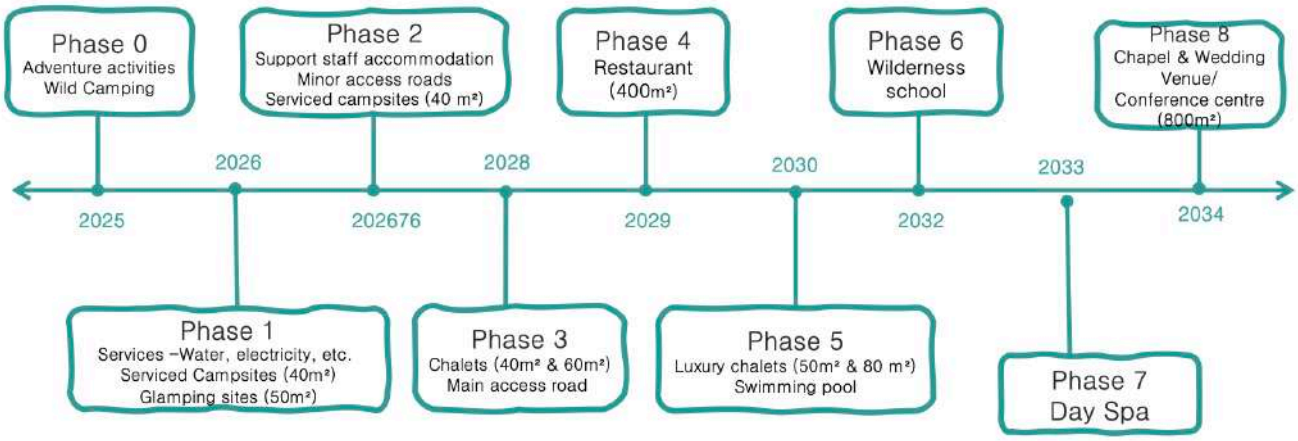


Figure 2-8: Development phases for the project

The project phases are further explained and illustrated below:

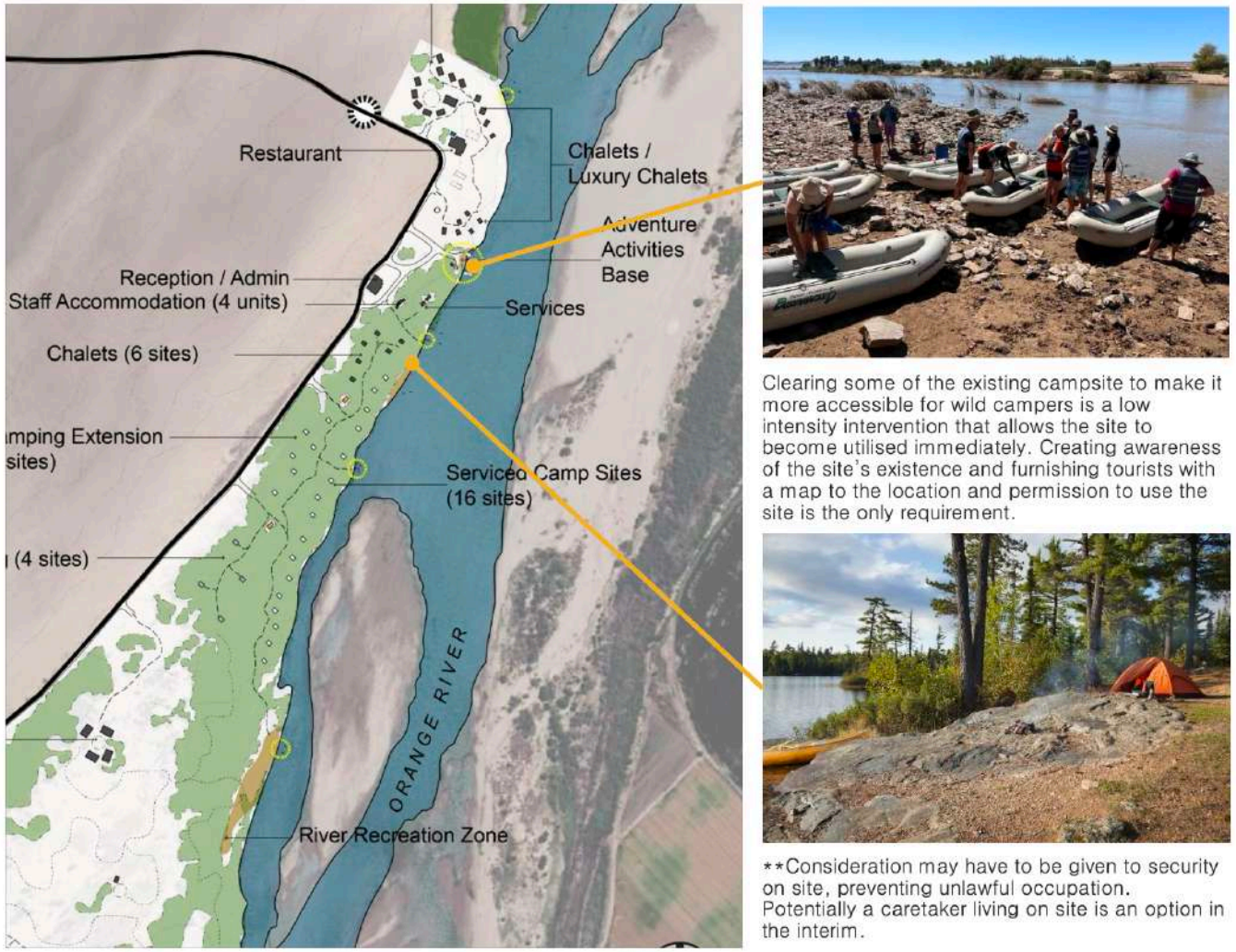
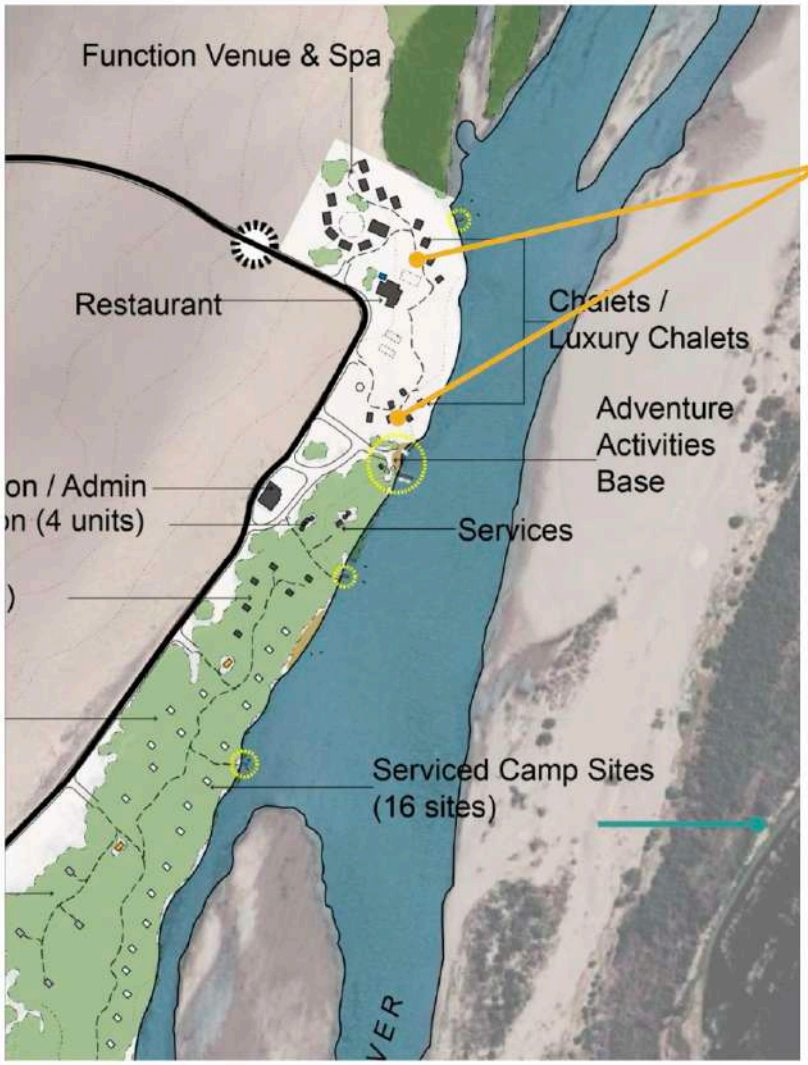


Figure 2-9: Phase 0 - Adventure activities, wild activities, wild camping and bulk services

Figure 2-10: Phase 1- Glamping & Camping



Having different types of chalets allows the facility to cater to different market segments.

