

ENVIRONMENTAL MANAGEMENT PLAN FOR THE GHAUB LODGE AND CAMPSITE, FARM GHAUB NO. 47, TSUMEB CONSTITUENCY, OSHIKOTO REGION, NAMIBIA



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ABBREVIATIONS / ACRONYMS / SYMBOLS / UNITS

The following is a list of the abbreviations, acronyms, symbols, and units used in this Report:

AIDS	Acquired Immunodeficiency Syndrome
AU	African Union
CE	Circular Economy
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
CFLs	Compact Fluorescent Globes
DEA	Directorate of Environmental Affairs
DEAF	Directorate of Environmental Affairs and Forestry
DWA	Department of Water Affairs
EA	Environmental Assessment
EAP	Environmental Assessment Practitioner
EAPAN	Environmental Assessment Professionals of Namibia
ECC	Environmental Clearance Certificate
EHS	Environmental Health and Safety
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
EPA	Environmental Protection Agency/Authority
FAO	Food and Agriculture Organization
FSMS	Food Safety Management System
GIIP	Good International Industry Practice
GN	Government Notice
GRN	Government of the Republic of Namibia
ha	hectare
HAN	Hospitality Association of Namibia
HIV	Human Immunodeficiency Virus
HVAC	Heating, Ventilation, and Air Conditioning
I&APs	Interested and Affected Parties
ICCPR	International Covenant on Civil and Political Rights
ICESCR	International Covenant on Economic, Social and Cultural Rights
IEMA	Institute of Environmental Management and Assessment
IFC	International Finance Corporation

ILO	International Labour Organization
ISO	International Organization for Standardization
IWM	Integrated Waste Management
km	kilometre
kVA	kilo Volt-Ampere
LAC	Legal Assistance Centre
l	litre
m	metre
m ³	cubic metre
MAWF	Ministry of Agriculture, Water and Forestry
MAWLR	Ministry of Agriculture, Water, and Land Reform
MET	Ministry of Environment and Tourism
MEFT	Ministry of Environment, Forestry and Tourism
MFMR	Ministry of Fisheries and Marine Resources
MHSS	Ministry of Health and Social Services
MME	Ministry of Mines and Energy
MSDS	Material Safety Data Sheet
NCE	Namibia Chamber of Environment
NDP	National Development Plan
NTB	Namibia Tourism Board
PM	Particulate Matter
POPs	Persistent Organic Pollutants
PPE	Personal Protective Equipment
RETOSA	Regional Tourism Organisation of Southern Africa
SA	South Africa
SADC	Southern African Development Community
SHE	Safety, Health and Environment
STIs	Sexually Transmitted Infections
TB	Tuberculosis
UK	United Kingdom
UN	United Nations
UNAM	University of Namibia
UNCCD	United Nations Convention to Combat Desertification
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNWTO	United Nations World Tourism Organization
US	United States
VOC	Volatile Organic Compound
WHO	World Health Organization
WSASP	Water Supply and Sanitation Policy

Aspect	Element of an organization's activities or products or services that can interact with the environment (International Organization for Standardization (ISO), 2004).
Biodiversity	Defined in the Convention on Biological Diversity (CBD) as "the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species, and of ecosystems."
Circular Economy (CE)	A CE is based on the principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems (see https://www.ellenmacarthurfoundation.org/circular-economy/what-is-the-circular-economy). Organisations need to engage in the transition from waste management to resource management. The Institute of Environmental Management and Assessment (IEMA) translated the concept into four practical areas of business action: i) <u>Efficiency</u> : making the most of material resources while minimising the production of waste; ii) <u>Effectiveness</u> : optimising resource efficiency to avoid environmental harm and drive societal benefits; iii) <u>Security</u> : responsibly sourcing a reliable and affordable supply of materials; and iv) <u>Cycling</u> : ensuring unused and end of use materials are returned to productive use (IEMA, 2014). Key materials may include: oil, steel, rare earth minerals, timber; there is also conflict materials and palm oil.

Disposal	The discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid or hazardous waste on or in the land or water (United States (US), Environmental Protection Agency (EPA)).
Environment	Surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelation (ISO, 2004).
Environmental Assessment (EA)	The process of identifying, predicting and evaluating the effects of proposed activities on the environment. It should include information about the risks and consequences of activities, possible alternatives, and steps which can be taken to mitigate (minimise or offset) any negative impacts. It should also discuss steps to increase positive impacts and to promote compliance with the principles of environmental management. Both Government bodies and private persons or groups (such as private companies) can be required to carry out environmental assessments (Ministry of Environment and Tourism (MET) (now Ministry of Environment, Forestry and Tourism (MEFT)), 2008).
Environmental Clearance Certificate (ECC)	A certificate which allows a listed activity to go ahead. The certificate means that the Ministry of Environment and Tourism is satisfied that the activity in question will not have an unduly negative impact on the environment. It may set conditions for the activity to prevent or to minimise harmful impacts on the environment (MET, 2008).
Environmental Management Plan (EMP)	A key document that should consist of the set of measures to be taken during implementation and operation to eliminate, offset, or reduce adverse environmental impacts to acceptable levels. Also included in the plan are the actions needed to implement them (Directorate of Environmental Affairs (DEA), 2008).
Erosion	The breaking down and subsequent removal of either rock or surface material by wind, rain, wave action, freezing and thawing and other processes (The Northern Miner, 2007).
Good International Industry Practice (GIIP)	The exercise of professional skill, diligence, prudence, and foresight that would reasonably be expected from skilled and experienced professionals engaged in the same type of undertaking under the same or similar circumstances globally or regionally. The outcome of such an exercise should be that the project employs the most appropriate technologies in the project-specific circumstances (International Finance Corporation (IFC), 2007a).
(Grouped) Hazardous Substance	Any substance, mixture of substances, product or material declared in terms of section 3 (1) to be a hazardous substance of any kind (Hazardous Substances Ordinance No. 14 of 1974).
Hazardous Waste	Waste that poses substantial or potential threats to public health or the environment. There are four factors that determine whether or not a substance is hazardous: i) ignitability (i.e. flammable); ii) reactivity; iii) corrosivity; and iv) toxicity (Wikipedia).
Impact	Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's environmental aspects (ISO, 2004).
Innovation Principle	Innovation Principle: policy or regulatory decisions and controls should consider the role of innovation as a driver for jobs, growth, social and environmental improvement (IEMA, 2017)
Integrated approach	Integrated approach: systems thinking should underpin an integrated approach to environmental management, helping to prevent shifting environmental burdens and optimise outcomes (IEMA, 2017).
Integrated Waste Management (IWM)	Concept of employing several waste control and disposal methods to minimise the environmental impact of commercial and industrial waste streams (Business Dictionary). The generation of waste should be <u>avoided</u> as far as practicable; where it cannot be avoided, waste should be <u>reduced</u> , <u>re-used</u> and <u>recovered</u> (including recycling and composting); where waste cannot be reduced, re-used and/or recovered, it should be <u>disposed</u> of in an environmentally sound manner.
Interested and Affected Party (I&AP)	"Interested and affected party", in relation to the assessment of a listed activity (see below) includes - (a) any person, group of persons or organisation interested in or affected by an activity; and (b) any organ of state that may have jurisdiction over any aspect of the activity (Environmental Impact Assessment Regulations 2012: Environmental Management Act (EMA) 7 of 2007)
Invasive Alien Species	The intentional or accidental introduction of alien, or non-native, species of flora and fauna into areas where they are not normally found can be a significant threat to biodiversity, since some alien species can become invasive, spreading rapidly and out-competing native species (IFC, 2012).
Listed Activity	An activity listed in terms of Section 27(1) or 29 of the EMA 7 of 2007 (see List of activities that may not be undertaken without ECC 2012: EMA 7 of 2007).

Mitigation	Any action intended to either reduce or avert exposure or the likelihood of exposure to sources that are not part of a controlled practice, or which are out of control as a consequence of an accident (DEA (now DEAF), 2008).
Mitigation Hierarchy	Adoption of a mitigation hierarchy to anticipate and avoid, or where avoidance is not possible, minimise, or compensate/offset for risks and impacts to workers, Affected Communities, and the environment is widely regarded as a Good International Industry Practice (GIIP) approach to managing environmental and social risks and impacts: <u>Avoidance</u> requires the client to identify and, where available and technically and financially feasible, make changes to the project's design (or potential location) to avoid adverse risks and impacts on social and/or environmental features. Avoidance is considered to be the most acceptable form of mitigation. <u>Minimisation</u> : where avoidance is not possible, adverse impacts and risks can be minimised through environmental and social measures/treatments/design. Acceptable options to minimise will vary and include: abate, rectify, repair, and/or restore impacts, as appropriate. <u>Compensation/Offset</u> : where avoidance or minimisation measures are not available, it may be appropriate to design and implement measures that compensate/offset for residual risks and impacts. It should be noted that these measures do not eliminate the identified adverse risks and impacts, but they seek to offset it with an (at least) comparable positive one (IFC, 2012).
Monitoring	The repetitive and continued observation, measurement and evaluation of environmental data to follow changes over a period of time to assess the efficiency of control measures (DEA, 2008).
Pollution	The direct or indirect introduction of something which is harmful to people, property, or the environment into the air, land, or water. Pollution can be caused by substances, vibrations, heat, radiation or noise. One of the key ideas behind the law is that the polluter must pay the costs of pollution (MET, 2008).
Pollution Prevention	Reducing or eliminating pollution at source based on taking an integrated approach to environmental protection (IEMA, 2017).
Polluter Pays Principle	The environmental costs of pollution should be borne by those who cause the pollution (IEMA, 2017).
Precautionary Principle	Where there is the potential for significant or irreversible environmental damage, lack of full scientific evidence should not be used as the basis for not taking appropriate measures to prevent or mitigate environmental harm (IEMA, 2017).
Proximity Principle	Environmental damage should be rectified, compensated or treated at or as near to source as practicable and waste should be dealt with as close as possible to where it is produced (IEMA, 2017).
Renewable energy	Energy that comes from natural resources, such as sunlight or wind, and that are renewable (Wikipedia).
Sewage	The subset of wastewater that is contaminated with faeces and/or urine; it includes domestic, municipal, or industrial liquid waste products disposed of, usually via a pipe or sewer or similar structure (Wikipedia).
Significant Effect	Having, or likely to have, a consequential qualitative or quantitative impact on the environment, including changes in ecological, aesthetic, cultural, historic, economic and social factors, whether directly or indirectly, individually or collectively (EMA 7 of 2007).
Stormwater	Water that originates during precipitation (rainfall) events. Stormwater that does not soak into the ground becomes surface runoff. Stormwater is of concern for the following two reasons: one is related to the volume and timing of runoff water (for flood control and the supply of water) and the other is related to the potential contaminants that the water may be carrying and subsequent water pollution (Wikipedia).
Sustainable Development	Meeting the needs of the present, without compromising the ability of future generations to meet their own needs (IEMA, 2017).
Sustainable Use	Using natural resources in a way and at a rate that does not lead to a long-term decline, so that the environment will be able to meet the needs of future generations, i.e. the natural resources of the earth must be shared fairly between present and future generations (MET, 2008).
Transparency & Inclusivity	Multi-level and multi-sector stakeholder engagement, accountability and empowerment should underpin environmental policy development. Local level buy-in and participation should guide the design of local solutions (IEMA, 2017).
Waste	An unwanted or undesired material or substance. It is also referred to as rubbish, trash, refuse, garbage, or junk, depending on the type of material. Litter is waste that has been

