

**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

ENVIRONMENTAL MANAGEMENT PLAN (EMP) for 2026 – 2028: UPDATED

**ROVEJEMA LODGE & CAMPING GROUP (Pty) Ltd.
t/a WHITE SANDS LODGE at POPA FALLS, KAVANGO EAST REGION
in the MULTIPLE USE SECTION of BWABWATA NATIONAL PARK west,
KAVANGO EAST REGION**

**REQUEST for the RENEWAL of the
ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC)**



The welcome sign at the entrance gate at White Sands Lodge.

APP reference number issued by the EC office of MEFT *APP 251229-006842*

PROPONENT

**Mr. Ronny Ratheiser
Director/Proponent
Rovejema Lodge and Camping
Group (Pty) LTD
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ENVIRONMENTAL PRACTITIONER

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Editor: Dr Marion Schramm

15 March 2026

Dr. Ekkehard Klingelhoefter Environmental Assessment Practitioner (EAP)

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APPLICATION FOR THE ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC)**

No. 4878

Government Gazette 6 February 2012

23

ANNEXURE 1
FORMS

Form 1

**REPUBLIC OF NAMIBIA
ENVIRONMENTAL MANAGEMENT ACT, 2007
(Section 32)**

APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE



PART A: DETAILS OF APPLICANT

1. Name: (person or business)	Mr. R. RATHEISER
2. Business Registration / Identity No. (if applicable)	Registration: PTY. Ltd./2116/1142
3. Correspondence Address:	P. O. Box 2990, Swakopmund
4. Name of Contact Person:	E. KLINGELHOEFFER
5. Position of Contact Person:	ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)
6. Telephone No.:	264 (0) 81N 719 3939
7. Fax No.:	N/A
8. E-mail Address : (if any)	Proponent: ronny@whitesands.com.na EAP: ekkehardwk@gmail.com

Tick () the appropriate box

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PART B: SCOPE OF THE ENVIRONMENTAL CLEARANCE CERTIFICATE

1. The environmental clearance certificate is for:

Request for an ECC which has elapsed and needs to be renewed

2. Details of the activity(s) covered by the environmental clearance certificate:

[Note: Please attach plans to show the location and scope of the designated activity(s), and use additional sheets if necessary: **Refer to the BID submitted on 29 December 2025**

Title of Activity: **White Sands Lodge: operation of a tourism establishment**
Nature of Activity: **On the northern banks of the Kavango River in BNP west**
Location of Activity: **At Gate: Latitude South 18.10833 and Longitude East 21.58347**
Scale and Scope of Activity: **Cater for tourists on a 16ha plot on the northern banks of the Kavango River, western sector of BNP**

PART C: DECLARATION BY APPLICANT

I hereby certify that the particulars given above are correct and true to the best of my knowledge and belief. I understand the environmental clearance certificate may be suspended, amended or cancelled if any information given above is false, misleading, wrong or incomplete.

 **Ekkehard Klingelhoefter** **EAP**
Signature of Applicant Full Name in Block Letters Position

on behalf of **Mr R Ratheiser (Proponent-owner)** **27 February 2026**
Date

This report has four sections:

- **Section 1: Overview of White Sands Lodge**
- **Section 2: Summary of current EMP of 2018 in place (TEC) and compliance**
- **Section 3: Potential impacts of activities and recommended mitigation for 2026-2028**
- **Section 4: Recommendations and conclusion**

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WHITE SANDS LODGE, located on the northern banks of the Kavango River**

TABLE OF CONTENTS

	<u>Page</u>
Cover page	1
Formal Application	2
Table of Contents	4
Consulting Team	5
Acronyms	5
Tables	5
Summary Overview	6
Section 1 LODGE OVERVIEW	8
1.1 Lodge operation, Proponent, Joint Venture, EAP, infrastructure	8
1.2 Locality and infrastructure layout	12
1.3 Infrastructure in place	15
1.4 Allocation of APP number	18
1.5 Verification, screening notification and instructions	18
1.6 Purpose of the BID (separate report on Portal)	19
1.7 Staff complement	20
1.8 EMP objectives	20
Section 2 CURRENT EMP IN FORCE and OBSERVATIONS MADE (COMPLIANCE) DURING SITE VISITS JAN/FEB 2026	23
2.1 Current EMP in force	23
2.2 Compliance	26
Section 3 UPDATED and REVISED EMP: TIME PERIOD March 2026 to February 2029	30
3.1 Policy, legal framework and improvements	30
3.2 Recycling sewage treatment system	31
3.3 Revised and updated EMP	37
Section 4 RECOMMENDATIONS and CONCLUSION	51
References and acknowledgements	53

**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

DOCUMENTS

<u>Document 1:</u>	Concession contract between WSL operator & KA, Nov. 2018	54
<u>Document 2:</u>	Name change on 10 July 2018 to ROVEJEMA Lodge & Camping Group (Pty) LTD	58
<u>Document 3:</u>	ECC issued to White Sands Lodge, 4 March 2019	60
<u>Document 4:</u>	Appointment letter of EAP Dr E Klingelhoefter, Dec 2025	61
<u>Document 5:</u>	APP number allocation from EC office, 29 December 2025	64
<u>Document 6:</u>	Verification: screening notification & instructions received	65
<u>Document 7:</u>	Report on dead trees at NCS Green Scheme & WSL	67
<u>Document 8:</u>	Declaration of authorship for the Submission of Ass. Reports	74
<u>Document 9:</u>	Abbreviated CV of EAP Ekkehard Klingelhoefter	75

CONSULTING TEAM

No.	Name	Surname	Position	Email
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2	Marion	Schramm	Editor	namtours@iafrica.com.na

ACRONYMS

BID	Background Information Document
BNP	Bwabwata National Park
EC	Environmental Commissioner
EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
EMP	Environmental Management Plan
KA	Kyaramacan Association
MAFWLR	Ministry of Agriculture, Fisheries, Water and Land Reform
MEFT	Ministry of Environment, Forestry and Tourism
TEC	Tortoise Environmental Consultants
WSL	White Sands Lodge

TABLES

Table 1:	GPS (in degree decimals) of 4 corners and entrance gate at WSL	15
Table 2:	Main infrastructures at WSL expressed degree decibels (GPS)	18
Table 3:	Full time staff employed at WSL	20
Table 4:	Policy and Legal Framework in place	22
Table 5:	Compliance on recommendations made by TEC (Phases 1-5)	24
Table 6:	Summary of EMP Themes tabulated by TEC consultants in 2028	26
Table 7:	EMP of 2018 in force: compliance on observation made in 2026	27
Table 8:	Regulation 29 to conform to, based on the type of activity conducted	30
Table 9:	Revised and updated EMP for 2026 to 2028	41

**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

WHITE SANDS LODGE - SUMMARY OVERVIEW

TOPIC	DISCUSSION
Proponent	The Proponent Mr. R Ratheiser operates and provides a 3-star hospitality destination to predominately the European tourist market. Due to COVID 19 , as with all other lodges, tourism came to a standstill and guest numbers only picked up as of January 2024
Concession: Leasehold	White Sands Lodge (WSL) had been granted a 25-year concession by the Kyaramacan Association (KA) on 18 November 2018, to establish a tourist destination within the Multiple-Use Area in the western part of Bwabwata National Park (BNP) (Doc. 1)
Name Change	On 10 July 2018 Alro Investments 66 (Pty) LTD official name changed to ROVEJEMA Lodge & Camping Group (Pty) LTD t/a White Sands Lodge (Doc 2)
ECC issued	On 4 March 2019 WSL was issued with an Environmental Clearance (ECC) and in June 2019 opened its doors officially for day visitors (Doc. 3)
Lodge operation & locality	Currently White Sands Lodge (WSL) operates the lodge and campsites on a 16ha plot on the northern banks of the Kavango River . The lodge is strategically located 5km east from Divundu on the B8 road which leads to the Botswana Mohembo Border Post. <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">Latitude South</div> <div style="text-align: center;">18.10833</div> </div> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">Longitude East</div> <div style="text-align: center;">21.58347</div> </div>
EMP in force	In 2018 Tortoise Environmental Consultants (TEC) was commissioned to conduct an EIA/Scoping report and to provide an EMP which was to guide the proponent in the construction and management of the existing N//goabaca camp and hunting camp to a lodge status with exclusive campsites. The EMP of November 2018, submitted by TEC that is still in force, is meticulously being implemented by the Proponent and his management.
Infrastructure	Includes 8 luxury rooms, 5 chalets, 8 campsites, 2 guide rooms, staff accommodation, 2 restaurants with a kitchen, 2 decks, additional storerooms, solar panel units and the pool
EAP appointment Revised and updated EMP	The Proponent is aware of having defaulted in submitting the updated and revised EMP as per condition C4: No 14 of the ECC issued on 4 March 2019. However, the Proponent is committed to rectifying this omission and has therefore appointed EAP Klingelhoefter (Doc. 4) to submit a revised & updated EMP .
APP No. and Verification/screening Report	On 29 December 2025 the EAP registered the revised EMP for WSL and received an APP No 291225-0068452 (Doc. 5) On 12 January 2026 the EAP received the Verification/Screening report from the EC office indicating instructions regarding EMP (Doc. 6) to be revised.