Developing a truly iconic architectural style allows the site to become a destination and establish firmly its identity as a must see destination. Limited chalets also offer exclusivity and a more intimate village feel among facilities at the lodge.

Standard and Luxury Chalets

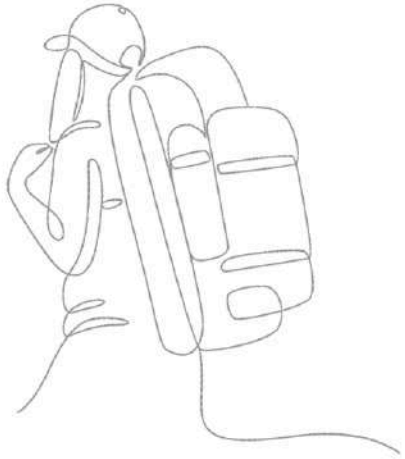
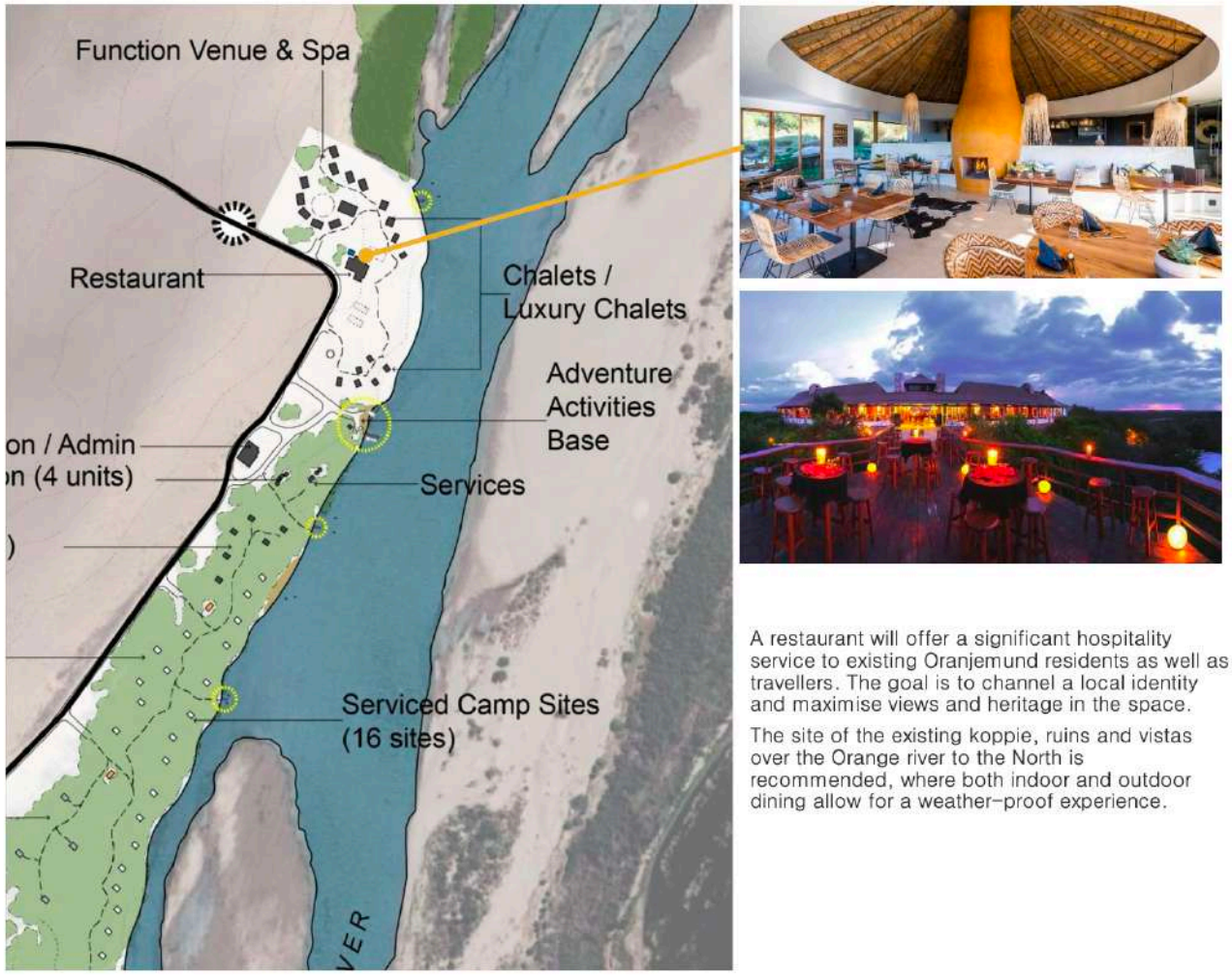


Figure 2-11: Phase 2-3: Standard and luxury chalets

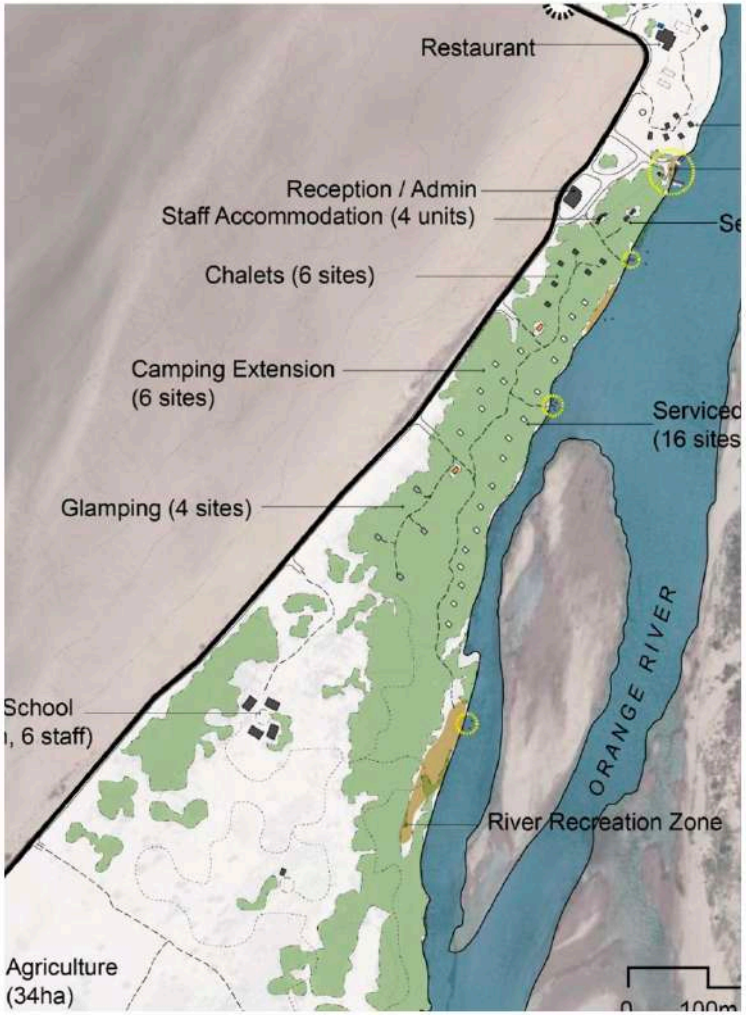


Fine Dining With a View

A restaurant will offer a significant hospitality service to existing Oranjemund residents as well as travellers. The goal is to channel a local identity and maximise views and heritage in the space.

The site of the existing koppie, ruins and vistas over the Orange river to the North is recommended, where both indoor and outdoor dining allow for a weather-proof experience.

Figure 2-12: Phase 4: Fine dining with a view



Glamping offers a camping experience to travellers without equipment, or perhaps a more luxurious experience to traditional camping for other markets. Glamping sites are spread further apart, allowing for future infill or sustained privacy. This self-catering or B+B type accommodation is popular in Namibia and with foreign tourists specifically.