	carelessly disposed of in plain sight. Waste is “dumped” in order to avoid paying waste disposal fees (Wikipedia).
Waste Management	The collection, transport, processing, recycling or disposal, and monitoring of waste materials (Wikipedia).
Wastewater	Any water that has been adversely affected in quality by anthropogenic (human) influences, i.e. liquid waste discharged by domestic residences, commercial properties, industry, and/or agriculture and can encompass a wide range of potential contaminants and concentrations (Wikipedia).
Water Control (now Protection) Area	An area declared under section 85 (Water Resources Management Act No. 11 of 2013) to be a water protection area, e.g. the Tsumeb-Otavi-Grootfontein Subterranean Water Protection Area (as per Government Notice 1969 of 13 November 1970 and Proclamation 278 of 31 December 1976 (Extension)).

1 Introduction

1.1 Background

In 1895, the first missionaries of the Rhenish Missionary Society settled on Farm Ghaub. A small church was built, the latter that also served as a school.

In January 1900, the Rhenish Missionary Society acquired the then 9,000 hectare (ha) Farm Ghaub. A farm manager, Wilhelm Detering from Germany, was hired in August 1901 and under his leadership, the swamps were drained, fields were planted, and cattle were raised on the farm.

In 1904, and during the colonial war between the German Schutztruppe and the Herero, Ghaub was looted and destroyed. The inhabitants of the farm were taken to safety in the fortress of Grootfontein and returned during October 1904. Wilhelm Detering subsequently had stones collected from the fields and these were used to build the walls around the (nowadays) Ghaub Lodge. He also planted orchards.

In 1911, missionary Heinrich Vedder founded the Augustineum, where local people were trained a church workers, on Ghaub. He also discovered the famous limestone cave; the cave, with its 2.5 kilometre (km) long system of passages, is currently considered the third largest cave in Namibia.

On 04 July 1915, the last battle between the German Schutztruppe and the South African Army took place on Ghaub. A mere four days later, on 08 July 1915, the war in the German colony ended with the signing of the surrender at Khorab, just a few kilometers away from Farm Ghaub. As missionary work took a back seat after the war, missionary Heinrich Vedder was deported to Germany in 1919.

In 1925, the Rhenish Missionary Society received an additional 3,000 ha of adjoining land, so that Ghaub then measured 12,000 ha.

Wilhelm Detering died in 1945, and several farm managers followed in his footsteps. In the 1980s, Ghaub was run from the neighbouring farm; the buildings stood empty and gradually deteriorated.

In 1996, the Rhenish Missionary Society sold Ghaub to the Ohlthaver & List Group. The buildings were carefully restored and Ghaub made a name for itself as a guest farm (Ghaub Investments (Pty) Ltd, n.d.).

In 2007, André Compion bought Farm Ghaub. The farming operation at Ghaub comprised three primary synergistic components: cattle farming, a tourism and hunting operation, and the production of white maize, beans and sorghum (see <https://www.nab.com.na/andre-compion-realises-a-dream-at-ghaub/>).

In April 2016, Joachim and Caroline Rust acquired 100% shareholding in Ghaub Investments (Pty) Ltd when André Compion sold Farm Ghaub and moved to South Africa for personal reasons (Stender, 2016).

Ghaub is a partner of ONE Namibia, a company that integrates tourism, agriculture, and nature conservation. It involves maintaining wildlife, preserving their natural habitats, boosting local agriculture production, providing tourists with a nature-based experience, funding conservation efforts through hospitality, and generating employment (All 4 ONE, ONE 4 Nature: see www.one-namibia.com).

1.2 Activities Requiring Environmental Clearance

According to Government Notice (GN) No. 29 (Government Gazette of the Republic of Namibia, No. 4878, 06 February 2012) the following activities may not be undertaken without an Environmental Clearance Certificate (ECC):

ENERGY GENERATION, TRANSMISSION AND STORAGE ACTIVITIES The construction of facilities for - 1. (a) the generation of electricity; (b) the transmission and supply of electricity;

WASTE MANAGEMENT, TREATMENT, HANDLING AND DISPOSAL ACTIVITIES 2.3 The import, processing, use and recycling, temporary storage, transit or export of waste.

TOURISM DEVELOPMENT ACTIVITIES 6. The construction of resorts, lodges, hotels or other tourism and hospitality facilities.

WATER RESOURCE DEVELOPMENTS 8.1 The abstraction of ground ~~or surface~~ water for industrial or commercial purposes.

HAZARDOUS SUBSTANCE TREATMENT, HANDLING AND STORAGE 9.2 Any process or activity which requires a permit, licence or other form of authorisation, or the modification of or changes to existing facilities for any process or activity which requires an amendment of an existing permit, licence or authorisation or which requires a new permit, licence or authorisation in terms of a law governing the generation or release of emissions, pollution, effluent or waste. 9.5 ~~Construction of filling stations or any other facility for the underground and aboveground storage of dangerous goods, including petrol, diesel, liquid, petroleum, gas or paraffin.~~

OTHER ACTIVITIES 11.2 Construction of ~~cemeteries~~, camping, leisure and recreation sites.

1.3 Terms of Reference

LM Environmental Consulting was appointed by Mr Martin Rust, ONE Namibia, to prepare an Environmental Management Plan (EMP) for the Ghaub Lodge and Campsite, Oshikoto Region, Namibia, in aid of the application for an Environmental Clearance Certificate (ECC) on 11 July 2024. A site visit to the area took place between 20 and 22 August 2024.

1.4 Application for Environmental Clearance

In line with the Commencement of the Environmental Management Act (EMA), 2007 (Act No. 7 of 2007) (06 February 2012; Government Notice (GN) No. 28), the Listed Activities that may not be undertaken without an ECC (GN No. 29), and the Environmental Impact Assessment (EIA) Regulations (GN No. 30) (Government of the Republic of Namibia (GRN), 2012), Ghaub Investments (Pty) Ltd applied to the Environmental Commissioner (EC), Ministry of Environment, Forestry and Tourism (MEFT) for an ECC on 27 August 2024 (Application Number 240827004607). The MEFT verified APP-004607 on 05 September 2024 and requested the uploading of the following documents: Environmental Management Plan (EMP); confirmation of Screening Notice received (through email) in terms of assessment procedures (Section 35 (1)(a)(b) of the Environmental Management Act, No 7 of 2007); preliminary site map with coordinates (decimal degrees) and a legend; and Curriculum Vita of designated EAP (Environmental Assessment Practitioner).

1.5 Environmental Assessment Practitioner

The author of this Report is Dr Lima Maartens who has more than 31 years' experience in natural resource management (*she gained her doctorate (Ph.D.) in Fisheries Science from Rhodes University, South Africa (SA) while working for the Namibian Ministry of Fisheries and Marine Resources (MFMR) in 2000*), lecturing (*University of Namibia (UNAM)*), environmental science and management (*De Beers Marine Namibia and the Canadian Forsys Metals Corp*), and consulting (*LM Environmental Consulting was established by Dr Maartens in October 2009*). Sectors that she worked in as an Environmental Assessment Practitioner (EAP) include: exploration (including offshore oil and gas); mining and quarrying; renewable energy (solar and wind); tourism; manufacturing; agriculture; aqua- and mariculture; township, property (including medicine storage facilities) and waterfront developments, transport (rail and road), and infrastructure. Dr Maartens is registered as a Lead Practitioner and Reviewer with the Environmental Assessment Professionals of Namibia (EAPAN) (she served on the Executive Committee during 2016/17), an Associate Member and Environmental Auditor with the Institute of Environmental Management and Assessment (IEMA) in the United Kingdom (UK), a Full Member of the Namibia Chamber of Environment (NCE), and a Member of the Namibia Scientific Society. She has published five peer-reviewed scientific research articles (and three as co-author), six popular articles (and one as co-author), one book chapter (and one book chapter as co-author), 172 technical reports (LM Environmental Consulting), three technical reports (for De Beers Marine Namibia), and one conference paper.

2 Description of the Project

2.1 Location

The Ghaub Lodge and Campsite is situated on Farm Ghaub No. 47, in the middle of the Maize Triangle between Tsumeb, Grootfontein and Otavi, Oshikoto Region, Namibia (see Figure 1).