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WHITE SANDS LODGE, located on the northern banks of the Kavango River**

TOPIC	DISCUSSION
Personnel	WSL predominantly employs 96% of its <i>staff from adjacent villages</i> of the Bwabwata National Park Multiple Use Area (BNP)
Findings: EMP Report	This EMP Report is <i>based on 3 site meetings</i> held with the Proponent including e-mail exchange to ensure that activities that took place since the issue of ECC 2019 are evaluated and recorded and recommendations are made on mitigation where necessary
Waste management: grey & black discharge (effluent)	Grey and black water is fed through a sophisticated and <i>efficient septic tank digester system</i> . Cleansed black and grey water is pumped onto the compost heap or fed to the orchard trees
“Best practices” regarding waste management	Implemented by management at WSL to: <ul style="list-style-type: none"> ➤ <i>avoid</i>, minimize or remedy adverse impacts to the environment ➤ <i>enhance</i> the environmental and social benefits ➤ <i>ensure</i> that residual adverse impacts are kept within acceptable levels
Water related issues: Licenses with MAFWLR	<i>Licenses</i> for the <i>water abstraction</i> from the Kavango River and the <i>effluent discharge</i> to be submitted to the Department of Water Affairs on behalf of the Proponent to MAFWLR in March 2026. These license applications are being processed by the Department of Water Affairs at the Ministry of Agriculture, Fisheries, Water and Land Reform (MAFWLR)
Renovations and maintenance	The renovations conducted are still in process at the campsites. It is to be noted that the popular “soak-away” system is not implemented at WSL for black/grey water – all wastewater is collected and fed to the 7-septic tank digester system. Monthly, depending on tourist numbers, partly digested black and grey water is sucked up from the current 2-compartment underground septic tanks at the campsites, luxury rooms and Kipi George Deck, into a portable 500- liter tank and transported to the 7-tank digester system. <i>More detail in Section 3</i>
Dead & dying trees at WSL	At the riverine area numerous <i>dead and dying trees</i> were observed at both WSL and the adjacent Green Scheme (Doc. 7). This is cause for alarm as this area lies within a proclaimed <i>RAMSAR site</i>
Power sources: solar & generator	WSL has opted to be <i>self-reliant with electricity</i> which is a further positive step towards running an eco-friendly hospitality operation. Solar energy powers the entire lodge and campsites. A backup generator of kW 140 is in place.
Innovations - upgrades	The <i>septic tanks</i> at the campsites are being <i>upgraded</i> with an additional 1000-liter tank; 8 new luxury rooms with their own septic tank for grey & black water
Declaration Form	<i>AI was not used</i> to compile nor to generate this EMP Report (Doc 8). The EMP of November 2018 by TEC consultants, Windhoek, was consulted regarding to Table 6 in their EMP.

**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

SECTION 1: LODGE OVERVIEW

**Operation of a tourism establishment on the northern banks of the Kavango River
at Popa Falls, east of Divundu bridge,
within Bwabwata National Park (BNP), Kavango East Region**

1.1 Lodge operation, Proponent, Joint Venture. EAP, infrastructure

ITEM	DISCUSSION/OUTCOMES
JV with the Kyaramacan Association	Rovejema Lodge and Camping Group (Pty) LTD t/a as White Sands Lodge at Popa Falls, Kavango East Region, was established in November 2018, after it entered a joint venture (JV) with the Kyaramacan Association (KA) (Doc 1)
Opening year	WSL officially opened its doors to tourists in the second half of 2019, initially only for day visitors to view the Popa Falls rapids (Fig. 1)
Location	The lodge is situated on the northern banks of the Kavango River within the Multiple Use Area of west Bwabwata National Park (BNP). The turn-off at the B8 is well- marked, with a gravel road leading to the main entrance of WSL
Lodge operation	The Proponent operates and provides a 3-star hospitality for 26 guests in chalets and luxury rooms
Accommodation	8 luxury rooms, 5 chalets and 8 campsites



Figure 1: View of Popa Falls from White Sands Lodge

**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

ITEM	DISCUSSION/OUTCOMES
Tortoise Environmental Consultants (TEC)	In November 2018 Tortoise Environmental Consultants (TEC) was commissioned to conduct an EIA/Scoping report and to provide an EMP which was to guide the proponent in the construction and management of the existing N//goabaca camp and hunting camp to a lodge status with exclusive campsites.
EMP currently in force	The EMP was submitted in November 2018 by the consultants of TEC and in the same month WSL signed a 25-year concession with the KA (Doc 1)
EMP objectives action verbs regarding waste management	To reduce To reuse To recycle
ECC	On 4 March 2019 the EC office of MEFT issued an ECC to White Sands Lodge (Doc 3). On 3 March 2022 the ECC had elapsed and was not renewed timeously due to COVID 19.
EAP appointment	The owner Mr. R Ratheiser appointed Dr Ekkehard Klingelhoefter as the EAP on 6 December 2025 (Doc 4) and requested the EAP to formally apply for the <u>renewal</u> of the current Environmental Clearance Certificate (ECC) and to <i>revise & update the current EMP</i> in force. In addition, the EAP was requested to ensure that the licenses for <u>water abstraction</u> from the Kavango River and the <u>discharge of effluent</u> are in place.
Revised and updated EMP 2026-2028	This EMP is based on 4 visits to WSL between January and March 2026, including correspondence by email, WhatsApp and phone calls to the Proponent. In addition, the EAP was guided by: i) EMP of November 2018 (TEC: Shilongo and Heita) ii) Waste Management Policy of 2018 (MEFT) iii) Guide of 2018 to the EMP Act No 7 of 2007
BID (December 2025)	The BID Doc. of 29 December 2025 needs to be consulted together with this EMP and the EMP of 2018.
Effects of COVID 19	Due to the COVID 19 epidemic, WSL construction operation was partly halted, and the lodge and campsites were closed to visitors. In January 2023 the lodges in the vicinity were again permitted to open their doors to the public. However, it took 12 months for the tourism industry in Namibia to revive, and tourist numbers only increased significantly as of January 2024.

During the past years management has embarked on the following major *structural activities*:

**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

TOPIC	DISCUSSION/OUTCOMES
Infrastructure: maintenance, modifications, additions	<ul style="list-style-type: none"> i)extensive maintenance of existing buildings ii)installation of state-of-the-art solar power system (off-grid and self-efficient) iii)construction of 8 luxury rooms and 10 000-liter capacity septic tank with 2 compartments iv)addition of: 2 guide rooms, activity office, 3 storerooms v)construction of a pool vi)addition of septic tanks at the campsites

In addition, *new approaches were adopted* to minimize solid waste and to beautify the area. These included:

TOPIC	ENVISAGED OUTCOMES
Management improvements	<ul style="list-style-type: none"> i) Upgrading the “Waste Management Protocols” i.e. implement the 3 Rs - reuse, reduce & recycle solid waste ii) De-cluttering of the premises from unused building material iii) Ongoing training of staff regarding compliance in context of the EMP

Kipi George Deck (**Fig. 2**) is located 100m meter upstream from the harbour and offers a bar and restaurant which caters for small groups.

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WHITE SANDS LODGE, located on the northern banks of the Kavango River**



Figure 2: View from Kipi George Deck at WSL facing downstream of the Kavango River.

The establishment offers an *array of activities* to the guests which include:

ACTIVITY	DESCRIPTION
Boat cruises on the Kavango River	<ul style="list-style-type: none"> • Morning breakfast • Sundowner cruise down the river • Fishing (catch and release) • Afternoon braai on the boat
Game drives to Bwabwata National Park	<ul style="list-style-type: none"> • Buffalo and Mahango Core Areas for game viewing accompanied by a professional guide • Bird enthusiasts have also been catered for
Bush walks	<ul style="list-style-type: none"> • By professional guides with focus on plant medicinal remedies and birds
SAN Village	<ul style="list-style-type: none"> • Guests are taken to a living traditional SAN museum where they can observe how the SAN people live and interact with their environment

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1.2 Locality and vegetation

White Sands Lodge (WSL), on the northern banks of the Kavango River, is located 2.2km off the B8 road 5 km east of Divundu (Fig. 3 & 4). The lodge and campsites lie on elevated vegetated land (average of 1011m above sea-level), populated with palm trees, jackalberry, combretum, knobthorn, terminalia and with sedges and reeds along the riverbanks. White Sands Lodge can be reached by a sedan vehicle, and it is well signed to guide guests to their destination.