Glamping Sites

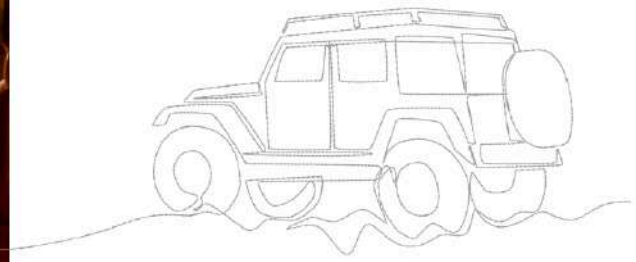
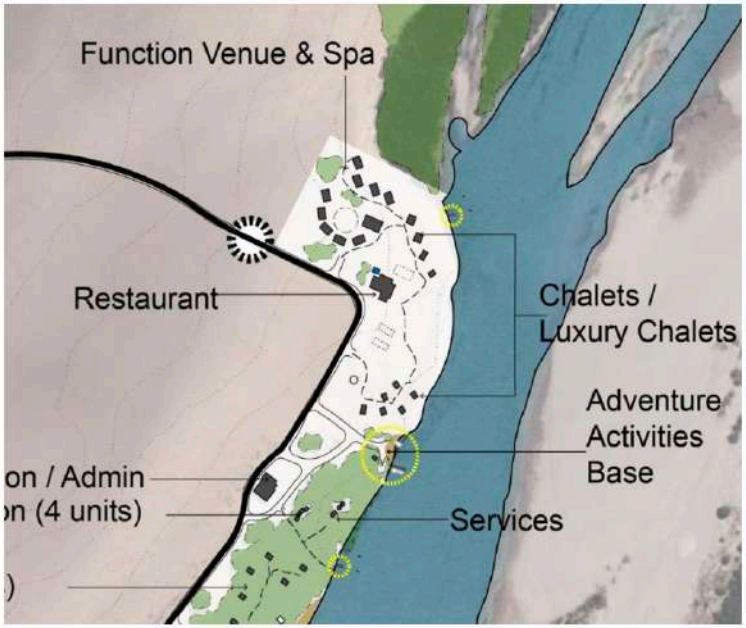


Figure 2-13: Phase 5 - Glamping sites



The inclusion of a full scope lodge development towards the later end of the development trajectory offers the opportunity to take advantage of a mature tourism market in the South of Namibia.

Iconic architecture and full exploitation of natural views and landscapes allows the site the ability to develop its own iconic identity. Given the closeness of the site to South Africa and OMD, a event space and wedding venue have potential, especially if there is accommodation on site.

(Not pictured here) An education focussed centre (nature school/leadership training facility) for youth and students offer additional income potential and again proximity to South Africa and location within the park are advantageous.

Wilderness School
Facilities, Nature
School, Day Spa

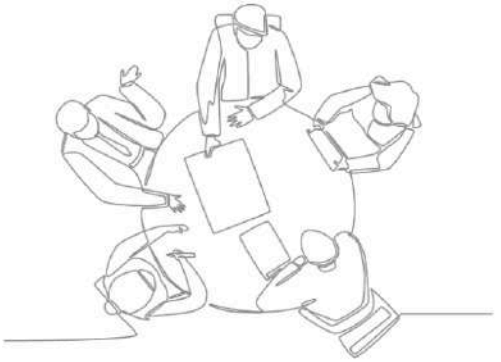


Figure 2-14: Phase 6-8: Wilderness school facilities, nature school, day spa

3. INPUT MATERIALS FOR CONSTRUCTION

This section highlights the key input material needed for the construction of the proposed infrastructure.

3.1 Input materials

3.1.1 Water sources

A reliable water supply is necessary for construction activities.

Table 3-1:Water sources for the construction of the lodge and campsites

Water demand	Potential water source
Data unavailable	• Water will be sourced directly from the river

3.1.2 Sand

Burrow pits excavation and collection of sand close by to supply sand for construction.

4. COMPLIANCE AND LEGAL FRAMEWORK

This chapter outlines the regulatory framework.

4.1 Compliance to the EMP

The EMP is binding to the proponent, and all contractors / sub-contractors. This implies that every entity that may have any kind of engagement or involved in/with the activities of the proposed tourism developments should comply with the EMP throughout the project lifespan. Non-compliance may have serious consequences e.g License withdrawal.

4.2 Environmental Management Act (No.7 of 2007)

Section 27 of the Environmental Management Act 2007 (Act No. 7 of 2007) (EMA) provides a list of activities that may not be undertaken without an Environmental Clearance Certificate (ECC) (herein referred to as: listed activities). The proposed activities triggers the following listed activities.

The EMP should conform to the provisions of the Environmental Management Act (EMA), Act No. 7 of 2007 and EIA regulations of 2012 (Government Notice: 30).

The EIA Regulations defines a '*Management Plan*' as:

"…a plan that describes how activities that may have significant impacts on the environment are to be mitigated controlled and monitored."

4.3 EMP Requirements

Table 4-1: EMP Requirements as outlined in Section 8 of the EIA Regulations

Requirement
(j) a draft management plan, which includes – *(aa) information on any proposed management, mitigation, protection or remedial measures to be undertaken to address the effects on the environment that have been identified including objectives in respect of the rehabilitation of the environment and closure;* *(bb) as far as is reasonably practicable, measures to rehabilitate the environment affected by the undertaking of the activity or specified activity to its natural or predetermined state or to a land use which conforms to the generally accepted principle of sustainable development; and* *(cc) a description of the manner in which the applicant intends to modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation remedy the cause of pollution or degradation and migration of pollutants.*

4.4 Listed Activities

The proposed project triggers a number of Listed Activities as set out in the Environmental Management Act, 2007 (Act No. 7 of 2007) (herein referred to as the EMA) and the Environmental Impact Assessment Regulation, 2007 (No. 30 of 2011) (herein referred to as the EIA Regulations).

Listed Activities may not be undertaken without an Environmental Clearance Certificate (ECC), and hence an Environmental Impact Assessment (EIA) is required. The EIA entails the development of the EIA Scoping Report and Environmental Management Plan (EMP) which should be submitted to the MET as part of the application for the ECC.

Table 4-2: Listed Activities triggered by the proposed project

Listed Activity	Activity Description	Relevance to the proposed project
Activity 2: Waste Management, Treatment, Handling and Disposal	2.1 The construction of facilities for waste sites, treatment of waste and disposal of waste	Solid waste: containment, separation and recycling Wastewater: Construction of a wastewater system (septic tanks, treatment and disposal)
Activity 4. Forestry Activities	4.1 The clearance of forest areas, deforestation, afforestation, timber harvesting or any other related activity that requires authorization in terms of the Forest Act, 2001 (Act No. 12 of 2001) or any other law.	Possible land clearing for the construction of campsites, lodge and supporting infrastructure.
Activity 6: Tourism Development	6. Construction of resorts, lodges, hotels or other tourism and hospitality facilities	The project entails the construction of campsites, luxury challets and lodge.
Activity 8: Water Resource Development	8.1 The abstraction of ground or surface water for industrial or commercial purposes	Abstraction of groundwater for construction of the campsites and lodge.

4.5 Legal Framework Relevant to the EMP

In addition to the EMA and the Environmental Assessment Policy, there exists a host of legal and policy documents and guidelines that must be considered when undertaking an EIA as indicated in table 5.3, below.

The proponent has the responsibility to ensure that the proposed activity conforms to all relevant National developmental plans and legal framework.

Table 4-3: Policies, Plans and Strategies

Policy / Plan	Relevancy/Summary	Applicability to the Proposed Project
5th National Development Plan (NDP) and Vision 2030	Outlines the country's national development ambitions, in line with the Harambee Prosperity Plan, and Vision 2030. NDP5 incorporates the principles and recommendations contained in the Stockholm Declaration on the Human Environment (1972) and associated Action Plan, as well as Agenda 21 which merged from the Convention on Biological Diversity, Rio De Janeiro (1992).	The proposed project is a development that forms part of the bigger picture of achieving economic progression, social transformation and environmental sustainability.

Table 3.2: National Statutes

National Statutes	Relevance/Summary	Applicability to the Proposed Project
Environmental Management Act, 2007 (Act No. 7 of 2007)	Promote sustainable use of natural resources based on the principles of environmental management. Regulates environmental clearance certificate for listed activities	Provides the framework for the EIA and development of mitigation measures outlined in the EMP
Pollution Control and Waste Management Bill (in preparation and adopted as best practice)	Intent to repeal the outdated Atmospheric Pollution Prevention Ordinance (11 of 1976).	Aim to regulate and prevent the discharge of pollutants into the environment (land, air and water).
Water Resources Management Act, 2013 (No. 11 of 2013)	Came in force in August 2023. Provide framework for managing water resources based on the principles of integrated water resource management (IWRM)	Section 44 – Regulates water abstraction licenses Section 68 – Prevent water pollution. Section 69 and 72 regulates and licensing of wastewater treatment plants and effluent discharge
Soil Conservation, (Act 76 of 1969) and Amendment (Act 38 of 1971)	Makes provision for the prevention and control of soil erosion	Through vegetation removal there may be the risk of affecting soil quality.
Forest Act 12 of 2001 Forest Act Regulations 2015	To provide for the protection of the environment and the control and management of forest.	Provision for the protection of protected or endangered plant species.
National Heritage Act, No. 27 of 2004.	The Act provides for the protection and conservation of places and objects with heritage / archaeological significance.	Potential for chance find of cultural heritage or archaeological artefacts
Public and Environmental Health Act (Act No. 1 of 2015)	The Public Health Act aims to protect the public from nuisance or other condition liable to be injurious or dangerous to health	The proponent should ensure that the workers are provided with protective gear to safeguard their wellbeing.
Labour Act No. 11 of 2007	Occupational Health is aimed at the promotion and maintenance of physical, mental and social wellbeing of workers in all occupations.	Prevent or manage work-related hazards and maintain healthy standards at the workplace and protection of workers against exploitations

5. RECEIVING ENVIRONMENT

The environmental baseline for the proposed project has been collected through a desktop study as well as a site assessment.