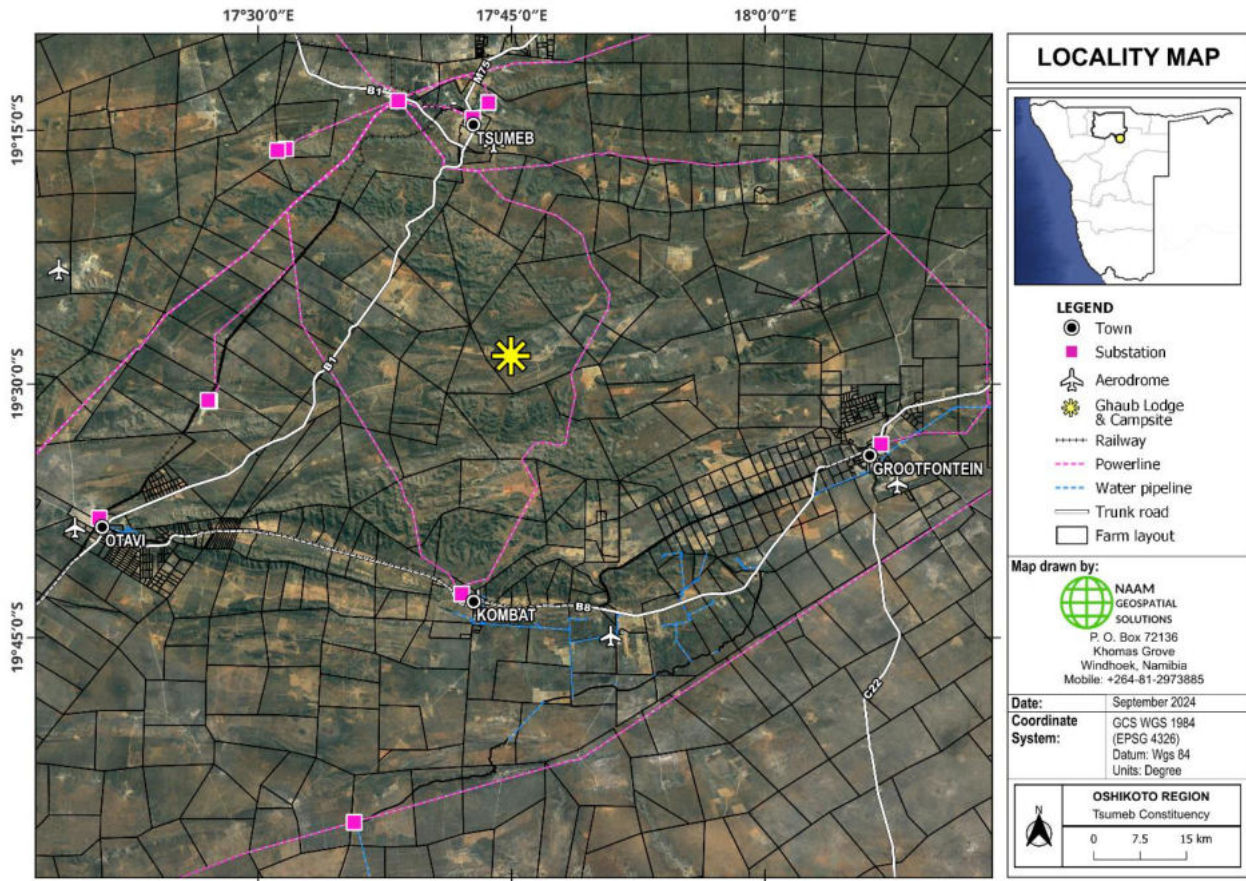


Figure 1: Map showing the location of the Ghaub Lodge and Campsite, Tsumeb Constituency, Oshikoto Region, Namibia (Source: Miss A.N. Nicodemus, GIS Specialist, NAAM Geospatial Solutions, 09 September 2024).

2.2 Access

Access to the Ghaub Lodge and Campsite can be attained via: i) from Otavi and then turning right onto the D3022; and ii) to Kombat (from Otavi), then turning left onto the D2863, and then left onto the D3022 (see Figures 1 and 2).

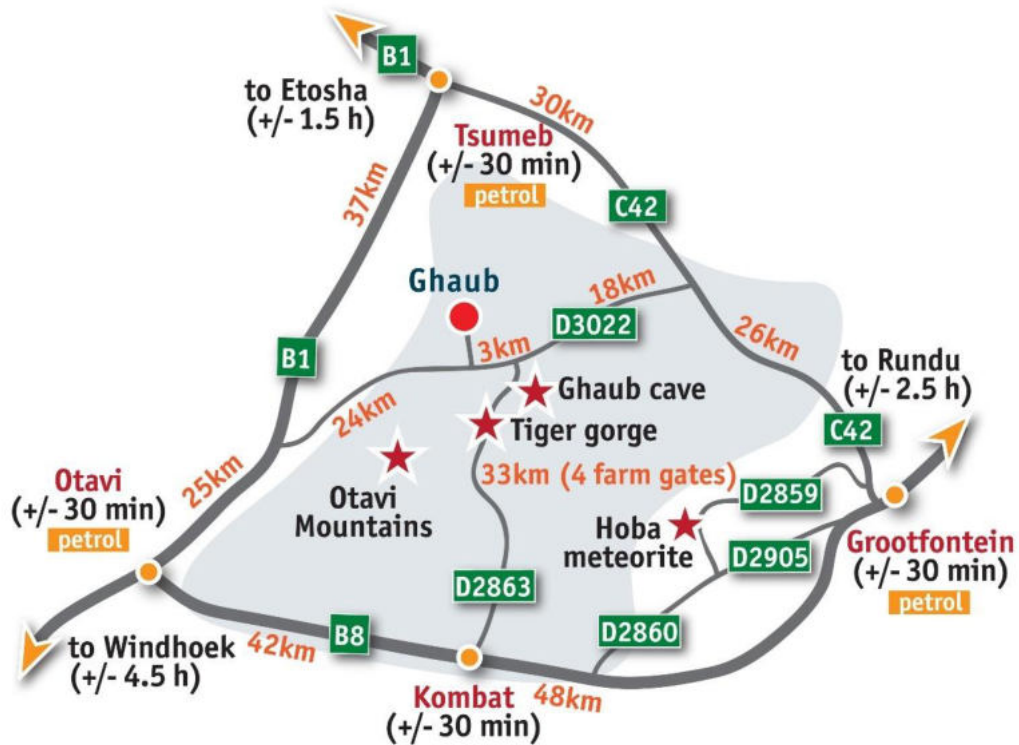


Figure 2: Drawing showing the access routed to the Ghaub Lodge and Campsite (Source: Ghaub Investments (Pty) Ltd).

2.3 Facilities

The infrastructure layout can be seen in Figure 3.

Infrastructure at the Ghaub Lodge and Campsite consists of:

- Main building (the old house of the missionaries) and consisting of: a reception; a kitchen and cooler room; a dining room; and a bar (see Figures 3 and 4);
- Four Accommodation Units (see Figures 3 and 5); adjacent to room 7, there are two additional guide rooms with air conditioners;
- Back-of-House (see Figures 3 and 6) consisting of: a workshop; dry storage; accommodation for two tour guides (bed and bathroom); a laundry; and a clocking room;
- A swimming pool (see Figures 3 and 7);
- Three campsites (see Figures 3 and 8); and
- Staff quarters (see Figures 3 and 9).

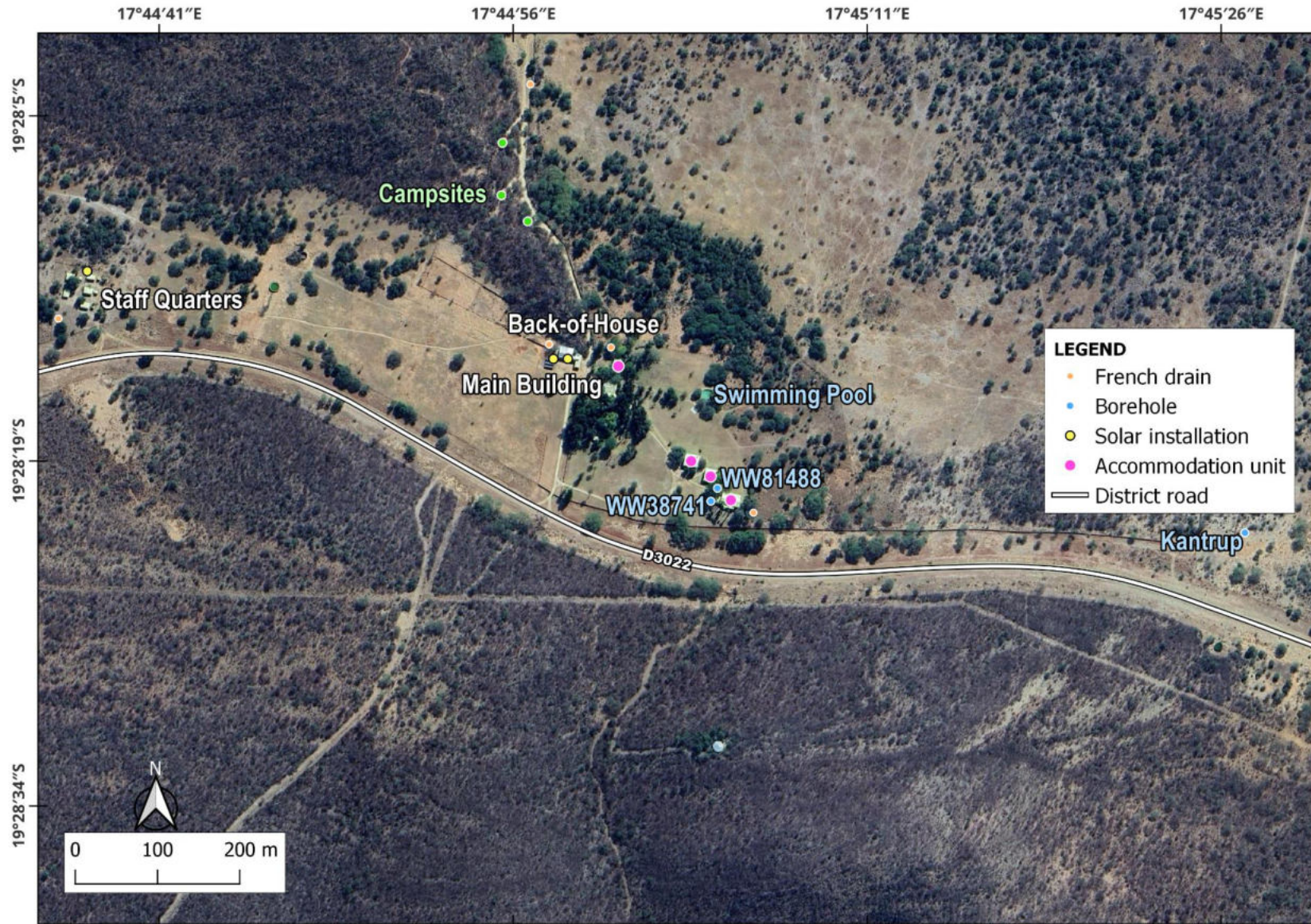


Figure 3: Map showing the infrastructure layout of the Ghaub Lodge and Campsite (Source: Miss A.N. Nicodemus, GIS Specialist, NAAM Geospatial Solutions, 09 September 2024).



a)



b)

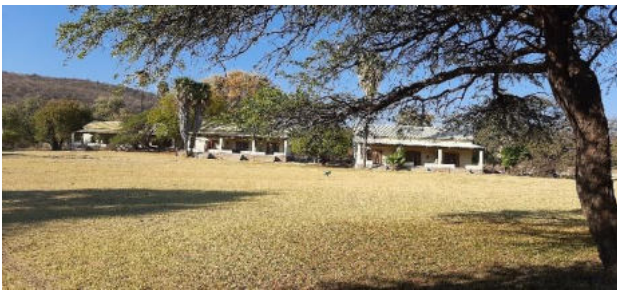


c)



d)

Figure 4: Pictures showing: a) main building; b) kitchen/serving area; c) dining room; and d) the bar (Source: L. Maartens, 21 and 22 August 2024).



a)



b)

Figure 5: Pictures showing the four accommodation units: a) building to the left / old missionary school: rooms 7 to 10; building in the middle: rooms 4 to 6; and building to the right: rooms 1 to 3; and b) rooms 11 and 12 (Source: L. Maartens, 21 August 2024).



a)



b)

Figure 6: Pictures showing: a) the Back-of-House building; and b) the solar installation in front of the building (Source: L. Maartens, 21 August 2024).