Coordinates for White Sands Lodge (guard gate entrance) are as follows with a footprint expressed in ha:

NAME	LATITUDE (South)	LONGITUDE (East)	AREA (ha)
White Sands Lodge	18.10833	21.58347	16

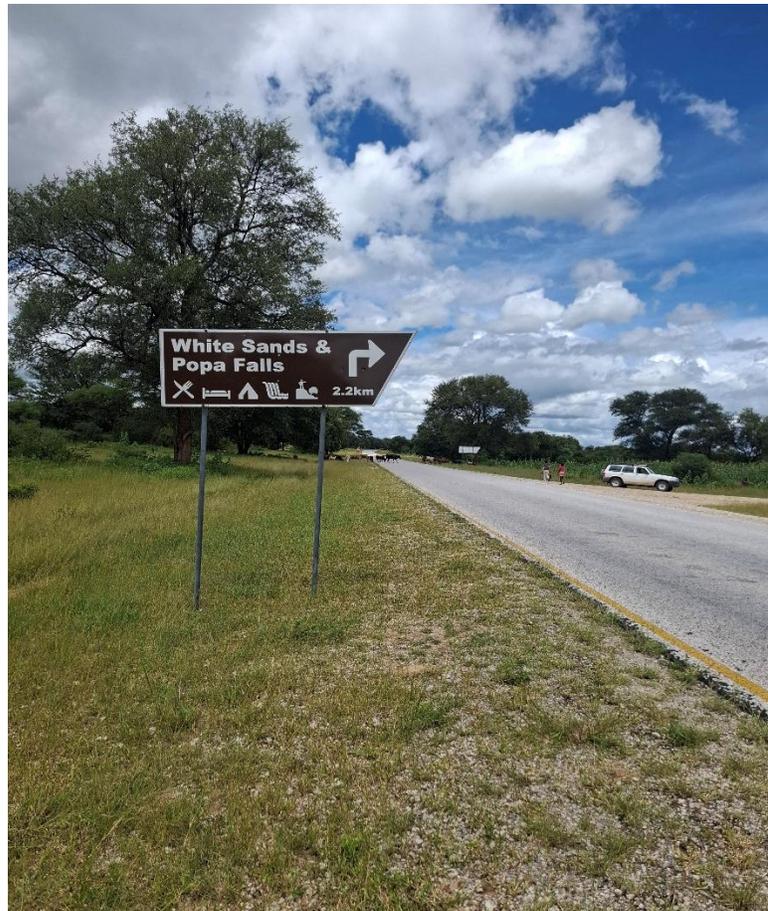


Figure 3: Signage at the B8 indicating the turnoff to White Sands Lodge

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 WHITE SANDS LODGE, located on the northern banks of the Kavango River

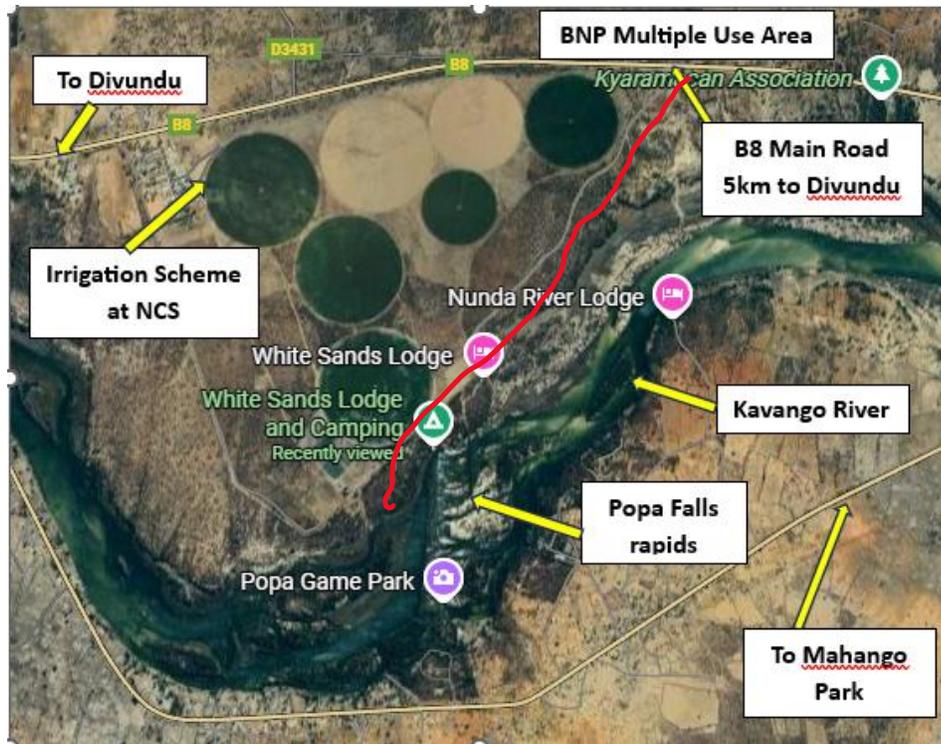


Figure 4: The location of White Sands Lodge, north of the Kavango River near Divundu (earth google maps) (red line = road leading to White Sands Lodge)

BNP = Bwabwata National Park; NCS = Namibia Correctional Services

The surrounding woodland mixed with shrubs is an ideal habitat for bushbuck (Fig. 5) which can be frequently seen. Their presence is a clear indication of an enviro-conducive environment.



Figure 5: Bushbuck ewe found near the Kipi George Deck.

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WHITE SANDS LODGE, located on the northern banks of the Kavango River**

The position of White Sands Lodge in proximity to the NCS Green Scheme project (Fig. 6).

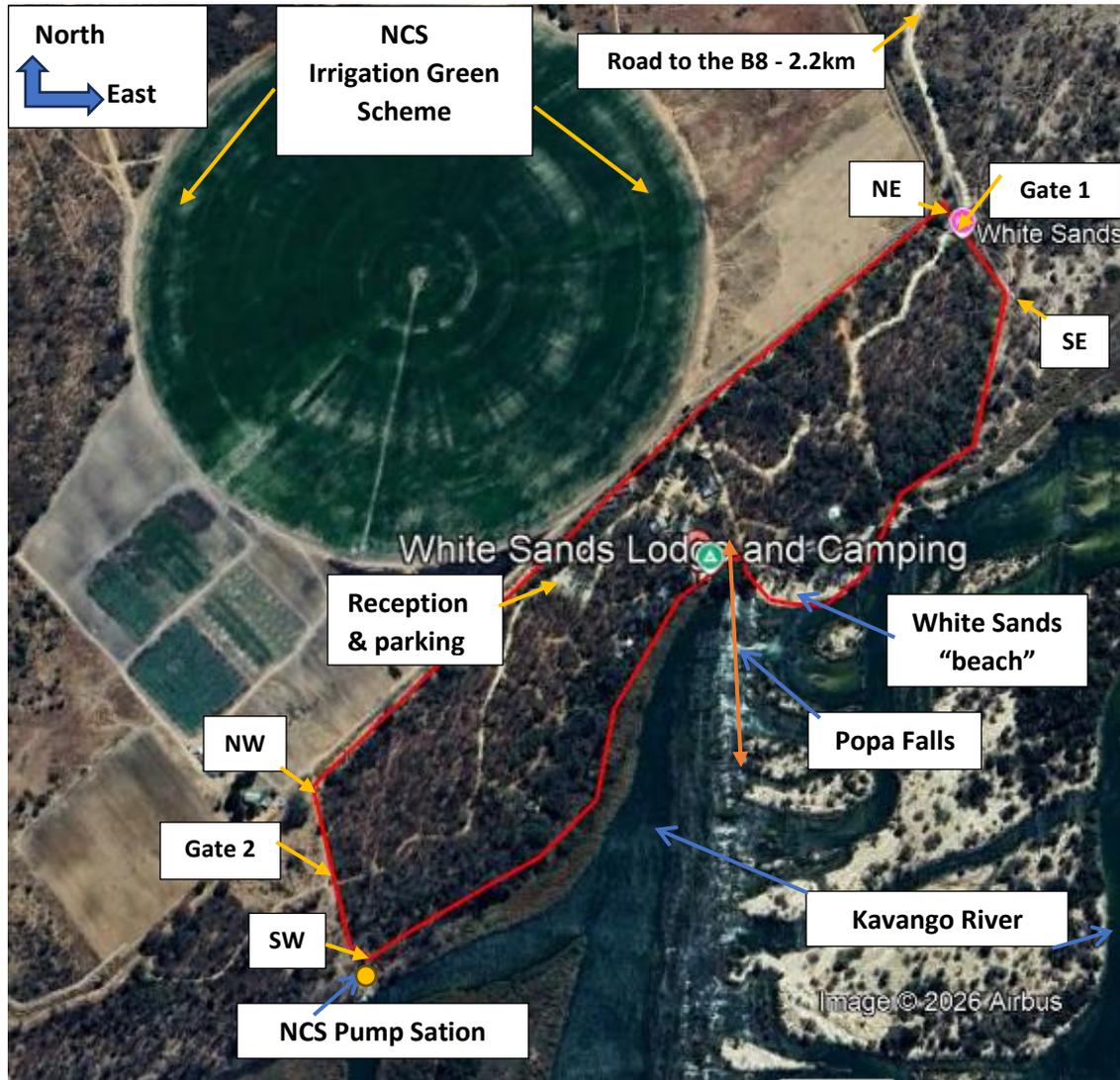


Figure 6: Satellite image indicating the location of White Sands Lodge (red block 16ha), on a raised landscape on the northern banks of the Kavango River (google earth maps) NCS = Namibia Correctional Services

Table 1 provides GPS coordinates (in degree decimals) for the 4 corner posts and main gate entrances at White Sands Lodge.