The assessment is categorised into two categories, the socio-economic aspect and physical and biological environment.

5.1 Regional Baseline: Socio-Economic Aspect

5.1.1 Population and Demography

//Karas region is in the southern part of country, and it is geographically the largest region in Namibia, it covers a size of 161,395 km^2 and comprises of seven (7) constituencies (Namibia Statistics Agency , 2022).

The region's name comes from the local Nama word for "Quiver Tree," which is a symbol of the area.

According to the Namibia Statistics Agency (2022) //Karas region has a total population of 109,893 people, 55,670 males and 54,223 females.

Table 5-1: Population density (persons per sq.km) by constituency

Constituency	Population	Area in km²	Persons per km²
Berseba	11 258	31 724.85	0.4
Karasburg East	13 821	24 276.26	0.6
Karasburg West	17 741	14 053.11	1.3
Keetmanshoop Rural	8 744	37 922.48	0.2
Keetmanshoop Urban	27 862	524.35	53.1
Nami-Nus	17 243	48 270.82	0.4
Oranjemund	13 224	4 623.14	2.9

5.1.2 Employment

Historically, the region has been known for having diverse employment opportunities in sectors such as fishing, mining, manufacturing, agriculture and tourism.

The dominant sector in the region has been mining since the first diamond was discovered in 1908 however, with the downscaling of land-based diamond mining in the Sperrgebiet areas, demands an urgent economic diversification in the region.

5.2 Biophysical Environment

5.2.1 Climatic Conditions and Rainfall

Rainfall in the park is unpredictable; the median annual rainfall varies between 15 and 70 mm and the probability of rain is equally likely in all months of the year (Ministry of Environment, Forestry and Tourism , 2020).

In southwest Namibia, most of the limited rainfall occurs in winter, brought by cold fronts from the Cape. This has resulted in vegetation dominated by succulents, similar to those in South Africa's winter rainfall regions (Ministry of Environment, Forestry and Tourism , 2020). The park lies in a transition zone between summer and winter rainfall areas, contributing to its diverse plant life. However, the small winter rainfall season is vulnerable and may be significantly affected by climate change (Ministry of Environment, Forestry and Tourism , 2020).

5.2.2 Topography, Landscape and Soils

The main landscapes of the Tsau //Khaeb National Park comprise sandy and rocky coastal plains with bays, sandy and gravel inland plains, sand dunes, mountain ranges and inselbergs, and the Orange River valley (Ministry of Environment, Forestry and Tourism , 2020).

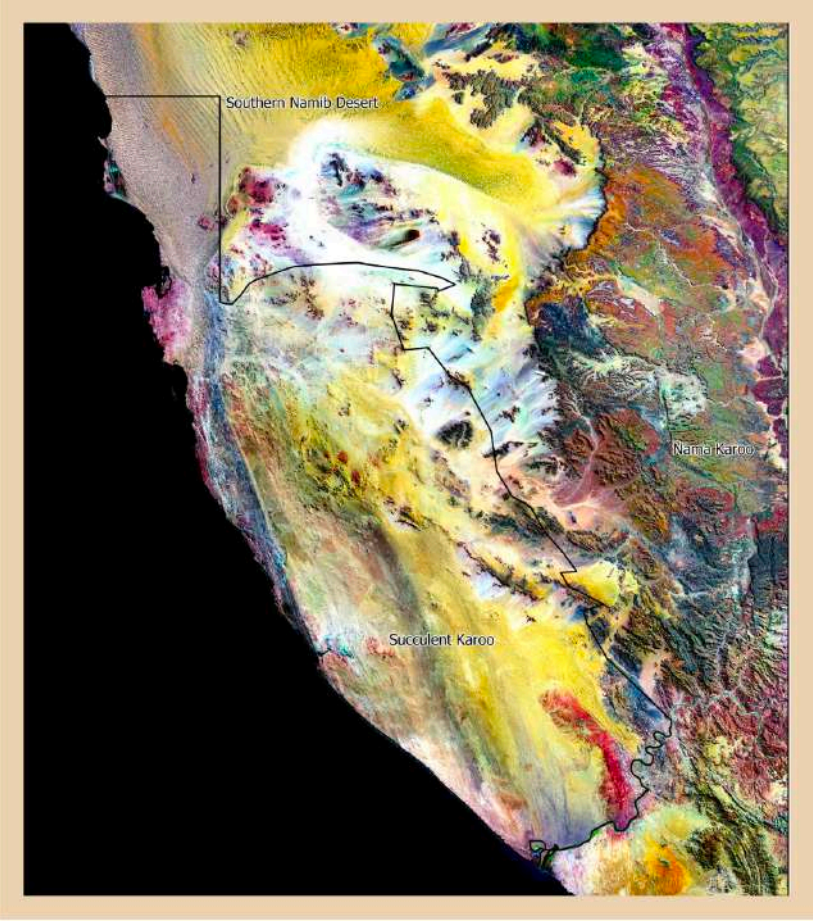


Figure 5-1: Satellite image of the Tsau //Khaeb National Park and surrounding (Ministry of Environment, Forestry and Tourism , 2020)

The geology of Tsau //Khaeb National Park consists mainly of ancient Precambrian basement rocks such as gneisses, shales, quartzites, and dolomites. These are overlain by younger sedimentary and volcanic formations of the Nama and Karoo groups, with more recent surface deposits including sand dunes and coastal beach sediments.

5.2.3 Hydrogeology

Very limited volumes of groundwater are available in the basement rocks southern of the Karas Region, since there are no productive aquifers. Lack of recharge and poor ground- water quality in most areas further aggravates the situation.

Groundwater resources in fractured bedrock aquifers of the Namib and the Sperrgebiet are very limited and, if exploited, extraction easily exceeds recharge. Drainage is normally dendritic from the north towards the Orange River (Environmental Compliance Consultancy , 2021). The dominant ephemeral river is the Fish River with its deep canyon in the Ai-Ais Nature Reserve (Christelis, G. & Struckmeier, W. (Eds.), 2001).

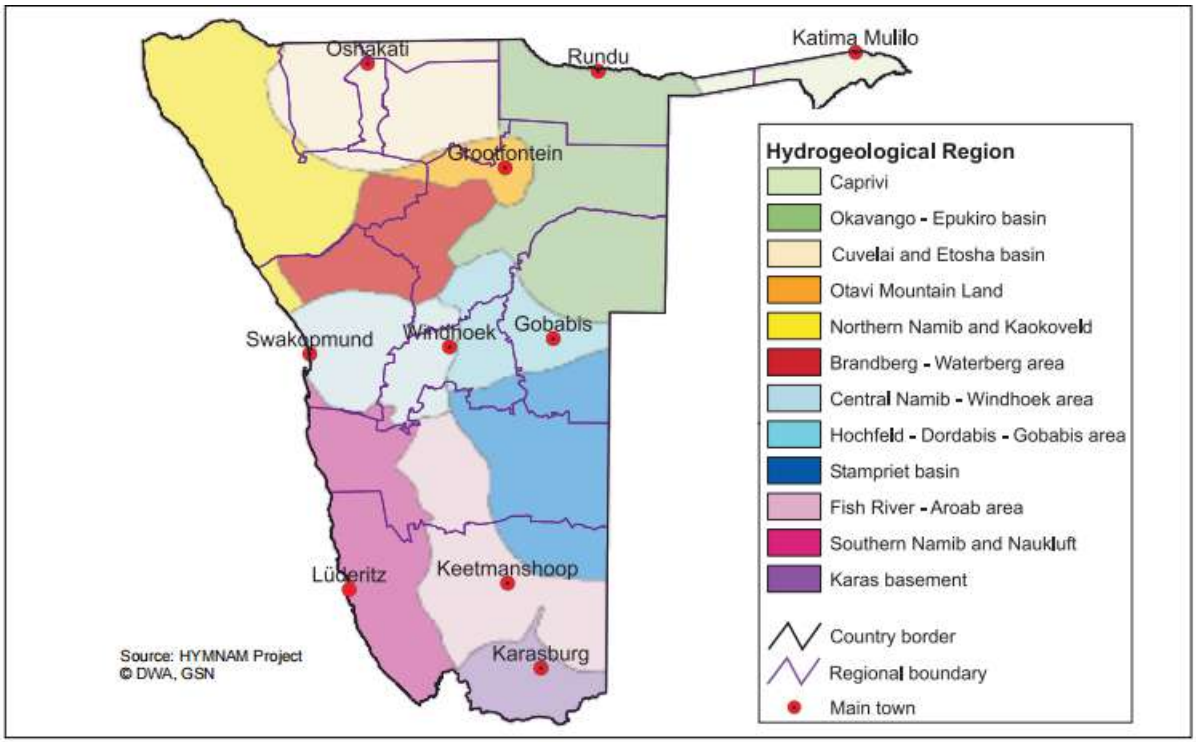


Figure 5-2: Hydrogeology map of Namibia (Christellis et al, 2001)

The only permanent water supply in the region is the Orange River (figure 5.4), it supplies water to towns and mines (Oranjemund, Rosh Pinah) as well as agricultural and tourism projects (Environmental Compliance Consultancy , 2021).