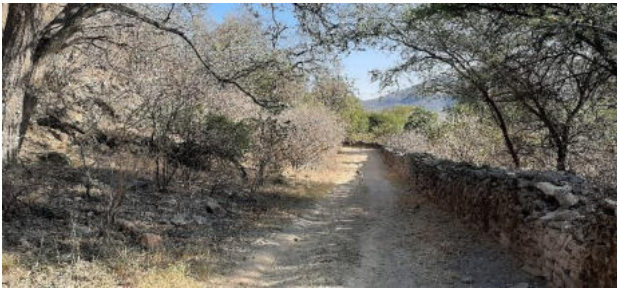


a)



b)

Figure 7: Pictures showing: a) sign indicating that use of the swimming pool is at own risk, that children must be supervised at all times, that the owners of the pool accept no liability for any loss or injury, that there is no liveguard on duty, and that no diving is allowed; and b) the swimming pool (Source: L. Maartens, 21 August 2024).



a)



b)



c)



d)

Figure 8: Pictures showing the road to and some of the campsites (Source: L. Maartens, 21 August 2024).



a)



b)



c)



d)

Figure 9: Pictures showing: a) the staff quarters consisting of four houses with 20 rooms, shared ablution, and four cooking stations; b) a cooking station; c) the shared ablution (white building) with a solar geyzer; and d) the solar installation (Source: L. Maartens, 21 August 2024).

2.4 Activities

The following activities are offered by Ghaub Investments (Pty) Ltd:

- Rhino drive; the mountainous area is also home to game such as giraffe, zebra, eland, impala and red hartebeest;
- Rhino tracking, together with the trackers of the "Rhino Patrol";
- Cave excursion;
- Nature trails (see Figure 10), including bird viewing (around 250 species of avifauna frequent the Farm Ghaub-area), visiting the cemetery and stone pulpit (see Figure 11), the rock engravings, and the "Lion King" rock;
- Farm tour (Ghaub Investments (Pty) Ltd, 2024); and
- Game viewing from a hide around 135 metres (m) north-east of the swimming pool (see Figures 2 and 12).



Figure 10: Map showing the hiking routes (Source: Ghaub Investments (Pty) Ltd, n.d.).

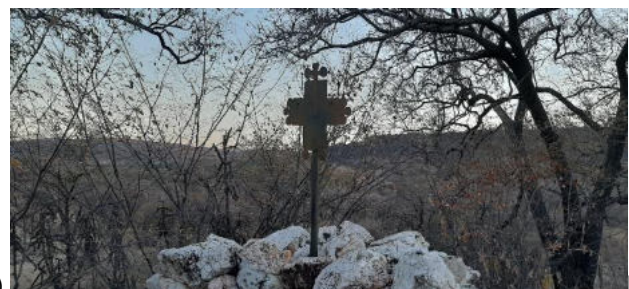


Figure 11: Pictures showing: the cemetery and a stone pulpit that are historical reminders of a small missionary parish and the last fights during World War I (Source: L. Maartens, 21 August 2024).

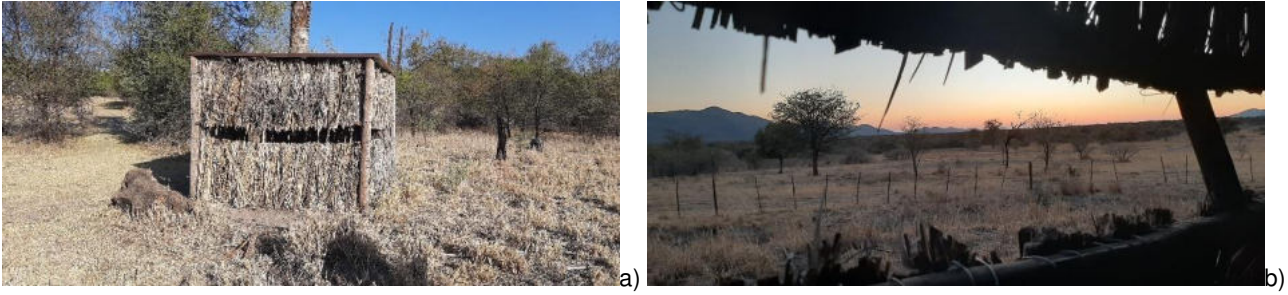


Figure 12: Pictures showing: a) and b) the game viewing hide close to the Lodge (Source: L. Maartens, 21 and 22 August 2024).

Ghaub Lodge and Campsite is registered with the Namibia Tourism Board (NTB) (since 2005) and is also a member of the Hospitality Association of Namibia (HAN) (since 2012). A Fitness Certificate from the Environmental Health Services, Ministry of Health and Social Services (MHSS) is also in place; the Certificate is valid until 31 March 2025 (see Annexure A).

2.5 Engineering Services

2.5.1 Water Supply

Water for the Lodge and Campsite is currently obtained from two boreholes: i) WW81488; and ii) the Kantrup borehole (770 m east of Lodge and not yet licensed; water is used for domestic, lodge and stock watering).

A third borehole (WW38741) is not currently in use, but may be used in future (see Figure 3) (Mr Martin Rust, ONE Namibia, and Mrs Annelise Wierenga, Hydrogeologist, Namibia Borehole Testing Specialists CC, pers. comm.).

Ghaub Investments (Pty) Ltd is in the process of applying for a licence to abstract and use groundwater; the current consumption is around 40,000 cubic metres of water per annum (m^3 /annum) for the Lodge and Campsite, 20,000 m^3 /annum for domestic use (there are 40 employees working at the Farm and Lodge and Campsite), and 36,500 m^3 /annum for stock watering (there are currently 1,250 cattle on Farm Ghaub No. 47).

As “no boreholes shall be allowed within 500 m of the nearest septic tank” (see Department of Water Affairs and Forestry, now Department of Water Affairs (DWA), 2008), it is advised that water samples be submitted for water chemistry and microbiology testing (Mrs Annelise Wierenga, Hydrogeologist, Namibia Borehole Testing Specialists CC, pers. comm.).

A license to abstract 150,000 cubic metres (m^3) of water per annum for irrigation was issued to Ghaub Investments (Pty) Ltd on 03 September 2024 (Licence Number 1548).

2.5.2 Power (and Fuel) Supply

Power is currently obtained from CENORED, as well as from three solar installations: one installation in front of the Back-of House Building; one installation that is roof-mounted on the Back-of House Building; and one installation at the Staff Quarters (see Figures 3, 6b, and 9d). There is also a 36 kVA (kilo Volt-Ampere) standby generator (Mr Martin Rust, ONE Namibia, pers. comm.).

The Rent-to-Own Agreement with Khomas Solar-Saver (Pty) Ltd was made available to LM Environmental Consulting: the Lessor owns the System and leases it to the Lessee; ownership of the System will be transferred to the Lessee at the end of the Lease Term; and the Lessee may purchase the System at certain times prior to the end of the term in terms of the Agreement.

Details re the system design is shown in Table 1.

Table 1: Summary of the system information (Source: Rent-to-Own Agreement, Khomas Solar-Saver (Pty) Ltd, 11 November 2023).

System Design
PV Modules:
29 kWp Solar system Roof Mounted DC Cables and connectors
Inverters:
2 x DEYE 12 kW 400V Hybrid Inverter
Battery System:
50 kWh Lithium Battery Capacity Battery Management System Battery Racks, Fuse Box, DC Cables Inverter and Battery Room to be provided on site.
Other:
Remote Monitoring via Client Wi-Fi connection Project Logistics Design, Installation and Commissioning

There are five (5) solar geysers at the Lodge and one (1) at the Staff Quarters.

Fuel for the generator and 10-seater game viewer is obtained from a fuel installation (four 2,200 litre diesel tanks) at the farmhouse, around 5 km from the Lodge; around six (6) 20 litre Jerry Cans of petrol is kept at the Lodge and Campsite (Mr Martin Rust, ONE Namibia, pers. comm.).

Note that a Consumer Fuel Installation Certificate is required from the Ministry of Mines and Energy (MME) should someone wish to have in possession more than 200 litres of petrol or diesel in an urban area or more than 600 litres of petrol or diesel in a rural area.

2.5.3 Waste Management

Liquid waste/sewage is handled by means of are five (5) French drains: two at the Lodge, one close to the Back-of-House Building, one at the Campsites, and one at the Staff Quarters (see Figure 3).

An application for a licence to discharge effluent, or to construct or operate a wastewater treatment facility (or a waste disposal site) must be submitted to the Executive Director, Department of Water Affairs (DWA), Ministry of Agriculture, Water and Land Reform (MAWLR) (see Part 8, Regulation 66 (1) of Government Gazette Notice, No. 8187 of 29 August 2023, as promulgated under Part 13, Section 72 (1) of the Water Act, Act No. 11 of 2013 - as published in the Government Gazette of the Republic of Namibia, No. 5367, of 19 December 2013, Government Notice No. 332).

Effluent discharged must comply with the water quality standards set out in Annexure 11 (see Part 8, Regulation 67 of Government Gazette Notice, No. 8187 of 29 August 2023, as promulgated under Part 13, Section 72 (1) of the Water Act, Act No. 11 of 2013 - as published in the Government Gazette of the Republic of Namibia, No. 5367, of 19 December 2013, Government Notice No. 332).