**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

Table 1: GPS as degree decimals and elevation in meters for WHS

Boundary Corner & Gate position	Latitude South	Longitude East	Elevation in meter
North-west	18.11417	21.56789	1011.02
South-west	18.11583	21.56792	1008.28
North-east	18.10861	21.58347	1008.58
South-east	18.11111	21.58350	1005.23
Main gate entrance (north-east)	18.10833	21.58347	1007.97
Old gate entrance (west)	18.11472	21.56786	1004.62

1.3 Infrastructure in place

White Sands Lodge includes the following infrastructure:

ITEM	INFRASTRUCTURE
ACCOMODATION	5 en-suite chalets facing the Kavango River 8 Luxury en-suite rooms facing Popa Falls 8 campsites each with its own ablution Manager and VIP house Staff quarters and 2 guide flats
SEWAGE SYSTEM at the infrastructure referred to as Primary holding facility (black and grey water)	Stage 1 includes brick and concrete 2 chamber underground 1000-to-4000-liter units each Stage 1 also includes plastic 2 chamber above ground 1000-to-2000-liter units each
SEWAGE SYSTEM at the purification system referred to as Secondary (black and grey water)	All grey & black water is collected and transported to the Stage 2 underground facility; Stage 2 facility has 7x 1000/2000 liter plastic tanks; Tank 1: fitted with a shredder; Tank 3: oxygen is added. Also referred to as the “Trickle filter system”
SEWAGE SYSTEM discharge	Purified water is fed from Tank no. 7 to a 5000-liter tank from where the orchard trees are watered, as well as the 2 compost heaps
OFF-GRID SOLAR SYSTEM	Solar panels fitted onto: (Fig. 7); Carport (kW 40 but to be upgraded to 50 kW) and open field (kW 50); 20m ² building housing the battery converter system; Backup generator in place (kW 140)

**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

ITEM	INFRASTRUCTURE
RESTAURANT and OFFICE	Main restaurant with deck, and boutique Kipi George Deck with bar and mini restaurant Reception and office
SOLID WASTE	3 cubicles with concrete floor and roof to store: glass, tins and paper/plastic, cardboard boxes Residue waste taken to official dumpsite at Divundu
WORKSHOP ZONE	3x5m rooms with concrete floors which house: fuel, paint, tools Shed housing building material
OTHER INFRASTRUCTURE in place	Laundry Pump station at river and holding facility Harbour bridge access to boat Wifi access at office and reception Reverse osmosis mini unit

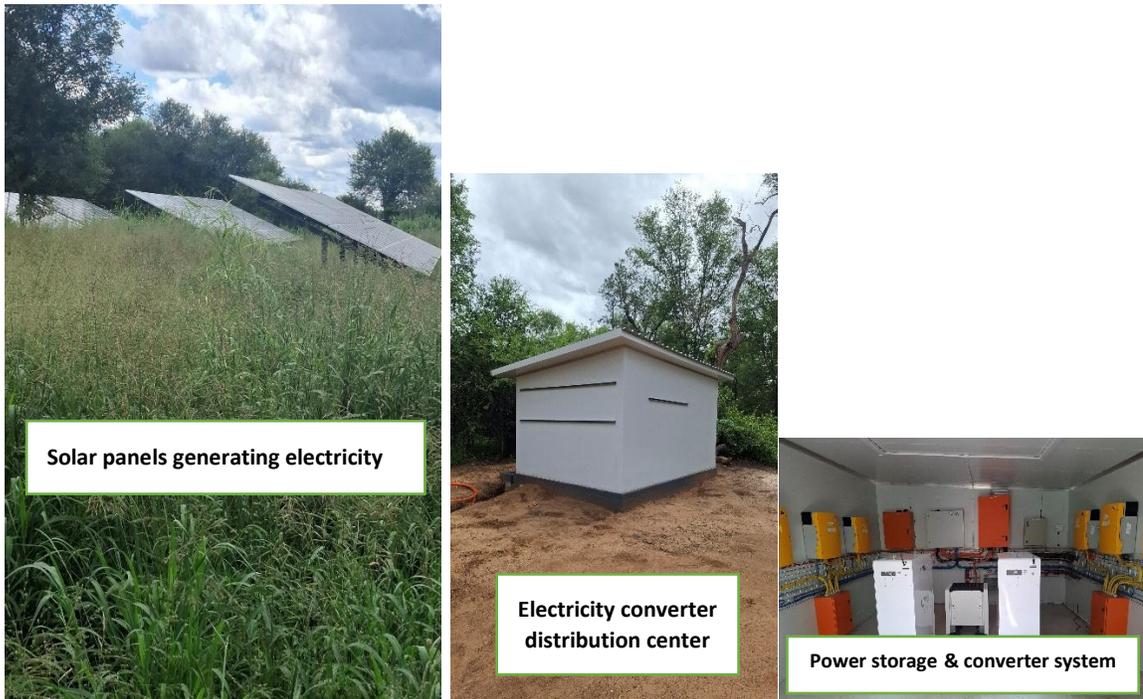


Figure 7: Off-grid solar unit in place to serve WSL with sustainable ecofriendly electricity.

Figure 8 provides location for the main infrastructure established at White Sands Lodge.

Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
 WHITE SANDS LODGE, located on the northern banks of the Kavango River



Figure 8: Satellite image (2024), indicating the main infrastructure at WSL (google earth map)

- En-suite chalets ▲ Campsites ● Pool
- └─ Kipi George Deck with Bar/Restaurant └─ Main restaurant
- ▲ Storerooms ● Manager house ─ Solar panels
- Proposed site for new Bush Lodge

**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

The main infrastructure at WSL is provided in **Table 2** and a detailed layout is provided in **Fig. 6 and Fig. 8** which indicates luxury rooms, chalets, campsites, staff accommodation, 2x kitchen, 2x restaurant with deck, storerooms, solar panel units and the pool.

Table 2: Main infrastructure at White Sands Lodge GPS (in degree decimals).

Locality	Latitude South	Longitude East
Reception/Deck/Restaurant	17.90263	23.31814
Kitchen/Freezer/Food storage	17.90262	23.31803
Manager house	17.90189	23.31742
Staff accommodation	17.90247	23.31674
Student accommodation	17.90260	23.31680
Storerooms/workshop	17.90268	23.31746
Proposed new septic tank site	17.90280	23.31674
Harbour (boats)	17.90249	23.31827
Pool	17.90365	23.31651
Solar panels	17.90281	23.31674

1.4 Allocation of APP number

Having officially submitted the BID and registered a request in December 2025 on portal (MEFT – DEA) for an ECC, the application was registered and the APP number allocated (**Doc 5**) for the renewal of the Clearance Certificate (ECC) was provided

ITEM	DATE
BID submitted	Dec-25
APP No. 261229-006842	29-Dec-25

1.5 Screening, verification notification and instructions

Following the receipt of the APP number on 29 December 2025, the EAP received clear instructions/verification for WSL from the EC office on the 12 January 2026 (**Doc. 6**), as to the official documents and reports which need to be submitted in both a soft and hard copy. The instructions provided by the EC office took the following into consideration:

- Location of the establishment
- Pollution potential (soil/water table)
- Scale of the operation of tourism offered

**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

Instructions include:

- | |
|--|
| <ul style="list-style-type: none">i) An updated EMP to effect amendmentii) Confirmation of screening notice received in terms of assessment procedures (Section 35 (1) (a) (b) of the Environmental Management Act, No 7 of 2007)iii) Site map with coordinates (degree decimals) and a legendiv) Copy of previous ECC issued in terms of Section 37 (1) (a) of EMAv) CV of the Environmental Assessment Practitioner (EAP)vi) Declaration for the Submission of Assessment Reports and other support documents (upload Declaration Form) |
|--|

In addition, the following **reports and forms** need to be completed and loaded **onto MEFT portal**:

- | |
|---|
| <ul style="list-style-type: none">i) Formal application for ECC with stamp dutiesii) EMP November 2018 (by TEC) to be summarized: Impact/Mitigation/Complianceiii) Scoping/BID (Background Information Document) of 29 December 2025 for WSLiv) To compile a final report and to prepare 3 bound copies (EC office, Proponent, EAP)v) To load all information as per above requests onto the MEFT portal for final verification and review |
|---|

1.6 Purpose of Background Information Document (BID)

The purpose of the (BID), which was submitted as a separate report when applying for an APP number, was to provide a brief description of WSL status and operation.

This background information (BID), dated 29 December 2025, serves to provide the EC office of MEFT with information on the operation of WSL relating to:

- | |
|---|
| <ul style="list-style-type: none">➤ Location➤ The Proponent: company overview and EAP appointment➤ Infrastructure and activities offered➤ Tourism potential in the Kavango East Region➤ Expired ECC and current EMP in place➤ Application for APP and screening notification and instructions➤ Additional official forms submitted as per EC office request |
|---|

**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

Note: Together with this EMP report and the EMP of November 2018, the Background Information Document (BID) needs to be consulted. The BID (submitted to the EC office of MEFT on 29 December 2025), provides an overview of the current status of WSL.

1.7 Staff complement

WSL mainly employs staff from adjacent villages (**Table 3**) from the Bwabwata National Park Multiple Use Area of the Kyaramacan Association (KA), which includes the following departments/positions:

- Management; kitchen (chef and assistants); housekeeping and laundry; food and beverage; waitrons; maintenance; guides; and security
- Total staff employed: 45

TABLE 3: Full-time staff employed per gender and region at White Sands Lodge

DEPARTMENT	MALE	FEMALE	REGION
Proponent: owner and manager	1		Erongo - Domicile at WSL
Assistant Managers		2	Khomas & Zambezi Regions
Reception		1	Kavango East
Kitchen chef		4	Kavango East
Restaurant	1	1	Kavango East
Housekeeping/laundry		8	Kavango East
Maintenance team	10		Kavango East, Zambezi and Ohangwena Regions
Gardeners	8		Kavango East
Guides (car, boat, veld walks)	7		Kavango East
Security	2		Kavango East
TOTAL	29	16	45

1.8 EMP objectives

The focus of this report is to provide background information on the current lodge operation and to update the EMP which is in force. A detailed description of the potential hazards and current mitigation in place are listed in **Tables 5, 6 & 7**, which need to be constantly monitored and managed by the Proponent. **Table 9** in Section 3 provides the revised and updated EMP.