As shown in figure 5.3 & 5.4 the proposed project site is near the Orange river, approximately 12 km from Oranjemund. Water for construction and operation will be sourced directly from the river.

Figure 5-3: View from project site across the river to agriculture development in South Africa on the other side of the river

Figure 5-4: View of the Orange River from the project site

5.2.4 Flora and Fauna

The project site is located within the Tsau //Khaeb (Sperrgebiet) National Park which covers 90% of the Succulent Karoo Biome in Namibia (Ministry of Environment, Forestry and Tourism , 2020). The Succulent Karoo Biome is recognized internationally as one of the global biodiversity hotspots and comprises many species of endemic plants making the park a high priority for conservation. (Ministry of Environment, Forestry and Tourism , 2020).

Some of the prevalent vegetation within the pack is such as:

Table 5-2: Expected plant species within the concession (source: BRAHMS Database)

FAMILY	SPECIES
Fabaceae	*Acacia karroo*
Salviniaceae	*Azolla filiculoides*
Crassulaceae	*Crassula elegans*
Crassulaceae	*Crassula plegmatoides*
Apiaceae	*Deverra denudata*
Mesembryanthemaceae	*Dracophilus dealbatus*
Apocynaceae	*Ectadium virgatum*
Euphorbiaceae	*Euphorbia chersina*
Euphorbiaceae	*Euphorbia mauritanica*
Urticaceae	*Forsskaolea candida*
Asteraceae	*Foveolina dichotoma*
Celastraceae	*Gymnosporia linearis*
Mesembryanthemaceae	*Lampranthus stipulaceus*
Mesembryanthemaceae	*Leipoldtia weigangiana*
Fabaceae	*Lotononis strigillosa*
Solanaceae	*Lycium bosciifolium*
Scrophulariaceae	*Nemesia viscosa*
Asteraceae	*Pteronia glabrata*
Asteraceae	*Pteronia pomonae*
Anacardiaceae	*Rhus lancea*
Zygophyllaceae	*Roepera cordifolia*
Asteraceae	*Senecio aloides*
Apocynaceae	*Stapelia hirsuta*
Amaryllidaceae	*Strumaria bidentata*
Chenopodiaceae	*Suaeda merxmuelleri*
Scrophulariaceae	*Sutera tristis*
Tamaricaceae	*Tamarix usneoides*
Zygophyllaceae	*Tetraena microcarpa*
Zygophyllaceae	*Zygophyllum clavatum*
Zygophyllaceae	*Zygophyllum morgsana*

Figure 5-5: Aerial view of the vegetation found within the project site

The TKNSP supports a wide range of wildlife, including Brown Hyaenas, Oryx, Springbok, Cape Fur Seals, Grey Rhebok, Heaviside's Dolphins, and Southern Right Whales. Along the Orange River, nearly 60 wetland bird species have been recorded, while about 120 terrestrial bird species occur within the park (Ministry of Environment, Forestry and Tourism, 2025). Notable bird species include the African Penguin, Cape Gannet, Bank Cormorant, Purple Heron, Lappet-faced Vulture, Karoo Korhaan, Ludwig's Bustard, and Cape Francolin.

The park is also home to nearly 100 reptile species, 16 frog species, and a vast diversity of insects and other invertebrates of which an estimated 90% remain undescribed by science (Ministry of Environment, Forestry and Tourism, 2025).

The Hohenfels Concession specifically, is home to:

Mammals:

- Larger mammals such as springbok, oryx, ostriches, and black-backed jackals are commonly seen, sometimes even around the nearby town of Oranjemund.
- The area also hosts brown hyenas (strandwolf) and various antelope species.

Birds:

The Orange River mouth, a designated Ramsar site (a wetland of international importance), is a key attraction for birdlife. The concession area and the Orange river are home to a variety of waterbirds, including:

- African Fish Eagles
- Flamingos
- Great White Pelicans

5.2.5 Archaeological and heritage sites

The Sperrgebiet possesses an exceptionally rich fossil record dating back to the Cretaceous period, approximately 58 million years ago (KPM Environmental Consulting, 2020). Several significant fossil sites have been discovered along the Orange River and within ancient river channels (palaeo-channels). Archaeological and historical evidence further indicate that materials from the Early, Middle, and Late Stone Ages, spanning roughly one million years to the present, are widely distributed throughout the Sperrgebiet (KPM Environmental Consulting, 2020).

There are old structures within the proposed project site including an old police station which was built during the German colonial period. However, there are no registered archaeological nor heritage sites within the proposed site as per the List of registered Heritage sites in Namibia (National Heritage Council of Namibia, n.d.).

The handling of any archaeological artefacts discovered during construction or operation is explained in detail in the ESMP.

6. IMPACT ASSESSMENT METHODOLOGY

6.1 EIA Methodology

The EIA methodology applied to this EIA has been developed using the Namibian Draft Procedures and Guidance for EIA and EMP (Republic of Namibia, 2008); international and national best practice; and over 20 years of combined EIA experience. The method of each step in the EIA process is described in the next sections.

6.1.1 Screening

As per the Draft Procedures and Guideline for Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) (Ministry of Environment and Tourism, 2008), the determination of a proposal and if it triggers a Listed Activity in the EMA is the first stage of the EIA process. The proposed project triggers several Listed Activities as per Section 1.4 and therefore an ECC is required.

6.1.2 Alternatives Considered

As stipulated in the Environmental Management Act (EMA) and EIA regulations, alternatives should be considered during the project design, to determine if an alternative site (different locality) or alternative project (different activity) would yield better socio-economic benefits.

No alternative sites and no alternative activities were considered.

6.1.3 Scope of Assessment

The Scoping Process is a fundamental stage in the EIA process. Through a high-level assessment, the likely effects and severity of effects because of the development and operations of a proposed project can be identified. Any likely significant effects are taken forward for further assessment (detailed EIA). This stage is important in the EIA process to enable the assessment to be concise and focus on key issues that are central to efficient decision making.

If no likely significant effects are anticipated, a detailed EIA is not undertaken and a Scoping Report detailing the high-level assessment is submitted as part of the ECC application.

As there was uncertainty around the potential effects and their severity, a scoping process was undertaken for the proposed development. The Draft Procedures and Guideline for Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) (Ministry of Environment and Tourism, 2008) were followed to undertake the scoping stage.

The baseline environment that could be affected by the project was reviewed and potential effects on receptors identified. Receptors under the following aspects were considered (Ministry of Environment and Tourism, 2008):

- Geology and soils
- Topography
- Groundwater and surface water resources
- Environmentally sensitive areas
- Air quality
- Sound levels
- Socio-economics
- Infrastructure services
- Cultural resources
- Project Economics

Embedded mitigation and industry best practice measures were considered in the review and conclusion drawn identifying those effects that needed to be assessed further due to the potential severity and significance.

The findings of the scoping process are presented in chapter 7.

6.1.4 Detailed Impact Assessment

Through scoping, potential significant effects were identified. These potential effects are then considered further to determine the level of significance and identify additional mitigation required to avoid, reduce, or compensate for the effect.

6.1.5 Impact Significance

The level of significance is identified through the assessment process to understand the potential severity of the effect and identify appropriate mitigation. The significance of effect after mitigation is also considered during the decision-making.

The significance of an impact is determined by considering and measuring the temporal and spatial scales and magnitude of the project and the specific activities associated with the project.

6.1.6 Impact Assessment Criteria

For each impact, the **EXTENT** (spatial scale), **MAGNITUDE** and **DURATION** will be described. These criteria are used to ascertain the **SIGNIFICANCE** of the impact, firstly in the case of no mitigation and then with the most effective mitigation measure/s in place. The mitigation described in the Scoping Report and EMP would represent the full range of plausible and pragmatic measures.