An Integrated Waste Management (IWM) approach is followed for solid waste. Several waste control and disposal methods is employed in order to minimise the environmental impact of the commercial waste streams; where the generation of waste cannot be avoided or reduced, it is re-used, recovered (including recycling and composting of organic food waste) and disposed of in an environmentally sound manner.

It is advised that all hazardous waste (e.g. fuel, oil, batteries, pharmaceuticals (i.e. medicines), obsolete computer equipment, fluorescent tubes and compact fluorescent globes (CFLs), etc.) be removed and disposed of at a licensed hazardous waste facility (e.g. Kupferberg in Windhoek).

2.6 Employment

Thirteen (13) people are currently employed at the Lodge and Campsite, and consisting of eight (8) male and five (5) female staff. At the moment, there are also five (5) contractors on site. Staff work for 14 days, and then get seven (7) days off. Transport is provided from the Lodge to the Tsumeb/Grootfontein junction on a Friday, and from there staff then make their own transport arrangements to their respective homes (Mr Martin Rust, ONE Namibia, pers. comm.).

2.7 Environmental and Social Responsibility

Once a year, usually around November, Ghaub Investments (Pty) Ltd sponsors a group of school kids from the German School in Otavi to visit Farm Ghaub No. 47.

Meat are provided to the Kindergarten in Tsumeb on an *ad hoc* basis (Mr Achim Rust, Farm Ghaub No. 47, pers. comm.).

A project is underway to study the current grazing conditions of Farm Ghaub No. 47 and to evaluate various land use and grazing management practices. It is led by rangeland expert Dr. Axel Rothauge; multiple visits by Dr. Rothauge and his students from the University of Namibia (UNAM) have taken place to Ghaub between May 2022 and January 2024 and the visits will continue until at least 2026. A total of 63 sample areas were identified on the farm where the condition of the grazing areas (e.g., botanical composition, grass-wood balance, standing herbaceous yield, soil condition, carbon exchange, diversity of small animals, etc.) are measured (see Figures 13a, b). These measurements provide insights into the productivity and availability of fodder for grazing animals and assist Ghaub Investments (Pty) Ltd to evaluate the condition of the grazing areas and the carrying capacity of the farm (ONE Namibia, 2024).



Figure 13: Pictures showing: a) one of the 63 fenced off sample areas (Source: L. Maartens, 21 August 2024); and b) students from the University of Namibia (UNAM) partaking in the study; c) students from the ICare Aftercare & Tutor Centre (Source: ONE Namibia, 2024); and d) packaging for firewood (Source: L. Maartens, 21 August 2024).

During August 2024, Ghaub Investments (Pty) Ltd sponsored a weekend, including a cave tour and a rhino drive, for four students and two teachers from the ICare Aftercare & Tutor Centre at Farm Ghaub No. 47. Me Kahimbi Masuku, one of ONE Namibia's booking agents in the Windhoek Office, also joined the group, and the students had the opportunity to ask her questions regarding tourism and the opportunities in the Namibian tourism industry (Mr Martin Rust, ONE Namibia, pers. comm.; see Figure 13c).

Firewood, collected from Ghaub, Waterberg Wilderness, and Ondekaremba are packaged into boxes that can be burnt / used to ignite the fire. Proceeds from the sale of the wood, help ONE Namibia to finance their de-bushing efforts (Mr Martin Rust, ONE Namibia, pers. comm.; see Figure 13d).

The Ghaub Lodge and Campsite are integral parts of Ghaub Investments (Pty) Ltd's strategy to safeguard and foster Namibia's unique fauna, especially white rhino, and flora. Rhino protection at Ghaub focuses on comprehensive monitoring: i) solid fencing around the area; guarded gates on the thoroughfare; security cameras at the gates; daily patrols of specifically trained rangers ("Rhino Patrol") to determine the location and condition of the rhinos at all times; and cooperation with the police and neighbouring farmers. Without the tourism operation, rhino protection in this rural area would not be possible (Mr Martin Rust, ONE Namibia, pers. comm.).

3 Regulatory Framework

The most pertinent legislation (Ruppel and Ruppel-Schlichting, 2022; and Legal Assistance Centre (LAC), 2023a, b), with the aim of informing Ghaub Investments (Pty) Ltd of the legal requirements pertaining to the Ghaub Lodge and Campsite, Farm Ghaub No. 47, Oshikoto Region, is listed in Table 2.

Table 2: Regulatory framework for the Ghaub Lodge and Campsite, Tsumeb Constituency, Oshikoto Region, Namibia.

National Law
Acts of Parliament, Regulations, Ordinances, Proclamations
The Constitution of the Republic of Namibia 1990 (and First Amendment Act 34 of 1998, Second Amendment Act 7 of 2010, and Third Amendment Act 8 of 2014)
War Graves Control and Maintenance Ordinance 2 of 1927
Employees' Compensation Act 30 of 1941 (as amended in South Africa prior to Namibian independence) (Amendment Act 5 of 1995 amends the Act substantially and changes its name from the Workmen's Compensation Act to the Employees' Compensation Act) (and the General Regulations 1961 (as amended))
Burial Place Ordinance 27 of 1966
General Health Regulations (Government Notice 121 of 14 October 1969 as amended)
Soil Conservation Act 76 of 1969 (as amended in South Africa to March 1978)
Accommodation Establishments and Tourism Ordinance 20 of 1973 (and Amendments 25 of 1973, 17 of 1974, 12 of 1975, 5 of 1977, 14 of 1977, 4 of 1978, 11 of 1978 and 14 of 1979) (and the Regulations on Tourist Recreation Areas 1974 and the Regulations relating to Accommodation Establishments and Tourism 1974)
Hazardous Substance Ordinance 14 of 1974 (and the General Regulations 1979; no post-independence regulations have been promulgated)
Nature Conservation Ordinance 4 of 1975 (and the Regulations Relating to Nature Conservation 1976 and the amended Regulations)
Atmospheric Pollution Prevention Ordinance 11 of 1976 (Regulations are authorised by several sections of the Act; no post-independence regulations have been promulgated)
Petroleum Products and Energy Act 13 of 1990 (as amended by the Petroleum Products and Energy Amendment Act 29 of 1994, Act 3 of 2000, and Act 16 of 2003) (and the Regulations relating to the purchase, sale, supply, acquisition, possession, disposal, storage, transportation, recovery and re-refinement of used mineral oil 1991, Petroleum Products Regulations 2000 (amended in 2002 and 2016), Regulations for arbitration procedures 2003, Regulations on funding of approved agencies 2004 (withdrawn 2005) (GN 247/2013 purports to amend the regulations in GN 230/2004, leaving the correct text of these regulations uncertain), and the Regulations relating to the reselling price of petrol and petrol products (issued frequently, with each one revoking or replacing the previous one)
Regional Councils Act 22 of 1992 (and Amendment Acts 17 of 1997, 30 of 2000, 12 of 2002, 12 of 2010, 16 of 2010, and 7 of 2017) (and the Regulations: Commercialisation Regulations 2001; Joint Business Venture Regulations 2001; and Tender Board Regulations 2001)
Social Security Act 34 of 1994 (as amended by the State-owned Enterprises Governance Act 2 of 2006/ Public Enterprises Governance Act 2 of 2006, and the Labour Act 11 of 2007 (and the General Regulations 1995, and amendments))
Affirmative Action (Employment) Act 29 of 1998 (as amended by Act 6 of 2007 and the Labour Act 11 of 2007) (and the General Regulations 1999)
Road Traffic and Transport Act 22 of 1999 (as amended by the Road Traffic and Transport Amendment Act 6 of 2008) (and the Road Traffic and Transport Regulations 2001)
Namibia Tourism Board Act 21 of 2000 (as amended by the State-owned Enterprises Governance Act 2 of 2006/Public Enterprises Governance Act 2 of 2006) (and the Regulations relating to levies payable by accommodation establishments 2004, the Regulations relating to the registration of regulated businesses 2004, the Regulations relating to the registration of accommodation establishments 2004, and the National Star Grading Regulations relating to Accommodation Establishments 2012)
National Heritage Act 27 of 2004 (as amended by the State-owned Enterprises Governance Act 2 of 2006/Public Enterprises Governance Act 2 of 2006) (and the National Heritage Regulations 2005)
Electricity Act 4 of 2007 (and the Electricity Regulations: Technical 2004, the Electricity Regulations: Administrative 2011, and the Namibian Electricity Safety Code 2011 (amended 2012))
Environmental Management Act 7 of 2007 (and the Environmental Impact Assessment Regulations 2012)
Labour Act 11 of 2007 (and the Labour Amendment Act 2 of 2012) (and the Regulations relating to the Health and Safety of Employees at Work 1997, the Labour General Regulations 2008, and the Regulations relating to Domestic Workers 2017)
Tobacco Products Control Act 1 of 2010 (and the Regulations 2014)
Water Resources Management Act 11 of 2013 and the Water Resources Management Regulations 2023
Public and Environmental Health Act 1 of 2015 (and section 20(1) of the National Health Act 2 of 2015) (and the Public Health Covid-19 General Regulations 2021) (and amendments)
Policies, Guidelines, National Strategies & Action Plans
Policies