Policies, procedures and practices (**Table 4**) that assist organizations to manage and to reduce their impact on the environment are in place. **An EMP** is the document that:

**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

An *EMP* is to:

- Provide a description of the methods and procedures for mitigating and monitoring impacts.
- Contain environmental objectives and targets which the Proponent needs to achieve to reduce or eliminate negative impacts.
- Provide a structured approach to identify, evaluate and mitigate environmental impacts
- It is to be seen as a *living document*, to be used throughout the day-to-day operation of the lodge for which the ECC has been issued

The *objective* of this Environmental Management Plan is to *formulate measures*, which will:

- Mitigate adverse impacts on various environmental components,
- Protect environmental resources where possible,
- Enhance the value of environmental components where possible
- Contribute to the socio-economic upliftment of the community

Overall, the objectives of an Environmental Management Plan assist an organization to address its regulatory requirements in a systematic and cost-effective manner. This proactive approach can help reduce the risk of non-compliance and improve health and safety practices for employees and the guests.

The steps of an Environmental Management Plan that the Proponent needs to follow and adhere to include:

- Commitment, Planning, Implementation, Evaluation and Review

A detailed description of potential hazard waste and current mitigation in place at WSL is listed in **Table 9**.

WSL separates solids e.g. paper, glass and tins (**Fig. 9**), but experience problems with a reliable company collecting and transporting the solid waste to Windhoek for recycling. According to the proponent this is a concern to all lodge owners in the Mukwe Constituency.

Note: Most recent development is that *Rent a Drum* (Rundu based) have agreed to take all recyclable items such as glass, tins and paper/cardboard boxes from WSL as of April 2026.

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WHITE SANDS LODGE, located on the northern banks of the Kavango River**



Figure 9: Cubicles for storage of solid waste prior dispatch for recycling

TABLE 4: Policy, Acts and Regulations that the Proponent needs to comply to for a tourist operation i.e. operation of a lodge and campsites.

No.	POLICY/ACT/REGULATION	ACTIVITY: CAUSE & EFFECT
1	<ul style="list-style-type: none"> • EMP Act 2007 (Act No. 7 of 2007 	Day-to-day management of WSL
2	<ul style="list-style-type: none"> • Regulation 29 of 2012 (EMP) 	
3	<ul style="list-style-type: none"> • Water Resources Act of 2013 and 	Water abstraction (borehole and surface water) and discharge of effluent
4	<ul style="list-style-type: none"> • Water Resources Regulation of 2023 	
5	<ul style="list-style-type: none"> • Forest Act 12 of 2001 	Exotic invader plants and the removal of vegetation
6	<ul style="list-style-type: none"> • Forest Regulation 2015 	
7	<ul style="list-style-type: none"> • Communal Land Reform Act of 2002 	Right of Lease Agreement for WSL
8	6th NDP & Vision 2030	Promote the tourism industry on Namibia
9	National Policy on Tourism of Namibia	Guidelines for tourism operation

**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

**SECTION 2: CURRENT EMP IN FORCE and OBSERVATIONS MADE
(COMPLIANCE) DURING SITE VISITS
IN JANUARY AND FEBRUARY 2026**

2.1 Current EMP in force

ITEM	DESCRIPTION
EMP in Force	The EMP of November 2018, titled “ Environmental Management Plan, ” UPGRADING OF THE WHITE SANDS – N//GOABACA TOURISM FACILITY (CONCESSION) FROM A HUNTING CAMP & CAMPSITE TO A LODGE AND CAMPSITE, IN THE BWABWATA NATIONAL PARK, KAVANGO EAST REGION, to the EC office of MEFT by the Tortoise Environmental Consultant (TEC) by Mr. K Shilongo and Mr. J Heita.
ECC	Based on the above EMP report, the Environmental Clearance Certificate (ECC) was subsequently issued on 4 March 2019 (Doc 2) which elapsed on 3 March 2022.
Methodology and current EMP in force	<ul style="list-style-type: none"> • The EMP submitted by TEC in November 2018 was used as a baseline & compared to the current observations made by the EAP • The EMP submitted is very comprehensive and provides clear instructions as what the Proponent had to comply with. This updated EMP focus is on Table 6 of the EMP 2018 and lists the phases of establishing the lodge and existing campsites to determine compliance and noncompliance accordingly as per investigation in January and February 2026. • Furthermore, the Impact Themes (recommended mitigation guide) listed in November 2018, have been tabulated and revisited in January and February 2026 to determine whether the Proponent complied as per Policy and Legal Framework of GRN in place (Table 5).

Below, is a summary overview of the main points addressed in the EMP report of November 2018 (Phases 1-5), and findings made (**Table 5**) and Potential Impact Themes (**Table 6**):

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WHITE SANDS LODGE, located on the northern banks of the Kavango River**

TABLE 5: Compliance on recommendations made by TEC (Phase 1-5).

PHASE	IMPLEMENTATION: 2018-2025	COMPLIANCE RECORDED: 2026
1	Design: architectural and engineering designs that take environmental issues and prescribed standards into consideration (2018/2019)	Adhered to; only 3 knobthorn trees taken out at parking area; all other vegetation kept intact
2	Planning: to re-evaluate current design and to make necessary changes where environmental impacts are detected (2019/2020)	Additions made i.e. 8 luxury rooms (Fig. 10)
3	Site preparation: Unit 1: new access road, internal roads and perimeter fencing Unit 2: establish site for office and machinery to be used and decommissioning of site after construction done	Road from B8 turn-off: 2.2km gravel road constructed in excess of N\$1 million; numerous bridges had to be constructed (Fig. 11) Site office dismantled and converted to a guest parking area
4	Construction: the EMP which indicates the Legal Framework in which it will operate needs to be adhered to and potential impacts to be always mitigated	The Proponent is aware and no negative impacts were detected following the construction phase
5	Operational: Day-to-day operation of guest and staff rooms, restaurant, kitchen and bar, laundry operation, activities offered to tourists, general maintenance, solid and liquid waste management – compliance as per EMP	The Proponent has a well-organized energetic team in place assisted by 2 managers that ensure that compliance takes place

The EMP by TEC laid focus **on training, socio-economic, health & safety, construction and conservation** related aspects (**Table 6**). In summary the concerns identified by TEC can be summed up as follows:

- | |
|---|
| <ul style="list-style-type: none"> i) Training for staff on the objectives of an EMP and its implementation ii) Socio-economic benefits: joint venture related issues iii) Protection of plants and wildlife iv) Minimize impacts on water resources v) Avoid soil and water pollution vi) Promote biodiversity |
|---|

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WHITE SANDS LODGE, located on the northern banks of the Kavango River**



Figure 10: Recent established modern en-suite luxury rooms facing the Kavango River with a well-established lawn.



Figure 11: The road leading to WSL from B8.

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WHITE SANDS LODGE, located on the northern banks of the Kavango River**

TEC (November 2018) summarized Potential Impacts and Mitigation Measures Recommended into 7 main Themes (**Table 6**) as follows:

TABLE 6: EMP Themes tabulated by TEC, November 2018

EMP THEMES OF FOCUS	INDICATORS
A – Staff	Induction Site Demarcation Communication Site demarcation Communication
B – Health and Safety	General safety at workplace Road Safety Ablution facilities Dust and noise
C – Pollution and Waste Management	General waste: Material waste (off-cuts), concrete rubble, garden & domestic waste Vehicle emissions (smoke) Oil Spills Any other waste
D – Environment	Limited access roads Soil and Water Pollution Ablution facilities Waste Disposal
E – Socio economic	Employment opportunities for locals Alcohol and drug use Working hours HIV / AIDS Safety and Security
F – Cultural Heritage	Heritage resources / artefacts
G – Rehabilitation	Clean-up and maintain natural / original

Reference: EMP of 2018, pg. 22 by TEC

2.2 Compliance

Table 7 provides an update on compliance on potential impacts recorded in the EMP of November 2018, which is based on observations made during the January and February 2026 site inspections.