Table 6-1: **Assessment criteria for the evaluation of impacts**

CRITERIA	CATEGORY	DESCRIPTION
Sensitivity or importance/value of receptor	**High**	Of value, importance or rarity on a national scale, and with very limited potential for substitution; and/or Very sensitive to change, or has little capacity to accommodate a change.
	Medium	Of value, importance or rarity on a regional scale, and with limited potential for substitution; and/or Moderate sensitivity to change, or moderate capacity to accommodate a change
	Low	Of value, importance or rarity on a local scale; and/or Not particularly sensitive to change, or has considerable capacity to accommodate a change.
Extent or spatial influence of impact	**National**	Beyond a 20km radius of the site
	Regional	Within a 20 km radius of the site
	Local	Within a 2 km radius of the centre of the site
	Site specific	On site or within the boundaries of the property
	Zero	
Magnitude of impact (at the indicated spatial scale)	**High**	Natural and/ or social functions and/ or processes are *severely* altered
	Medium	Natural and/ or social functions and/ or processes are *notably* altered
	Low	Natural and/ or social functions and/ or processes are *slightly* altered
	Very Low	Natural and/ or social functions and/ or processes are *negligibly* altered
	Zero	Natural and/ or social functions and/ or processes remain *unaltered*
Duration of impact	**Zero**	Zero time
	Short Term	Up to 18 months
	Medium Term	0-5 years (after operation)
	Long Term	5- 10 years (after operation)
	Permanent	More than 10 years (after operation)
Probability	**Definite**	Estimated greater than 95 % chance of the impact occurring.
	Very likely	Estimated 50 to 95% chance of the impact occurring
	Fairly likely	Estimated 5 to 50 % chance of the impact occurring.
	Unlikely	Estimated less than 5 % chance of the impact occurring.
	Zero	Definitely no chance of occurrence

CRITERIA	CATEGORY	DESCRIPTION
Confidence	**Certain**	Wealth of information on and sound understanding of the environmental factors potentially influencing the impact.
	Sure	Reasonable amount of useful information on and relatively sound understanding of the environmental factors potentially influencing the impact.
	Unsure	Limited useful information on and understanding of the environmental factors potentially influencing this impact.
Reversibility	**Irreversible**	The activity will lead to an impact that is permanent.
	Reversible	The impact is reversible, within a period of 10 years.

6.1.7 Impact Severity

Impact severity = impact significance. The impact significance is determined using a risk matrix **(below).**

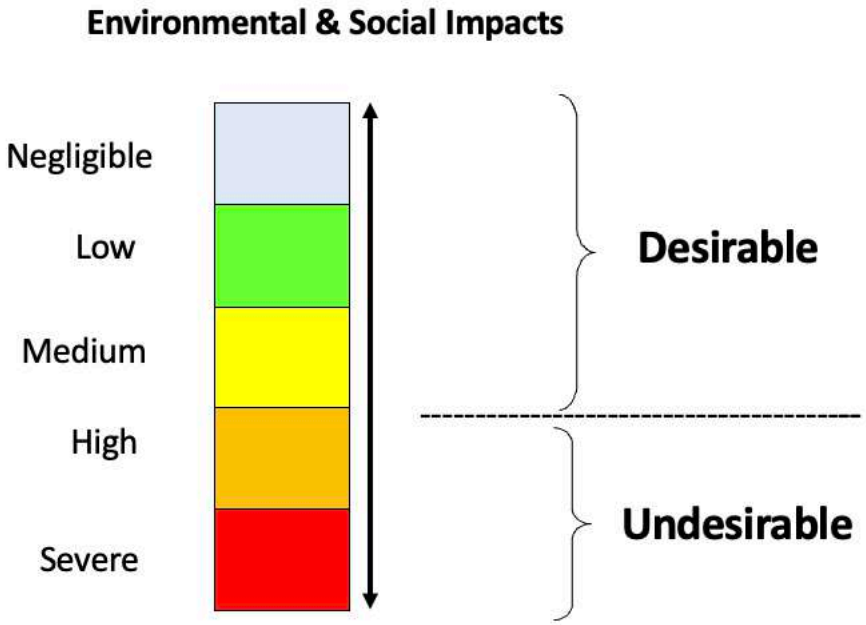


Figure 6-1: Impact Assessment Scale (Source: TEC, 2025)

6.1.8 Impact Significance

The significance of an impact is identified determined by qualifying the potential severity of the effect, before and after mitigation. The impact significance after mitigation should be considered during the decision-making process.

The significance of an impact is determined by assessing the magnitude of scale (both temporal and spatial.

Significance is not defined in the Namibian EIA Regulations, however the Draft Procedure and Guidance for EIA and EMP states that the significance of a predicted impact depends upon its context and intensity and qualified into the following categories, as guided by literature:

- **High**: effects associated with features or resources of national importance and, if lost, cannot be replaced, and thus likely to be key decision-making factors.
- **Medium**: effects associated with the features or resources of regional importance, but which are unlikely to be key decision-making factors.
- **Low**: effects considered to be local importance, but unlikely to be critical to decision-making factors.

Impact significance is determined by multiplying the potential severity of the effect, and qualitative assessment of the receptor sensitivity and magnitude of change. If effects garner a severity score, they are considered to be significant.

For significant impacts, supplementary assessments / Specialist studies may be required to further enhance understanding on the consequences (e.g through modelling or other assessment techniques) and identification of appropriate mitigation measures to reduce the effect.

6.2 Assessment of Cumulative Impacts

The Environmental Assessment Policy in Namibia requires cumulative environmental impacts to be considered in all environmental assessment processes.

Cumulative impacts can arise when a single resource or receptor is affected by more than one impact or activity of the proposed project. For example, the view of a local resident's property could be altered through the construction phase of the proposed development and noise levels could increase due to excavation activities. In isolation, the impacts may be insignificant, however when combined, the impacts on the local resident may result in a significant impact.

Cumulative impacts may also arise because of the combination of two or more projects on the same receptor. The receptor could be affected by the same activities of these projects resulting in the same impact or by completely different activities resulting in different impacts. An example of this is as follows; dust generated during the construction stage of the proposed project may not cause a significant effect in isolation; however, a sensitive receptor (e.g. local resident) may be significantly impacted when dust from the proposed project is combined with noise generated from other projects.

A high-level cumulative impact assessment has been undertaken for the proposed project as part of the scoping phase as the anticipated effects are expected to be local and of minor significance. If effects were determined to be significant, a detailed EIA would be required.

6.3 Mitigation Measures

For each impact assessed during the scoping phase and detailed assessment, mitigation measures are identified to reduce and/ or avoid negative impacts. These mitigation measures are also incorporated in the EMP to ensure that they are implemented throughout the lifespan of the proposed project. The EMP forms part of the Scoping Report, and upon project approval, the implementation thereof, would become a binding requirement.

6.3.1 Mitigation Hierarchy

Actions to mitigate a potential impact can be done in as systematic manner as guided by what is referred to as Mitigation Hierarchy (Figure 4.1).

From the onset, the positive impacts of the proposed project should be **enhanced**, however, where an impact in is inevitable, the following sequence should be followed.

Impact avoidance: This step is most effective when applied at an early stage of project conceptualization and planning. It can be achieved by:

- Not undertaking certain projects or elements that could result in adverse impacts.
- Avoiding areas that are environmentally sensitive; and
- Putting in place preventative measures to stop adverse impacts from occurring.

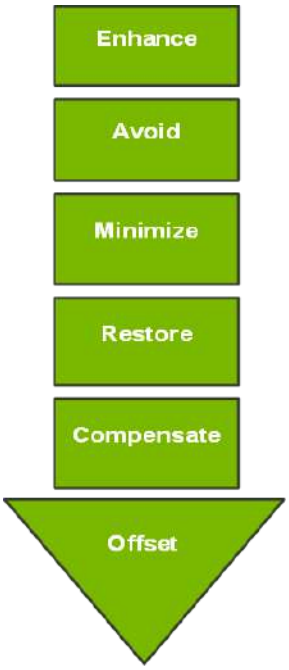


Figure 6-2 - Mitigation Hierarchy

Impact minimisation: This step is usually taken during impact identification and prediction to limit or reduce the degree, extent, magnitude, or duration of adverse impacts. It can be achieved by:

- Scaling down or relocating the proposal;
- Redesigning elements of the project; and
- Taking supplementary measures to manage the impacts.

Impact compensation: This step is usually applied to remedy unavoidable residual adverse impacts. It can be achieved by:

- Rehabilitation of the affected site or environment, for example, by habitat enhancement;
- Restoration of the affected site or environment to its previous state or better; and
- Replacement of the same resource values at another location (off-set), for example, by wetland engineering to provide an equivalent area to that lost to drainage or infill.

7. ENVIRONMENTAL AND SOCIAL IMPACTS ASSESSMENT

As outlined in Section 2, there are existing structures on the project site. Meaning the proposed lodge and campsite is **not** a new footprint to the environment.

However, despite the fact that there is already an existing footprint, it is important to identify and assess potential environmental and social impacts associated with the proposed developments.

7.1 Socio-Economic Impacts

Namibia has one of the highest unemployment rates in the world. According to the Namibia Statistics Agency (NSA, 2025), in 2024, the official unemployment rate was estimated at 37% of the labour force, and the majority (47%) of the unemployed is the youth (including graduates from Universities and Vocational Training Centres).