Conservation of Biotic Diversity and Habitat Protection 1994
Namibia: National Code on HIV/AIDS in Employment 2000
National Water Policy White Paper - Policy Framework for Equitable, Efficient, and Sustainable Water Resources Management and Water Services 2000
National Policy on HIV/AIDS 2007
Water Supply and Sanitation Policy (WSASP) 2008
National Policy on Tourism for Namibia 2008
National Gender Policy 2010 - 2020
National Health Policy Framework 2010-2020 - "towards quality health and social welfare services"
National Policy on Climate Change for Namibia 2011
National Rangeland Management Policy and Strategy 2012
Revised National Policy on Human Wildlife Conflict Management 2018-2027
Guidelines
Code of Practice: Volume 1 Septic Tank Systems General Guidelines June 2007
Petroleum Products Regulations, 2000 Guidelines for Consumer Installations
National Strategies & Action Plans
Namibia's Green Plan 1992
Vision 2030 2004
National Climate Change Strategy & Action Plan (2013 – 2020)
Namibia's Second National Biodiversity Strategy and Action Plan (NBSAP 2) (2013 – 2022)
Third National Action Programme for Namibia to Implement the United Nations Convention to Combat Desertification (2014 – 2024)
Namibia's 5th National Development Plan (NDP5) – Working together towards prosperity (2017/18 – 2021/22) (consultation for NDP6 is underway; <i>Fostering Recovery, Inclusiveness and Resilience for Quality and Sustainable Development, 2025/6 – 2030/31</i>)
National Solid Waste Management Strategy 2018
Town Planning Schemes, Structure Plans, & Land Use Plans
N/A
Strategic Environmental Assessments (SEAs)
N/A
International Law
African Union (AU)/Regional
African Charter on Human and Peoples' Rights (Banjul Charter) 1981 and the Protocol to the African Charter for Human and Peoples' Rights on the Rights of Women in Africa (Maputo Protocol) 2003
Charter of the Regional Tourism Organisation of Southern Africa (RETOSA) 1997
Agreement for the Establishment of the Africa Institute for the Environmentally Sound Management of Hazardous and Other Wastes Agreement 2004
Southern African Development Community (SADC)
Treaty of the Southern African Development Community (SADC) 1992 (and six amendments: Agreement Amending the Treaty 2001; Agreement Amending Article 22 of the Treaty 2007; Agreement Amending the Treaty 2008; Agreement Amending the Treaty 2009 (DES); Agreement Amending the Treaty 2009 (ORGAN); and Agreement Amending the Treaty 2015) (and Protocol to the Treaty establishing SADC on Immunities and Privileges 1992)
SADC Protocol on Energy 1996
SADC Protocol on the Development of Tourism 1998
SADC Protocol on Health 1999
SADC Protocol on Wildlife Conservation and Law Enforcement 1999
Charter of Fundamental Social Rights in SADC 2003
SADC Protocol on Gender and Development 2008 (and an Agreement Amending the SADC Protocol on Gender and Development 2016)
United Nations (UN) / International Conventions
†Constitution of the International Labour Organization (ILO) 1919 (as amended), and *Instrument of Amendment of the ILO Constitution, 1986 (not yet binding), and the Instrument of Amendment of the ILO Constitution 1997
†Constitution of the United Nations Educational, Scientific and Cultural Organization (UNESCO) 1945
†Constitution of the World Health Organization (WHO) 1946 (and *Amendment to Article 7 of the Constitution of the World Health Organization 1965 (not yet binding); *Amendment to Article 74 of the Constitution of the World Health Organization 1978 (not yet binding); Amendments to Articles 24 and 25 of the Constitution of the World Health Organization 1986; and Amendments to Articles 24 and 25 of the Constitution of the World Health Organization 1998)
ILO Convention concerning Discrimination in Respect of Employment and Occupation (No. 111) 1958 (and including the Forced Labour Convention 1930 (No. 29); Abolition of Forced Labour Convention 1957 (No. 105); Freedom of Association and Protection of the Right to Organise Convention 1948 (No. 87); Right to Organise and Collective Bargaining Convention, 1949 (No. 98); Equal Remuneration Convention 1951 (No. 100); Discrimination (Employment and Occupation) Convention 1958 (No. 111); Minimum Age Convention 1973 (No. 138); and Worst Forms of Child Labour Convention 1999 (No. 182))
†International Convention on the Elimination of All Forms of Racial Discrimination 1966

International Covenant on Civil and Political Rights (ICCPR) 1966 (and the Optional Protocol to the International Covenant on Civil and Political Rights 1966 and the Second Optional Protocol to the International Covenant on Civil and Political Rights, aiming at the Abolition of the Death Penalty 1989)
International Covenant on Economic, Social and Cultural Rights (ICESCR) 1966
Statutes of the World Tourism Organization (UNWTO) 1970 (and Amendment to Article 38 of the Statutes of the World Tourism Organization 1979)
Convention Concerning the Protection of the World Cultural and Natural Heritage 1972
International Health Regulations Act 28 of 1974 (as amended to December 1977); the International Health Regulations were replaced in turn by the International Health Regulations, 2005, which entered into force internationally on 15 June 2007 (<i>Source: World Health Organisation (WHO)</i>). Namibia is bound by these 2005 Regulations from that date in accordance with Articles 21(a) and 22 of the WHO Constitution.
Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) 1979 and the Optional Protocol to the Convention on the Elimination of all Forms of Discrimination against Women 1999
Vienna Convention for the Protection of the Ozone Layer 1985 and the Montreal Protocol on Substances that Deplete the Ozone Layer 1987 (and Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, adopted by the Second Meeting of the Parties at London on 29 June 1990 (London Amendment); Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, adopted by the Fourth Meeting of the Parties at Copenhagen on 25 November 1992 (Copenhagen Amendment); Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, adopted by the Ninth Meeting of the Parties at Montreal on 17 September 1997 (Montreal Amendment); Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, adopted by the Eleventh Meeting of the Parties at Beijing on 3 December 1999 (Beijing Amendment); and Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, adopted by the Twenty-Eighth Meeting of the Parties at Kigali from 10 to 15 October 2016 (Kigali Amendment))
Convention on Biological Diversity (Biodiversity Convention) 1992, the Cartagena Protocol on Biosafety to the Convention on Biological Diversity, Montreal 2000, and the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity 2010
United Nations Framework Convention on Climate Change (UNFCCC) 1992, the Kyoto Protocol to the UN Framework Convention on Climate Change 1997 (and the not yet binding Doha Amendment to the Kyoto Protocol to the United Nations Framework Convention on Climate Change 2012), and the Paris Agreement 2015
United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa 1994
Stockholm Convention on Persistent Organic Pollutants (Stockholm Convention) 2001 (and amendments)
Convention for the Safeguarding of the Intangible Cultural Heritage 2003
WHO Framework Convention on Tobacco Control (WHO FCTC) 2003
Convention on the Protection and Promotion of the Diversity of Cultural Expressions 2005
Statute of the International Renewable Energy Agency (IRENA) 2009
United Nations Guiding Principles on Business and Human Rights 2011
Framework Agreement on the establishment of the International Solar Alliance (ISA) 2016
International Best Practice
The Vermillion Accord on Human Remains 1989
International Finance Corporation (IFC) Environmental Health and Safety (EHS) Guidelines 2007 and the EHS Guidelines for Tourism and Hospitality Development 2007

† *Treaties which were entered into prior to Namibian independence that appear to continue to be binding on Namibia*

4 Environmental Management Plan

4.1 Goal, Aim and Structure of the Environmental Management Plan

The ultimate goal of an Environmental Management Plan (EMP) is to ensure that the physical, biophysical and socio-economic objectives are met to such an extent that the overall product of the activity will not result in a net negative impact.

The aim of the EMP is to assist Ghaub Investments (Pty) Ltd to ensure that the day-to-day operations are carried out in an environmentally responsible manner, thereby preventing or minimising the negative effects and maximising the positive effects of the Ghaub Lodge and Campsite.

Once approved by the Directorate of Environmental Affairs and Forestry (DEAF), Ministry of Environment, Forestry and Tourism (MEFT), in the form of an Environmental Clearance Certificate (ECC), the EMP will become a legally binding document and Ghaub Investments (Pty) Ltd, and their Contractor(s), are required to abide to the conditions stipulated in the EMP.

The EMP is presented as a comprehensive matrix: for each Activity/Process and related Aspects and Impacts, Management Actions required to address the impacts arising directly and indirectly from the various aspects of the Ghaub Lodge and Campsite are listed.

A copy of the EMP should be made available at the Ghaub Lodge.

Auditing (and monitoring) should be carried out to ensure compliance with the EMP. Parties responsible for transgression of the EMP should be held responsible for any rehabilitation that needs to be undertaken.

Note that the EMP is not a static document and that the document should be updated as Ghaub Investments (Pty) Ltd's activities at the Ghaub Lodge and Campsite progresses.

4.2 Permits and Approvals

The most pertinent legislation, with the aim of informing Ghaub Investments (Pty) Ltd of the legal requirements pertaining to the activities at the Ghaub Lodge and Campsite, is listed under Section 3 of this Report.

A summary of the relevant legislation and regulatory authorities (including contact details) as far as permits and/or approvals are concerned, is provided:

Legislation	Regulatory Authority	Permit/Approval	Contact Details
Water Resources Management Act 11 of 2013	Ministry of Agriculture, Water and Land Reform (MAWLR)	Water Licenses	Ms Ndiyakupi Nghituwamata Executive Director Tel. 061-2087649/51 ED@mawlr.gov.na Ndiakupi.Nghituwamata@mawlr.gov.na
		Effluent/Wastewater Discharge License	
Petroleum Products and Energy Act, 1990 and the Petroleum Products Regulations, 2000	Ministry of Mines and Energy (MME)	Consumer Installation Certificate	Mr Andreas Sheeham Chief Petroleum Inspector Tel: 284 8300 Andreas.Sheehama@mme.gov.na
Environmental Management Act 7 of 2007	Ministry of Environment, Forestry and Tourism (MEFT)	Environmental Clearance Certificate	Mr Timoteus Mufeti Environmental Commissioner Tel. 061-2842751 Timoteus.Mufeti@meft.gov.na
Labour Act 11 of 2007	Ministry of Labour, Industrial Relations and Employment Creation	Permission is needed to run 12-hour shifts (should it be required)	Ms Kyllikki Sihlahla Labour Commissioner Tel. 061-2066800 Kyllikki.Sihlahla@mol.gov.na

4.3 Roles and Responsibilities

Representatives from Ghaub Investments (Pty) Ltd are responsible for fulfilling the requirements in the EMP.

In addition to the before-mentioned, the following actions are proposed:

1. The provision by Ghaub Investments (Pty) Ltd of, on an on-going basis, sufficient management sponsorship and human and financial resources for the implementation of the EMP;
2. The development of the proposed monitoring programme(s) (see Section 4.5); and
3. Auditing of the management actions as contained in the EMP for the Ghaub Lodge and Campsite.

4.4 Environmental Management Plan

This Section contains the Environmental Management Plan (EMP) for the Ghaub Lodge and Campsite (Table 3) (also see IFC, 2007a; b).

Table 3: Environmental Management Plan for the Ghaub Lodge and Campsite, Tsumeb Constituency, Oshikoto Region, Namibia.