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WHITE SANDS LODGE, located on the northern banks of the Kavango River**

TABLE 7: EMP of 2018 in force: an update on compliance based on observations made in January and February 2026

THEMES	ACTIVITY	OBJECTIVE/S	INDICATOR	COMPLIANCE 2026
A Induction of staff	Recruitment Staff induction Communication Site demarcation Notice board	Full-time workers have employment contracts All staff understand EMP compliance Clear channel of communication and medium in place All sites to be clearly pegged out, indicating that this is a construction site	Contracts up to date Staff list for induction Notices & emergency no. Areas cordoned off Visible notice boards	45 staff predominantly from the adjacent community have been recruited; Major construction work done; contractor off site; Staff induction an ongoing process;
B Health & Safety	Health & safety of employees Accidents & incidents Physical hazards to employees Road safety Ablution facilities Dust & noise Fire / risk hazard	Adhere to GRN health & safety regulation Preparedness and First Aid kits on site Always prevent potential risks All drivers to comply with traffic rules A credited ablution facility on site Protect workers from dust & noise Fire extinguishers in strategic positions	One health plan in place Assembly Point visible Staff protective clothing Public complaints Septic digester system Incident report Service record updated	Emergency Assembly Point not visible; No public complaints recorded; Discharge of effluent as per design established and is referred to as the 7-tanks digester system; No loss of life recorded; Fire extinguishers up to date;

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WHITE SANDS LODGE, located on the northern banks of the Kavango River**

THEMES	ACTIVITIES	OBJECTIVE/S	INDICATOR	COMPLIANCE 2026
C Pollution and waste management	Vehicle emissions	All engines to be well serviced	Reports on smoking engines	WSL has special storerooms with concrete floors to house fuel, oils and paint; 3 cubicles with roof to contain glass, tins and paper/plastics prior dispatch; Water Affairs licenses pending; EAP to submit applications for surface water abstraction & discharge of effluent;
	Oil/fuel spills	Drums to be placed on concrete floors	Brick & concrete building	
	Solid waste Waste water	To be separated; residue to official dumpsite Acquiring licenses at Water Affairs Department	Dedicated building in place Licenses received	
D Environment	Alter landscape Ecological disturbance	Make use of existing disturbed areas Require necessary permits to remove flora	Google earth map Permits received	No trees uprooted for buildings; well-placed between the trees; Rainwater drainage system in place;
	Surface water abstraction	Obtain license from Dept. Water Affairs	License received Comprehensive drainage system	
	Soil erosion	Mitigate water runoff		Soil pollution detected along western border of NCS Green Scheme; No foul organic foods
	Pollution: ground & surface water Poor solid waste management	Proper storage of all hazardous chemicals Have protocol in place for daily waste collection	Storeroom with brick & concrete Unwanted odours	

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WHITE SANDS LODGE, located on the northern banks of the Kavango River**

	Soil pollution Visual negative impact	Ensure all plumbing in perfect condition All infrastructure to blend into the environment	Credited septic tanks in place Aesthetic appealing buildings	Discharge of effluent – via a 7-tank digester system in place;
THEMES	ACTIVITIES	OBJECTIVE/S	INDICATOR	COMPLIANCE 2026
E Socio- economics	Employment opportunities Alcohol and drug abuse Excessive working hours HIV / Aids Security Potential flooding risks	Recruit most staff from adjacent communities Notice in place: on site no drug & alcohol use Namibian labour regulations to be adhered to Ongoing awareness to all staff Security in place: priority to safeguard guests Access roads have sufficient culverts	Records of employees in place Register of non-compliance No. of complaints No. of incidents registered Appointed staff Google earth map	No complaints nor incidents on record; the Proponent has a good working relationship with the TA and Management Committee of KA; Secure road 2,2km from the B8 to WSL for the employees;
F Cultural heritage	Heritage resources: artefacts Potential finds	Heritage Council to be informed Protocol to be followed	Sites discovered Contact details of NHC	Neither artefacts nor burial sites detected to date;
G Rehabilitation	Environmental scars Design for rehabilitation	Re-plant trees, shrubs and grass Landscape plans to be in place	Photographic record Construction area landscaped	No signs visible of previous construction site; Rehabs done where necessary;

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**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

**SECTION 3: UPDATED and REVISED ENVIRONMENTAL MANAGEMENT PLAN
TIME PERIOD: March 2026 to February 2029**

**IMPACTS IDENTIFIED & RECOMMENDED MITIGATION on CONSTRUCTION, DAY-TO-DAY
OPERATION & DISPOSAL of SOLID WASTE, & GREY/BLACK EFFLUENT DISCHARGE**

3.1 Policy, legal framework and improvements

The Ministry of Environment, Forestry and Tourism (MEFT) requires that the current EMP of November 2018 for WSL is to be revised and updated. A tourism hospitality entity is a listed activity that may have a significant impact on the environment, and which consequently requires authorization from the relevant environmental authority (**Table 8**). The regulations further specify the assessment process and the information that is required to enable DEA (MEFT) to take a decision regarding the activity.

Table 8: Regulation 29 to conform to, based on the type of activity conducted.

Legislation	Description of listed activity	Relevance to proposed activity
Regulation 29 of: Government Notice No. 29 of 2012	TOURISM DEVELOPMENT ACTIVITY 6: The construction of resorts, lodges, hotels or other tourism hospitality facilities	EXISTING & OPERATIONAL LODGE & CAMP <u>Note:</u> No EIA but only an EMP is to be conducted

The following documents were consulted which have relevance to the update of the current EMP in place:

- Environmental Management Act (EMA), No 7 of 2007
- Environmental Management Act (EIA Regulation), GG No 30 of 2012
- Guide of 2008 to the EMA No 7 of 2007, MEFT
- National Solid Waste Management Strategy (MEFT), 2018
- EMP for WSL by the TEC company, November 2018

Furthermore, this report responds to the instructions received from the EC office to ensure that the activities at WSL comply with provision of the EMA of 2007 and its Regulations of 2012. In addition to the compliance of policies and legislation, WSL strives to ensure that the best practices in managing the environment and to mitigate the impacts are implemented.

The objective of this EMP is to re-emphasize the key action verbs applicable at every tourism establishment operating in Namibia, viz: **to reduce, to reuse and to recycle** solid waste.

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WHITE SANDS LODGE, located on the northern banks of the Kavango River**

**Major improvements and additions made and still in planning at WSL since the
construction of PHASE 1, includes:**

IMPROVEMENTS and ADDITIONS	INFRASTRUCTURE
CAMPSITES	Campsites: addition of a 1000-liter septic tank referred to as Stage 1, for Campsites 1/3 and 4/5
KIPI GEORGE DECK with RESTAURANT/KITCHEN	An additional 500-liter holding tank (Stage 1 septic tank) with a fat collector to be installed
FRESH VEGETABLES	Vegetable gardens (2) to supply the restaurant with fresh products
SOLID WASTE STORAGE	Cubicles with concrete floor for storing solid waste (tins, glass, cardboard/paper/plastic)
ACCOMMODATION	8 en-suite luxury rooms with 2x5000-liter capacity concrete septic tanks and new lawns, 2 guide rooms, storerooms
RAINWATER RUNOFF	Improved water drainage system in place by directing runoff water and planting lans where possible

3.2 Recycling and sewage treatment system

Any action taken be it road infrastructure, mining, agriculture, fishing, including tourism establishments, has a reaction. The challenge is on how *to reduce* and *to minimize potential impacts* brought about by development and in this case the day-to-day operation of WSL.

WSL, which is situated on the northern bank of the Kavango River, within a National Park, has its challenges regarding waste disposal. Recently Rent-a-Drum (a Rundu based company) has been sourced that will remove on a monthly basis all recyclable solid waste.

Main sources of impacts on the environment arise from:

- | |
|---|
| <ul style="list-style-type: none"> ○ Grey water (shower, wash basin, laundry, kitchen sink) ○ Black water (staff, guests, students and managers toilets) ○ Solids (plastic, paper, glass, tins) ○ Organic waste (food leftovers and garden refuse) ○ Other (oil, fuel and batteries) ○ Construction |
|---|

During the site visits to WSL the following observations were made:

- That the Proponent is committed to accommodating best ecological management practices and to showcase the lodge and campsites as an eco-friendly tourism destination. The format of this Document is the intellectual property of Atlantic Consulting Services cc and may not be replicated

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WHITE SANDS LODGE, located on the northern banks of the Kavango River**

Sewage Treatment System layout and operation at WSL: **Stages 1 to Stage 2 (Map & Figures)**

- The map (Fig. 12), provides an overview of sewage system layout referred to as Stage 1 and Stage 2 in this report & substantial upgrades completed and others still in process
- **Stage 1:** Collector tanks: underground brick & concrete (Fig. 13) & plastic (Fig. 14) for grey & black water
- **Stage 2:** the 7-tank digester system (Fig. 15) and compost heap (Fig. 16)
- Tractor with 500-liter capacity (Fig. 17)

The *Sewage Treatment System* was designed by **ECO Smart Water Technologies Namibia cc** for the manufacture, supply, delivery and installation of underground septic tanks: **Stages 1 & 2**.

Below **Stage 1**, indicates the location of septic tanks and holding capacity prior transport to **Stage 2:** the 7-tank digester system.

LOCATION	TYPE SEPTIC TANK	CAPACITY
Gate entrance	Plastic	1000-l
5 chalets	Plastic (1-3 and 4-5 joined)	2000-l each
8 luxury rooms	Concrete 2 sections	4000-l + 4000-l
Main restaurant & deck (Fig. 14 sewage pump station)	Plastic	2000-l + 2000-l
Staff accommodation	Plastic 2 sections	2000-l + 2000-l
Manager +VIP houses	Concrete 2 sections	2000-l + 2000-l
Kipi George Deck - restaurant	Concrete 2 sections	4000-l + 4000-l
Workshop/Laundry/3x Flats/ 2x guide flat	Plastic 2 sections	4000-l + 4000-l
All campsites	Concrete 2 sections	1000-l & 8000-l

Description of the process of purification taking place at the Sewage Treatment System

The main sewage treatment steps include:

- Primary treatment – removes large particles by screening and sedimentation.
- Secondary treatment – uses biological processes to decompose organic matter.
- Tertiary treatment – further purifies water by removing nutrients and pathogens

Stage 1:

Includes in most cases the grey and black water; it is here where the anaerobic bacterial environment develops that decompose or mineralize the waste discharged into the tank.