However, economists from independent institutions dispute the Government or NSA's estimate of 37%, arguing that NSA has changed the "Unemployment Definition" and that the unemployment rate in Namibia is much higher. In a Newspaper Article dated 01 February 2025, Tannan Groenewald from Cirrus Capital data and analytics, argued that if the broad definition of unemployment historically used is applied, only about 46.2 of the working-age population is employed and the true **unemployment stands at 54.8%**.

The success of the proposed project, have potential to yield significant socio-economic impacts, including but not limited to:

a) Creating new employment opportunities (short-term = during construction and long-term – during operation).

b) Enhancing the local economy around Oranjemund, through supply chains to the lodge (procurement of goods and services from local suppliers).

c) Enhancing the local economy around Oranjemund, through employee's salaries (housing, transport, supermarkets, vendors, schools, domestic workers, entertainment, barber shops and hair salons, car wash, etc).

7.1.1 Employment opportunities

Impact category	Short- and long-term Employment Opportunities for locals

Negative impacts	Key measures to improve -ve impacts
• High unemployment • Poor livelihoods	• New project opportunities • Prioritise job opportunities for locals during the construction phase • Provide on-site training and fair wages

Before Project Commencement							After project commencement						
Impact type	Extent	Magnitude	Duration	Probability	Confidence	Significance	Impact type	Extent	Magnitude	Duration	Probability	Confidence	Significance
-Ve	Local	Medium	Medium-term	Very likely	Sure	**High**	+Ve	Local	Medium	Long-term	Definite	Certain	**Medium**

Monitoring			
Monitoring Aspects	**Frequency**	**Responsibility**	**How**
• Number of new employment opportunities created • Number of local people employed • Compliance with labour laws	Quarterly	Contractor / Site manager Ministry of Labour / Contractor	Employment records and database Labour inspection reports

7.1.2 Economic Diversification

Impact category	**Improvement of local economy through economic diversification**

Negative impacts	**Key measures to maintain or improve -ve impacts**
• Current reliance on mining industry • Poor local economy, household incomes and livelihoods	• Establishment of lodge and campsite • Establishment of new businesses to support the new tourism developments • Improvement in household incomes and livelihoods • Stimulate micro-enterprises and increase demand for local goods.

Before Project Commencement							**After project Completion**						
Impact type	Extent	Magnitude	Duration	Probability	Confidence	Significance	Impact type	Extent	Magnitude	Duration	Probability	Confidence	Significance
-Ve	Local	Medium	Medium-term	Very likely	Sure	Medium	+Ve	Local	Medium	Long-term	Definite	Certain	Low

Monitoring			
Monitoring Aspects	**Frequency**	**Responsibility**	**How**
• Established campsites and lodge in the Orange River Concession • Income levels and livelihood improvements • Diversified local economy	Annually	Local authority Proponent	Household surveys and physical observations

7.1.3 Local buying power

Impact category	Enhance local buying power through employees' salaries

Specific potential positive impacts	Key measures to maintain or improve +ve impacts
• Need to enhance the local economy through community buying power	• Enhance the local economy through employee's salaries / buying power (e.g staff income contributes to housing properties (purchase or rent), supermarkets, street vendors, schools, domestic workers, entertainment, car wash etc)

Rating: Before commencement of project							Rating: After commencement of project						
Impact type	Extent	Magnitude	Duration	Probability	Confidence	Significance	Impact type	Extent	Magnitude	Duration	Probability	Confidence	Significance
-Ve	Local	Medium	Medium-term	Very likely	Sure	High	+Ve	Local	Medium	Long-term	Definite	Certain	Low

Monitoring			
Monitoring Aspects	**Frequency**	**Responsibility**	**How**
• Employee income and buying power	Annually	Human Resource Department - Proponent Workers Union	Employment records and database

7.1.4 Improve local economy through supply chains

Impact category	Improve the local economy through Supply Chains
Specific potential positive impacts	**Key measures to maintain or improve +ve impacts**
• Opportunity for the local supply chain for construction material • Opportunity for small and medium enterprises in Oranjemund and beyond • Increase or maintain property value due to increase demand (e.g. rental and purchasing)	• Sustain local economy through supply chains • Procurement of materials and services from local supply chains (e.g Cement, steel, security companies, cleaning companies, entertainment, etc) • Enhance other in-direct local economy support e.g buying power of the staff (construction and operational phases) and support to housing rental business, supermarkets etc.

Rating: Before commencement of project							Rating: After commencement of project						
Impact type	**Extent**	**Magnitude**	**Duration**	**Probability**	**Confidence**	**Significance**	**Impact type**	**Extent**	**Magnitude**	**Duration**	**Probability**	**Confidence**	**Significance**
-Ve	**Local**	**Medium**	**Medium-term**	**Very likely**	**Sure**	**High**	**+Ve**	**Local**	**Medium**	**Long-term**	**Definite**	**Certain**	**Good**

Monitoring

Monitoring Aspects	Frequency	Responsibility	How
• Value of contractor and operator direct annual procurement from local supply chains and overall impact on the local economy • In-direct employment and spin-offs across supply chains	Annually	Proponent	Supply chain value and overall local economy support

7.1.5 Potential opportunity for CSR

Impact category	**Community Investments through Corporate Social Responsibility**

positive impacts	**Key measures to maintain or improve +ve impacts**
• Support to schools (school renovations, construction of classrooms, setting up of computer and science labs, procurement of books, etc) • Food production (support to agriculture and horticulture projects e.g community gardens)	• Targeted Community Investments and support • Continue with community investment and CSR activities • Explore option to revise the current investment policy and model with a clear exit strategy for self-sustenance goal to reduce long-term dependency

Rating: Before commencement of project							**Rating: After commencement of project**						
Impact type	**Extent**	**Magnitude**	**Duration**	**Probability**	**Confidence**	**Significance**	**Impact type**	**Extent**	**Magnitude**	**Duration**	**Probability**	**Confidence**	**Significance**
-Ve	**Local**	**Medium**	**Medium-term**	**Very likely**	**Sure**	**High**	**+Ve**	**Local**	**Medium**	**Long-term**	**Definite**	**Certain**	**Good**

Monitoring			
Monitoring Aspects	**Frequency**	**Responsibility**	**How**
• Annual Value of OMDis direct CSR • Overall socio-economic impact of OMDis CSR on the local economy	Annually	OMDis	OMDis Annual Report

7.2 Construction related impacts

7.2.1 Vegetation clearance

Impact source	Site clearance and excavation with heavy and mobile equipment						**Key Mitigation Measures:** • Adherence to site vegetation clearance checklist/procedure • i.e. avoid removal of protected tree species which do not directly affect the construction • explore option to relocate and replant some plants.							
Classification	Vegetation clearance													
Potential Negative Impacts: • Unselective removal of protected tree species currently on project site. • Disturbance of habitat for birds (e.g the fish eagle)														
Without Mitigation							**With Mitigation**							
Impact type	**Probability**	**Extent**	**Duration**	**Severity**	**Reversible**	**Significance**	**Impact type**	**Probability**	**Extent**	**Duration**	**Severity**	**Reversible**	**Significance**
-ve	**Definite**	**Local**	**Short-term**	**Severe**	**No**	**High**	**+ve**	**Definite**	**Site specific**	**Short-term**	**Low**	**Yes**	**Low**
Qualitative assessment							**Qualitative assessment**						
Monitoring Program													
Monitoring Aspects						**Frequency**	**Responsibility**						**How**
• Number of trees species removal versus species saved • Number of trees or plant species relocated and successfully replanted						Weekly / Monthly	Site manager Authority (Environmental Compliance Officer)						Physical observations

7.2.2 Water abstraction (construction and operation)

Impact source	Water abstraction for construction and operation activities
Potential Negative Impacts: • Excessive abstraction could lower river water levels, especially during dry seasons, reducing water available for downstream users • Lower flow may affect aquatic habitats, fish breeding grounds, and the general ecological balance of the Orange River. • Competing needs from local communities, farmers, or other tourism operators may create tension over limited water resources.	**Key Mitigation Measures:** • Obtain a water abstraction permit from MAWLR • Abstraction volumes to be within licensed and sustainable limits. • Conduct study to determine optimum water abstraction rates. • Engage downstream users

Without Mitigation							**With Mitigation**						
Impact type	**Probability**	**Extent**	**Duration**	**Severity**	**Reversible**	**Significance**	**Impact type**	**Probability**	**Extent**	**Duration**	**Severity**	**Reversible**	**Significance**
-ve	Definite	Local	Short-term	Severe	No	**Medium**	+ve	Definite	Site specific	Short-term	Low	Yes	**Low**
Qualitative assessment							**Qualitative assessment**						

Monitoring Program			
Monitoring Aspects	**Frequency**	**Responsibility**	**How**
• Water abstraction volumes	Weekly / Monthly	Contractor / Proponent Authority (Environmental Compliance Officer)	Physical observation and measurements

7.2.3 Soil Erosion (construction and operation)

Impact source	Water abstraction for construction and operation activities	**Key Mitigation Measures:** • Position abstraction equipment on stable, vegetated areas of the riverbank to avoid disturbance. • Use raised platforms or floating pumps to prevent bank scouring. • Limit clearing of vegetation and rehabilitate disturbed areas immediately after construction. • Install erosion control structures such as gabions, sandbags or concrete pads at abstraction points.
Potential Negative Impacts: • Increased erosion of riverbanks due to the placement of pumps and frequent access to the river. • Increased sediment load in the river as disturbed soils wash into the water during construction. • Formation of access tracks to the river, leading to soil compaction, gulley formation, and further erosion. • Long-term bank retreat if abstraction structures disrupt the natural flow patterns of the river.		