Aspect	Impact	Mitigation
Social and Environmental Performance		
Management and Monitoring	Social and Environmental Performance	Adhere to all Namibian Legislation, including Best Practice Guidelines. Ensure that all aspects related to the Environmental Management Plan (EMP) are implemented.
Consultation and Disclosure	Social and Environmental Performance	Maintain open and direct lines of communication with the Authorities and Interested and Affected Parties (I&APs) (e.g. representatives from the Ministry of Environment, Forestry and Tourism (MEFT), the Ministry of Agriculture, Water and Land Reform (MAWLR), the Ministry of Health and Social Services (MHSS), the Namibia Tourism Board (NTB), etc.) with regards to environmental matters. Consult with I&APs throughout the project process and adequately incorporate I&APs' concerns.
Grievance Mechanism	Social and Environmental Performance	Implement a grievance mechanism for receiving and resolving any concerns and grievances related to the project's social and environmental performance throughout the project life cycle. Address concerns promptly and transparently and in a culturally appropriate manner. Keep a register of all concerns/issues received from I&APs, as well as the measures taken to address these.
Training, including awareness and inductions	Social and Environmental Performance	Train employees in matters related to the project's social and environmental performance and Namibia's regulatory requirements. Ensure adequate environmental awareness training for all personnel. Give environmental induction presentations to all personnel.
Employment and procurement opportunities	Social and Environmental Performance	Source contracting companies/service providers/workers based on merit and expertise giving preference to local contractors/service providers/workers on condition that the local contractors/service providers/workers have the required experience and expertise. Ensure that contractors/service providers adhere to the Namibian Labour, Social Security, Health and Safety, and Affirmative Action laws. Source maximally from local resources to ensure maximum economic beneficiation of local businesses in terms of new business sales.
Labour and Working Conditions	Social and Environmental Performance	Establish, maintain and improve the worker-management relationship. Base the employment relationship on equal opportunity and fair treatment and no discrimination to be allowed. Comply with Namibia's labour and employment laws. Promote safe and healthy working conditions and the protection and promotion of worker health. Document and communicate the Working Conditions and Terms of Employment. Respect Collective Agreements and the right of workers to organise and bargain collectively.

Aspect	Impact	Mitigation
Occupational and Community Health and Safety and Security	Social and Environmental Performance	<p>Implement a Grievance Mechanism.</p> <p>Adhere to all Namibia's Health and Safety Regulations (Labour Act, 1992: Regulations Relating to the Health and Safety of Employees at Work).</p> <p>Ensure that an HIV/AIDS Policy and Programme and Health and Safety Plan is in place.</p> <p>A SHE (Safety, Health, Environment) Representative to be appointed once the staff complement reaches 20.</p> <p>Occupational Health and Safety Training to be provided to all employees.</p> <p>Ensure that qualified first aid can be provided at all times.</p> <p>Comply with all safety regulations re. electricity supply.</p> <p>Ensure that employees are trained in the use of appropriate fire fighting equipment and ensure that such equipment is on hand at all times. <i>All the fire fighting equipment were serviced by United Richard Investment CC; the issued certificate is valid until March 2025.</i></p> <p>Provide and ensure the active use of Personal Protective Equipment (PPE).</p> <p>Make suitable arrangements, as far as practicable, for the maintenance of health, the prevention and overcoming of outbreaks of disease (e.g. Tuberculosis (TB)) and of adequate first aid services.</p> <p>Prevent communicable disease (e.g. Sexually Transmitted Infections (STIs) such as HIV transmission): prevent illness among employees (through health awareness and education initiatives); ensure ready access to medical treatment, confidentiality and appropriate care, particularly with respect to migrant workers; and promote immunization.</p> <p>Implement measures to protect the entire team (including contractors) against the SARS-CoV-2 Virus that causes COVID-19 (and more recently also the monkeypox (mpox) virus). Train employees in the COVID-19 regulations. Provide adequate handwashing and hand sanitizing facilities; maintain the required physical distance and wear a face mask if applicable. Stay up-to-date on current COVID-19-related regulations in the Region and Country.</p> <p>Ensure that security arrangements are in place. <i>There is a security guard that patrol the Lodge-area (Mr Martin Rust, ONE Namibia, pers. comm.).</i></p>
Ghaub Lodge and Campsite		
Operational activities	Negative impact on floral species	Avoid/prevent the planting of potentially invasive alien plant species for ornamental purposes as part of the landscaping (these species often "escape" and become invasive causing further ecological damage); rather incorporate indigenous vegetation into the overall landscaping of the area (this would create a natural ambiance and indigenous species require less water and overall maintenance).

Aspect	Impact	Mitigation
Operational activities	Pollution of biophysical environment (surface and groundwater)	<p>Promote appropriate guest and staff behaviour (e.g. do not allow any native plant species to be removed/damaged).</p> <p><u>Fertilizers:</u> Conduct regular soil testing (to establish nutrient needs) in order to determine fertilizer application rates/correct doses. Store fertilizers in their original packaging in a dedicated, locked area, with proper signage, and with access limited only to authorised personnel. Use slow-release and/or natural organic fertilizers. Manure can be an alternative, but if over applied it may also cause pollution. Prepare a management plan covering the measures for containment, storage and ultimate destruction of obsolete fertilizers in accordance to the Food and Agriculture Organization (FAO) guidelines (and consistent with country commitments under the Stockholm, Rotterdam and Basel Conventions).</p> <p><u>Pesticides:</u> Consider non-chemical methods (e.g. use beneficial organisms to perform the biological control of pests, or use mechanical controls, i.e. traps, barriers, light and sound to kill/relocate/repel pests, or use mechanical weed control/thermal weeding) before resorting to chemical application. Maintain a pesticide logbook: e.g. field observations, weather data, time and dosage of treatment, and effectiveness and apply pesticides based on these criteria. Ensure that only the minimum effective dose is applied. Avoid the use of pesticides that fall under the World Health Organization (WHO) Recommended Classification of Pesticides by Hazard Classes 1a and b, and by Hazard Class II. Also those that are listed in Annexes A and B of the Stockholm Convention (except under the conditions noted in the convention). Only use pesticides that are manufactured under license, registered and approved by the appropriate authority and in accordance with the FAO's International Code of Conduct on the Distribution and Use of Pesticides. Only use pesticides that are labeled in accordance with international standards and norms. Pesticide application equipment to be maintained and calibrated in accordance with manufacturer's recommendations. Store pesticides in their original packaging in a dedicated, dry, cool, frost-free, well aerated, locked area, with proper signage, and with access limited only to authorised personnel. Also ensure that spill containment measures are in place. Ensure that the personnel applying pesticides are properly trained; mixing and transfer of pesticides to be done in ventilated and well-lit areas using containers designed/dedicated for the task. Contaminated containers to be handled and treated as hazardous waste (see Hazardous materials management). Purchase and store only the required amounts of pesticides.</p>
Traffic on the Gravel / "Service" Road	Air quality (dust or Particulate Matter (PM) pollution) and Occupational and community health and safety	<p>Maintain the road surface to preserve surface characteristics (e.g. texture and roughness).</p> <p>Use dust control/suppression methods, such as applying (semi-purified) water to minimise dust (oil and oil by-products is not a recommended measure to control road dust).</p> <p>Fleet owners/operators to implement manufacturer recommended engine maintenance programs (to control vehicle emissions: Carbon Monoxide (CO), Carbon Dioxide (CO₂), Nitrogen Oxide (NO_x), Sulphur Dioxide (SO₂), Particulate Matter (PM) and Volatile Organic Compounds (VOCs)).</p>

Aspect	Impact	Mitigation
		<p>Adopt best transport safety practices by implementing the following measures: emphasise safety aspects among drivers; improve driving skills and require licensing of drivers; adopt limits for trip duration; avoid dangerous routes and times of day; and use speed control devices.</p> <p>Regularly maintain vehicles and use manufacturer approved parts.</p> <p>Use locally sourced materials (where possible) to minimise transport distances.</p>
Ghaub Lodge and Campsite: Resource Use		
Energy Management	Resource use (e.g. coal) / depletion of natural resources	<p>Promote the sustainable use of energy (that will result in the reduction of use and cost reductions) (e.g. energy efficient light sources).</p> <p>Raise awareness amongst the residents, staff (and contractors).</p> <p>For reduction of energy consumption associated with heating, ventilation, and air conditioning (HVAC), lighting, and cooking and refrigeration equipment see IFC (2007b).</p>
Water-efficient design features	Resource use (water) / depletion of natural resources	Use, where feasible, water saving equipment including ultra-low-flush toilets, spray nozzles, urinals, faucet aerators, and low-flow showerheads, infrared and ultrasonic sensors, water spigots, and pressure-control valves.
Water Management	Resource use / depletion of natural resources	<p>Implement a water conservation program, promoting the continuous reduction in water consumption.</p> <p>Promote and enforce a policy on landscape and garden designs that minimise water consumption e.g. the use of indigenous plants.</p> <p>Raise awareness amongst the residents, staff (and contractors) re the importance of saving water.</p>
Ghaub Lodge and Campsite: Hazardous Materials Management		
Hazardous materials management	Social and Environmental Performance	<p>Establish hazardous materials management priorities (based on hazard analysis of risky operations).</p> <p>Avoid, or minimise the use of hazardous materials.</p> <p>Prevent uncontrolled releases of hazardous materials to the environment or uncontrolled reactions that may result in fire or explosion.</p> <p>Implement management controls (procedures, inspections and training, communication and drills) to address residual risks.</p>
Hazardous materials management	Pollution of biophysical environment (soil and water)	<p>Implement prevention and control measures for the use, handling and storage of hazardous materials:</p> <p><u>Materials transfer</u>: regularly inspect, maintain and repair fittings/pipes/hoses; make use of drip trays/other drip containment measures at connection/possible overflow points;</p> <p><u>Overfill protection</u>: use trained filling operators; install gauges on tanks to measure the volume inside; make use of dripless hose connections (vehicle tanks) and fixed connections (storage tanks); use a catch basin/drip tray around the fill pipe to collect spills;</p> <p><u>Reaction, fire, and explosion prevention</u>: hazardous materials to be stored in marked containers and separate (from non-hazardous materials); incompatible hazardous materials (acids, bases, flammables, oxidizers, reactive chemicals) to be stored in separate areas and with containment facilities separating material storage; smoking or working with open flames not to be permitted in the presence of these</p>