It is at Stage 1 where the **anaerobic treatment** (breakdown of bacteria without oxygen) of the dissolved organic concentrations of untreated wastewater is high, takes place.

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WHITE SANDS LODGE, located on the northern banks of the Kavango River**

Stage 2:

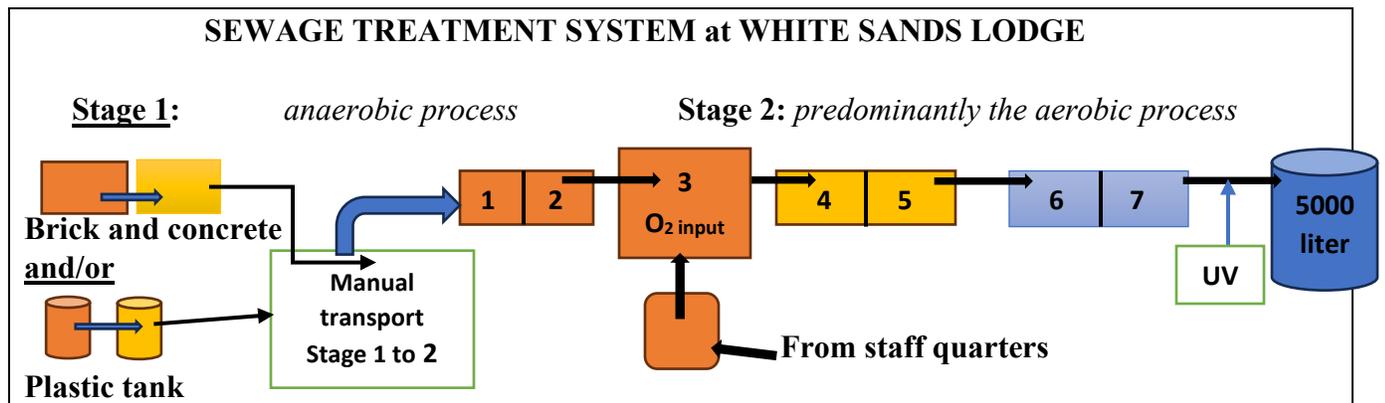
Initially at Tank 1 the remaining solids are shredded and predominantly the anaerobic process continues through Tank 2. The *aerobic treatment*, which is the secondary treatment process and follows an anaerobic stage, in this case at Tank 3, which is fitted with an oxygen pump. Aerobic treatment consists of activated sludge processes where the bacteria utilize oxygen during the breakdown of organic sludge.

The breakdown of sludge continues in Tanks 4, 5, 6, and 7. Prior pumping the purified wastewater to the 5000-liter holding tank, it passes through an UV which kills potential pathogens that may still occur.

Compost heaps and fruit trees:

The refined purified wastewater is fed into the 2 compost heaps and to the fruit trees.

The *schematic drawing* below provides a simplistic overview of flow of wastewater from Stage 1 to Stage 2 to the 5000-liter holding tank:



Source: E Klingelhoefter, February 2026.

Below is Stage 2, the main refinery unit for sewage waste referred to as the 7-tank digester system.

SYSTEM in PLACE	TANK No.	CAPACITY
Shredder	1	2000-l
Digester	2	2000-l
Input O ₂	3	2000-l
Digester	4	2000-l
Digester	5	2000-l
Digester	6	2000-l
Digester UV	7	2000-l
Holding tank prior discharge	8	5000-L

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 WHITE SANDS LODGE, located on the northern banks of the Kavango River

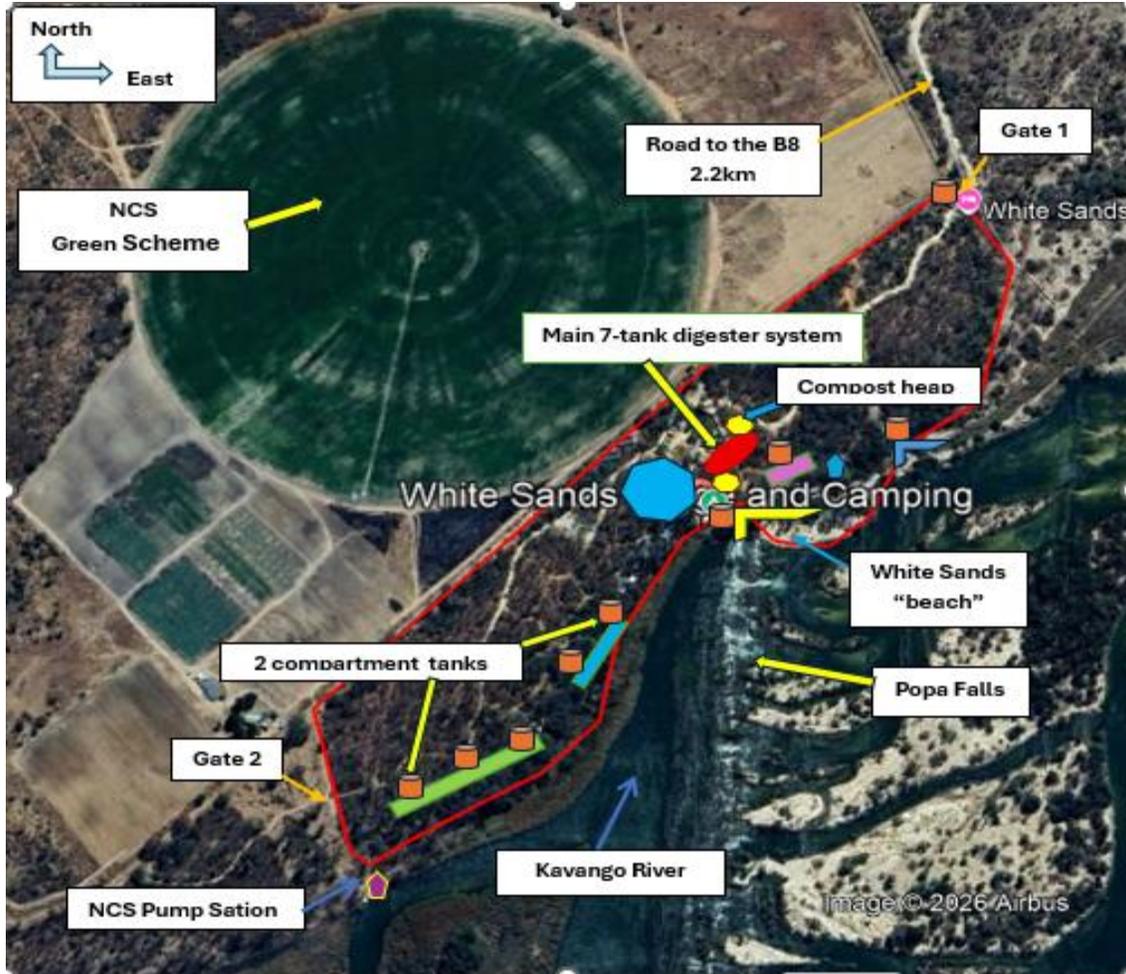
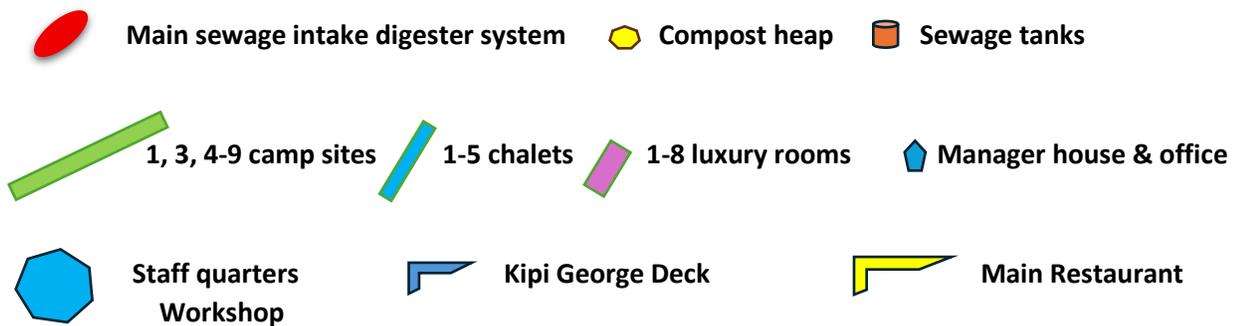


Figure 12: Layout of sewage system stage 1 and transport to stage 2:
 7-tank digester system

Note: All septic sewage tanks emptied and transported to main station (red block above)



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WHITE SANDS LODGE, located on the northern banks of the Kavango River**



Figure 13: Stage 1: Two-chamber septic tanks at Campsite 6-9 with 8000- liter capacity (LHS) and Luxury rooms with 10000- liter capacity (RHS) emptied and transported to Stage 2



Figure 14: Stage 1: Two separate plastic septic tanks at main restaurant pumped directly to Stage 2 (5 x Chalet septic tanks are also fed directly to this system)

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WHITE SANDS LODGE, located on the northern banks of the Kavango River**



Figure 15: Stage 2: The 7-tank digester system in place with purified water stored in the 5000-liter tank for the compost and fruit trees