Without Mitigation							**With Mitigation**						
Impact type	**Probability**	**Extent**	**Duration**	**Severity**	**Reversible**	**Significance**	**Impact type**	**Probability**	**Extent**	**Duration**	**Severity**	**Reversible**	**Significance**
-ve	Definite	Local	Short-term	Severe	No	**Medium**	+ve	Definite	Site specific	Short-term	Low	Yes	**Low**
Qualitative assessment							**Qualitative assessment**						

Monitoring Program			
Monitoring Aspects	**Frequency**	**Responsibility**	**How**
• Condition of riverbank at abstraction point • Sediment load near abstraction area	Weekly / Monthly	Contractor Authority (Environmental Compliance Officer)	Physical observation / inspections

7.2.4 Water pollution (construction and operation)

<table>
<tr><td colspan="3">Impact source</td><td colspan="4">Poor solid waste and wastewater management during construction and operation phases</td><td colspan="3" rowspan="2">Key Mitigation Measures:
• Prevent direct discharge of wastewater or greywater into the river.
• Store hazardous materials (fuel, oil, paint, etc.) on impermeable surfaces with bund walls.
• Proper maintenance of machinery and pumps to prevent fuel or oil leaks.
• Provide proper waste collection and sanitation systems for workers.</td></tr>
<tr><td colspan="7">Potential Negative Impacts:
• Water pollution from accidental fuel and oil spills from machinery and vehicles.
• Increased sedimentation from construction runoff entering the river.
• Contamination from improper waste disposal or leaking sanitation systems.
• Degradation of aquatic habitats and water quality due to unregulated abstraction and discharge.</td></tr>
<tr><td colspan="7">Without Mitigation</td><td colspan="7">With Mitigation</td></tr>
<tr><td>Impact type</td><td>Probability</td><td>Extent</td><td>Duration</td><td>Severity</td><td>Reversible</td><td>Significance</td><td>Impact type</td><td>Probability</td><td>Extent</td><td>Duration</td><td>Severity</td><td>Reversible</td><td>Significance</td></tr>
<tr><td>-ve</td><td>Definite</td><td>Local</td><td>Short-term</td><td>Severe</td><td>No</td><td>Medium</td><td>+ve</td><td>Definite</td><td>Site specific</td><td>Short-term</td><td>Low</td><td>Yes</td><td>Low</td></tr>
<tr><td colspan="7">Qualitative assessment</td><td colspan="7">Qualitative assessment</td></tr>
<tr><td colspan="14">Monitoring Program</td></tr>
<tr><td colspan="5">Monitoring Aspects</td><td colspan="2">Frequency</td><td colspan="4">Responsibility</td><td colspan="3">How</td></tr>
<tr><td colspan="5">• Water abstraction volumes
• Water quality testing
• Wastewater and solid waste management</td><td colspan="2">Weekly / Monthly</td><td colspan="4">Contractor / Proponent Authority (Environmental Compliance Officer)</td><td colspan="3">Site inspections and laboratory tests</td></tr>
</table>

7.2.5 Dust

Impact source	Site clearance, excavation with heavy mobile equipment and transportation of sand	**Key Mitigation Measures:** • Adherence to site standard/safe operating procedure (cover trucks when transporting sand) • Identify and implement appropriate Personal Protective Equipment (PPEs) as a result resort to prevent or reduce exposure to workers • Dust suppression • Speed limit as per existing site policy
Potential Negative Impacts: • Employee exposure to contaminated dust since area is already disturbed site • Dust emission to environment with potential increase background dust emission		

Without Mitigation							**With Mitigation**						
Impact type	**Probability**	**Extent**	**Duration**	**Severity**	**Reversible**	**Significance**	**Impact type**	**Probability**	**Extent**	**Duration**	**Severity**	**Reversible**	**Significance**
-ve	**Definite**	**Local**	**Short-term**	**Severe**	**No**	Medium	**+ve**	**Definite**	**Site specific**	**Short-term**	**Low**	**Yes**	Low
Qualitative assessment							**Qualitative assessment**						

Monitoring Program			
Monitoring Aspects	**Frequency**	**Responsibility**	**How**
• Dust fallout and dust chemical analysis • Workers exposure to dust • Community dust complaints	Weekly / Monthly	Contractor / Site Manager Authority (Environmental Compliance Officer)	• Laboratory analysis • Use of respirable dust samplers, PPE audits • Complaint registers

7.2.6 Noise from Earthmoving Equipment

Impact source	Excavation works	**Key Mitigation Measures:** • Where possible, install silencer in machinery exhaust to reduce noise levels • Avoid working late at night or under bad weather (heavy rain or wind) • Provide earmuffs to workers in high-noise zones • Prevent abnormal noise from earthmoving machinery *(below the recommended noise levels of -85dB (A)).*
Potential Negative Impacts: • Abnormal and excessive noise is not just a nuisance, but can lead to health issues (hearing, poor sleep, fatigue, etc)		

Without Mitigation							**With Mitigation**						
Impact type	Probability	Extent	Duration	Severity	Reversible	Significance	Impact type	Probability	Extent	Duration	Severity	Reversible	Significance
-ve	Definite	Local	Short-term	Severe	No	Medium	+ve	Definite	Site specific	Short-term	Low	Yes	Low
Qualitative assessment							**Qualitative assessment**						

Monitoring Program			
Monitoring Aspects	**Frequency**	**Responsibility**	**How**
• Noise levels (dB) near machinery • Worker exposure	Monthly	Contractor / Site Manager Authority (Environmental Compliance Officer)	• Decibel meter readings • PPE compliance audits • Maintain log of complaints

7.3 Operational related impacts

7.3.1 Wastewater management

Waste Classification:	Domestic Wastewater (Sewage)	**Key Mitigation Measures:**
Potential Negative Impacts: • Surface and ground water contamination		• Proper construction and installation of sewer lines and septic tanks • Treat the wastewater to effluent discharge quality *(as per the water Namibian wastewater discharge standards).*

Without Mitigation							**With Mitigation**						
Impact type	**Probability**	**Extent**	**Duration**	**Severity**	**Reversible**	**Significance**	**Impact type**	**Probability**	**Extent**	**Duration**	**Severity**	**Reversible**	**Significance**
-ve and +ve	Definite	Local	Long-term	Medium	Yes	High	+ve	Definite	Site specific	Short-term	Low	Yes	Low
Qualitative assessment							**Qualitative assessment**						

Monitoring Program			
Aspect to Monitor	**Frequency**	**Responsibility**	**How**
• Flow meters • Leakage and points sources of pollution	Weekly	OMDis (e.g Environmental Officer) Authority (Environmental Compliance Officer)	Physical observations

7.3.2 Solid waste management

Solid waste will be generated during both the construction/establishment and lodge operation phases (kitchen waste)

Waste Classification:	Solid waste						**Key Mitigation Measures:** • Adequate solid waste management *(contain – drums / bins, sort, burn combustible materials and recycle non-combustible materials)*						
Potential Negative Impacts: • Poor solid waste management – throw away culture													
Without Mitigation							**With Mitigation**						
Impact type	**Probability**	**Extent**	**Duration**	**Severity**	**Reversible**	**Significance**	**Impact type**	**Probability**	**Extent**	**Duration**	**Severity**	**Reversible**	**Significance**
-ve and +ve	Definite	Local	Long-term	Medium	Yes	High	+ve	Definite	Site specific	Short-term	Low	Yes	Low
Qualitative assessment							**Qualitative assessment**						

Monitoring Program			
Aspect to Monitor	**Frequency**	**Responsibility**	**How**
• Waste bins, collection schedule and records	Weekly	OMDis (e.g Environmental Officer) Authority (Environmental Compliance Officer)	Physical observations

8. CONCLUSION

The environmental assessment employed standard EIA Methodology, National regulatory framework and best practices.

Appropriate mitigation measures have been identified for all social and environmental receptors.

On that basis, TEC recommends issuance of an ECC, on conditions that the management and mitigation measures specified in the ESMP are implemented and adhered to.

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9. APPENDICES

APPENDIX (1): ESMP

APPENDIX (2): Comments and Response Report