Aspect	Impact	Mitigation
		<p>substances; limit access to hazardous waste storage areas and clearly label and demarcate the area; conduct regular inspections of the areas and document the findings; prepare and implement spill response and emergency plans; train employees in the use of appropriate fire fighting equipment and ensure that such equipment is on hand at all times.</p> <p>Train workers on the correct transfer and handling of fuels and chemicals and the response to spills.</p> <p>Immediately report and clean up any accidental hydrocarbon spill: Sunisorb, Drizit, Peatsorb can be used to clean up small spills; in case of larger spills, the spill together with the polluted soil should be removed and disposed of at e.g. a biological remediation site.</p>
Hazardous materials management	Occupational health and safety	<p>Implement hazard communication and training programmes (including information on Material Safety Data Sheets (MSDS)) to make employees aware of workplace chemical hazards and how to respond to these.</p> <p>Provide and ensure the active use of PPE.</p>
Ghaub Lodge and Campsite: Waste Management		
Waste management: non-hazardous and hazardous	Pollution of biophysical environment	<p>Identify all the waste streams and prepare an Integrated Waste Management Plan. The generation of waste should be avoided as far as practicable; where it cannot be avoided, waste should be reduced, re-used and recovered (including recycling and composting) (e.g. set up collection points for the recycling of solid waste); where waste cannot be reduced, re-used and/or recovered, it should be disposed of in an environmentally sound manner. <i>All of the organic food waste is composted; general waste is stored and taken to the Grootfontein landfill once a month (Mr Martin Rust, ONE Namibia, pers. comm.).</i></p> <p>Waste reduction can be achieved by: buying in bulk quantities; using refillable, bulk dispensers (e.g. toiletries) (vs. individually packaged products); working with suppliers in order to limit the use of, and establishing recycling for, product packaging; avoiding the use of polystyrene foam altogether; using glass/durable plastic rather than disposable plastic items (straws/cups); providing in-room recycling procedures and appropriate receptacles.</p> <p>Raise awareness amongst residents, staff and contractors (to reduce, re-use, and recover waste).</p> <p>Stamp down on any form of littering.</p> <p>Non-hazardous and hazardous waste to be collected and stored separately.</p> <p>Hazardous waste: recycle petroleum (fuels and lubricants) waste products and collect and recycle batteries and print cartridges. The remainder to be transported by an approved contractor to a recognised hazardous waste disposal site (e.g. Kupferberg outside Windhoek).</p>
Waste management: sanitary	Pollution of biophysical environment	<p>Ensure that the discharge of sanitary wastewater to land conform to the regulatory requirements (i.e. of the Ministry of Agriculture, Water and Land Reform).</p> <p>Use bio-degradable toilet cleaners that do not kill the bacteria in the septic tanks. Add biotreatment to the toilets once every three weeks.</p>
Wastewater management	Pollution of biophysical environment	<p>Ensure that the discharge of process wastewater and/or sanitary wastewater and/or wastewater from utility operations and/or stormwater conform to the regulatory requirements (i.e. of the Ministry of Agriculture, Water and Land Reform).</p>

Aspect	Impact	Mitigation
		<p>Ensure that the Kitchen and the other developments are equipped with the required means (e.g. a fat trap) to ensure that effluent disposal remains within the set limits.</p> <p>Ensure that the disposal of chemicals is as per the prescriptions in the relevant MSDS.</p> <p>Minimise the use of the laundry through asking guests to reuse the towels and bedding.</p> <p>Control the consumption of cleaning materials. If feasible, substitute cleaning materials with biodegradable products. <i>At the moment, Handy Andy, Sunlight Liquid, Domestos / Jik are used (Mr Martin Rust, ONE Namibia, pers. comm.).</i></p> <p>Avoid/minimise the use of cleaning agents that contain phosphates, nitrilotriacetic acid or any of its salts, ethylene diaminetetraacetic acid and ethylene dinitrilotetraacetic acid or any of their salts, alkylphenol ethoxylate, halogenated organic solvents, butoxy-ethanol, and VOCs in excess of 10 percent by mass.</p> <p>Runoff from areas where surface water might have become contaminated should be captured and treated to sewage effluent standards; uncontaminated runoff should be diverted around areas where such water might become contaminated.</p>
Wastewater management - stormwater management	Soil erosion	Regular inspection and maintenance of permanent erosion and runoff control features.
Ghaub Lodge and Campsite: Occupational and Community Health and Safety		
Food quality	Occupational and community health and safety	Apply international standards/implement systems re. the handling, preparation and storage of food, e.g. SANS 10049:2001 (Food Hygiene Management) and/or ISO (International Organization for Standardization) 22000:2018 (Food Safety Management System (FSMS)).
Indoor air quality	Occupational and community health and safety	<p>Use low VOC-emitting products.</p> <p>Avoid, where possible, the use of aerosols, sprays and air fresheners.</p> <p>Housekeeping and cleaning products to be used during unoccupied hours.</p> <p>HVAC system: conduct periodic, preventive maintenance (incl. cleaning drain pans and changing filters); keep duct lining dry; ensure clean mechanical rooms; and fix leaks and clean spills immediately. <i>There are only two air conditioners at the Lodge (Mr Martin Rust, ONE Namibia, pers. comm.).</i></p>
Swimming pool	Community health and safety	Implement a pool water sanitisation programme; the programme should include the monitoring of water quality (also see WHO, 2006). <i>At the moment, the pool is treated with chlorine on a daily basis (Mr Martin Rust, ONE Namibia, pers. comm.).</i>
Rehabilitation and/or Closure		
Rehabilitation and Closure	Social and Environmental Performance	Remove the Solar PV (photovoltaic) Modules. If it cannot be recycled, the modules to be disposed of at the hazardous waste disposal site at Kupferberg outside Windhoek.

4.5 Monitoring and Reporting

The following monitoring and reporting, at least but not limited to, need to be carried out:

Type	Parameter	Frequency
Climate data	Rainfall	<i>Ad hoc</i> (rainy season); record daily totals
Abstraction and use of groundwater	As per the Ministry of Agriculture, Water and Land Reform's (MAWLR's) conditions to the Licence to Abstract and Use Water	
Water Quality	Chemistry and microbiology	Every six (6) months for the first year, and then annually (<i>if no Coliform bacteria, or E. coli (a sub-group of faecal coliform) were detected</i>)
Discharge of effluent	As per the MAWLR's conditions to the Licence to Discharge Effluent	
Consumer Fuel Installation	As per the Ministry of Mines and Energy's (MME's) conditions to the Consumer Installation Certificate	
Hazardous materials management	Hydrocarbon spills of more than 200 litres	<i>Ad hoc</i> ; inform the Minister, MME by completing form PP/11 (Petroleum Products Regulations 2000)
Swimming pool water sanitisation	Monitor the water quality to establish treatment need and frequency	<i>Ad hoc</i>
Stormwater and soil erosion	Soil erosion rates	<i>Ad hoc</i> (rainy season)
Invasive plant species	Identification and removal of any alien invasive species	Three-monthly monitoring
Environmental Management Plan (EMP)	Implement and observe the EMP; Environmental performance / corrective measures to be taken as or when required	Environmental Monitoring Reports to be submitted to the Directorate of Environmental Affairs and Forestry (DEAF), Ministry of Environment, Forestry and Tourism (MEFT) every six (6) months

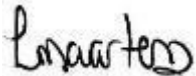
5 Conclusions and Recommendations

The Ghaub Lodge was built in 1996. The present owner, Ghaub Investments (Pty) Ltd, purchased the Farm in 2016.

In order to further improve environmental performance at the Ghaub Lodge and Campsite, it is advised that:

- i. Cleaning materials be substituted with biodegradable products, if feasible, and biotreatment be added to the toilets once every three weeks;
- ii. An HIV/AIDS Policy and Programme and Health and Safety Plan be prepared and implemented; and
- iii. The Water Resources Management Act 11 of 2013 and Water Resources Management Regulations 2023 be complied with (by February 2025).

Finally, it is advised that Ghaub Investments (Pty) Ltd, their contractors and employees should continue to implement and observe the Environmental Management Plan on an ongoing basis. Environmental performance should be regularly monitored (so that the lessons learnt can be incorporated into the improvement of the Environmental Management Plan over time) and corrective measures taken as or when required.



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7 Annexure A

Certificate No:

0199



Namibia Tourism Board

Certificate
of Registration
for Accommodation Establishment

It is hereby certified that

Guestfarm Ghaub

having complied with the requirements relating to the registration of accommodation establishments in terms of Namibia Tourism Board Act, 2000 (Act No. 21 of 2000), section 20, is registered as a

Guest Farm

Registration Number:

GFA00091

This registration is only valid with effect from:

17/01/2005


CHIEF EXECUTIVE OFFICER
Windhoek

17/01/2005
DATE



This certificate is issued without alteration or erasure of any kind. It is an offence in terms of section 19 of the Namibia Tourism Board Act, 2000 (Act No. 21 of 2000) to operate an accommodation establishment without valid registration certificate. This certificate remains the property of Namibia Tourism Board, and must be returned in accordance with the Regulations relating to the Registration regulations.



Hospitality Association
of Namibia

Membership Certificate

for the Year

2024/25

of

Ghaub

in the Category

Guest Farm

Member of H·A·N since

2012

(HAN CEO)

Windhoek, March 2024

H·A·N Mission Statement

H·A·N is committed to optimizing the full potential of the
Namibian Hospitality Sector and to serve its members' needs and
building partnerships



p. 8629952

MINISTRY OF HEALTH AND SOCIAL SERVICES

ENVIRONMENTAL HEALTH SERVICES

FITNESS CERTIFICATE

(General Health Regulations, G121 of 14 October 1969)

OWNER(S) MANAGEMENT OF PREMISES

MRS C. RUST

BUSINESS ADDRESS WHERE PREMISES ARE SITUATED

GHAUB FARM NO 47

FARM NAME, NUMBER AND DISTRICT WHICH PREMISES IS SITUATED

GROOTDRIFTEIN, GHAUB FARM

TRADE NAME OF PREMISES

GHAUB GUEST FARM

CLASS OF BUSINESS/TRADE WHICH WILL BE CARRIED ON

GUEST FARM

CONDITIONS UNDER WHICH CERTIFICATE OF FITNESS IS GRANTED: TO COMPLY WITH THE MINIMUM REQUIREMENTS OF THE GENERAL HEALTH REGULATIONS (14 OCTOBER 1969) AS AMENDED. THIS CERTIFICATE SHOULD BE RENEWED BEFORE 31 MARCH 2025

TWABASIFA HETA
CERTIFYING OFFICER

EHP
DESIGNATION

MINISTRY OF HEALTH AND SOCIAL SERVICES
ENVIRONMENTAL HEALTH
2024-03-31-5
REPUBLIC OF SOUTH AFRICA