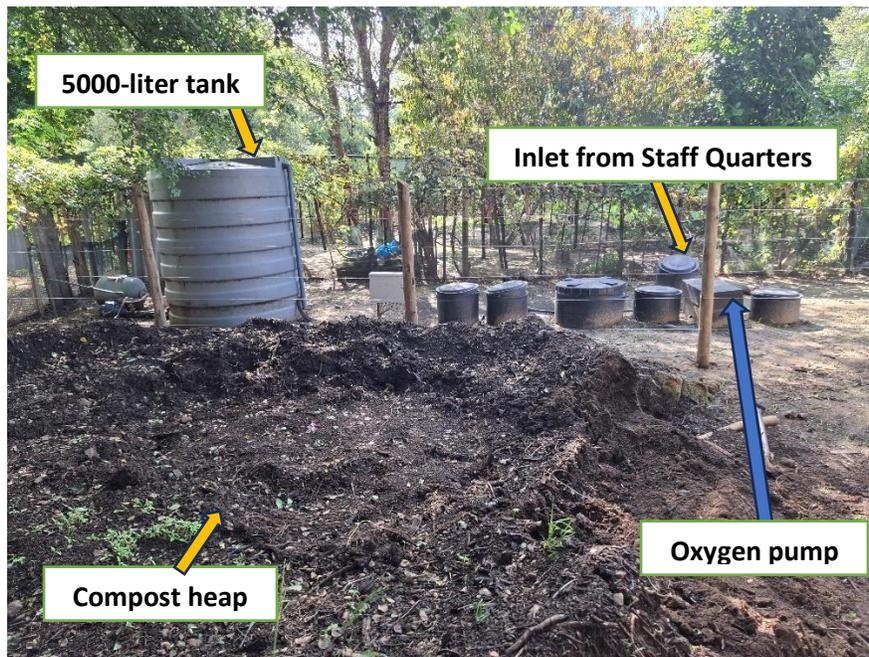


Figure 16: The compost heap in the foreground which receives purified water from the main tank

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WHITE SANDS LODGE, located on the northern banks of the Kavango River**



Figure 17: The trailer used to suck up effluent from Stage 1 septic tanks and transport the effluent to the Stage 2 digester system

Effluent load during peak season occupancy:

WSL can be referred to as a medium impact operation which can cater for a maximum of 62 guests per night in peak season; according to Eco Smart Water Technologies, the current sewage treatment system is designed to manage the effluent based on peak season occupancy.

UNIT and No.	No. guests
Chalets (2)	8
Chalets (3)	6
Luxury rooms (8)	16
Campsites (8)	32

3.3 Revised and updated EMP

A detailed description of the *potential environmental impacts* and *current mitigation* in force identified by the EAP during January and February 2026 visitation, are listed in **Table 9**. Mitigation recommendations are provided in each case. Activities offered (**Fig. 18**) which can have potential impacts on the environment.

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WHITE SANDS LODGE, located on the northern banks of the Kavango River**

A qualitative approach was taken to assess the current management practices regarding waste disposal, i.e. to identify and to understand the complex phenomena of waste collection and disposal through in-depth, open-ended data collection, interviews, previous EMP submitted (by TEC. November 2018) and analysis thereof.



Figure 18: Activities offered to guests at White Sands Lodge.

The breakfast and sundowner cruises on the Kavango River are gaining popularity (**Fig. 19**).



Figure 19: The boat operating on the Kavango river for breakfast and sundowner cruises.

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WHITE SANDS LODGE, located on the northern banks of the Kavango River**

Innovations executed and planned:

Renovations, modifications and additions completed and in planning process:

No.	Renovations, modifications and additions planned
1	Campsite no. 1 is to be redesigned to a VIP site (Fig. 20); existing septic tank/sewage system/plumbing in place is being upgraded with a self-catering kitchen to include a fridge and gas stove
2	At Campsite 1&3 and 4&5 a second digester tank is to be installed each with a 1000-liter capacity
3	8 luxury rooms with 2 x septic compartment digester (5000-liter each) completed and operational
4	<i>Budget accommodation:</i> <u>Bush Lodge with 30 rooms</u> , a restaurant and a private sandy beach: planning phase; max 3000m ² area to be used; To create at least 30 more job opportunities and increased income for KA by at least N\$1,500.000.00 per year excluding the salaries and other social benefits.
5	Off-grid: Power is always sustained with a solar system (kW 90) and a generator in place
6	Operation office and center for reverse osmosis unit
7	3 additional storerooms
8	2 guide rooms
9	Activity office at Kipi George Deck



Figure 20: Campsite No. 1 is currently being reconstructed to a VIP campsite (new ablution facility).

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**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

Environmental objectives and targets have been developed to enable lodge operations *to minimize potential impacts on the environment*, as far as it is reasonably practicable and to continue to achieve:

ITEM	ENVIRONMENTAL OBJECTIVES
DUST, NOISE, SOIL & WATER	To achieve zero pollution incidents Need to be investigated
WATER ABSTRACTION	No ground water is being abstracted Surface water from Kavango River - no leaking pipes Application of license in process
FAUNA & FLORA	Bushbucks seen roam freely at WSL During construction no trees were removed (buildings blend in)
NATURAL RESOURCES CARE	No new roads built and wood not collected for fire purposes No gravel or sand pits dug
SAFETY OF STAFF, GUESTS & INFRASTRUCTURE	Safety first: zero accidents have been recorded Fire extinguishers in place Guests well briefed; professional guides appointed

Table 9 below, provides an “Updated and Revised EMP” on mitigating solid waste and grey/black water disposal and any other potential impacts the day-to-day operations of the lodge can have on the environment based on findings of January & February 2026.

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Table 9: Potential impacts per activity and mitigation recommended based on findings: January & February 2026

No.	ACTIVITY	POTENTIAL IMPACTS TAKEN NOTE OF	WHO RESPONSIBLE	MITIGATION-ACTION RECOMMENDED
1	WSL strive to comply to the EMA ACT of 2007 and Regulation 29 o 2012	<p>The issue of ECC dated 4 March 2019 was based on an EMP submitted by TEC in November 2018, to the EC office of MEFT</p> <p>Roles and responsibilities of various staff members regarding EMP compliance not always clear</p> <p>However, it was observed that management strives to follow and ensure that WSL is run and managed on eco-enviro principles</p>	Proponent and management	<p>Proponent is aware of the importance of an EMP and acknowledges the necessity of compliance. Furthermore, the Proponent has undertaken to ensure that this EMP report will be strictly followed & implemented. It is recommended that:</p> <p>i) a bound copy of the EMP be kept at WSL office ii) the EMP to be consulted regularly and form an integral part of management iii) staff to receive ongoing training in the objectives and importance of the EMP, service delivery, hygiene, the recycle & reuse concept iv) all septic tanks to be checked daily to determine capacity and possible signs of leakage v) designated Stage 2 wastewater purification system adjacent to workshop to be fenced off</p>
2	Socio-economic benefits of the JV contract are achieved and bi-annual JMC meetings attended	<p>Biannual JMC meetings between the operator of WSL and the Kyaramacan Association do take place</p> <p>As per contract, the 25-year lease agreement, both parties to reach consensus of starting date for payment of “concession fees”: not Sept. 2018 but as of Sept 2023</p>	Proponent	<p>To prioritize JMC meetings held and benefits shared as per JV contract</p> <p>The issue of Concession Fee payment needs to be clarified</p> <p>Note: i) Construction Phase: 2019-2023 ii) COVID 19: 2020-2022</p> <p>Tourist numbers only started picking up as of Jan 2024</p>

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WHITE SANDS LODGE, located on the northern banks of the Kavango River**

No.	ACTIVITY	POTENTIAL IMPACTS TAKEN NOTE OF	WHO RESPONSIBLE	MITIGATION-ACTION RECOMMENDED
3	Minimize negative impacts on the vegetation	<p>Increase in water abstraction from the Kavango River during dry periods to water lawns</p> <p>No removal of bush nor trees was observed</p> <p>Exotic trees can compete with indigenous trees for space and acidify soils</p> <p>Exotic plants e.g. sisal could spread down river</p>	Management and staff	<p>Litter (leaves, twigs, branches) to a designated compost next to the vegetable garden.</p> <p>Only to plant indigenous trees and shrubs that occur naturally in the 16ha allocated land and that are adapted to the climate.</p> <p>The sisal plants starting at the river edge to be removed</p>
4	Minimize negative impacts on wildlife	<p>Guests are made aware of the potential danger of wild animals entering WSL at night</p> <p>Feeding of vervet monkeys by guests to be forbidden</p> <p>Free roaming bushbuck at WSL could be harmed</p>	Management and Staff	<p>All guests are briefed upon arrival of the presence and dangers of wild animals</p> <p>As of sunset guests are accompanied to their accommodation by a trained armed guard</p> <p>The manager and staff are aware of the implications of illegal activities relating to wildlife.</p>
5	Ensure care and respect to the environment is always achieved	<p>Potential disturbance of wildlife during game drives and boat cruises on the Kavango River</p> <p>Birdlife at WSL is an exceptional treat; cats are known to decimate birdlife</p>	Management, Guides and staff	<p>Ongoing training in game drives and boat cruise for guides in off road driving, safety of guests, and respect for wildlife.</p> <p>Staff to be informed that guests appreciate the wilderness atmosphere and birdlife at WSL – ongoing awareness</p> <p>No cats to be permitted at WSL</p>

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No.	ACTIVITY	POTENTIAL IMPACTS	WHO RESPONSIBLE	MITIGATION-ACTION RECOMMENDED
6	Minimize land degradation (Erosion)	Frequent traffic on the road leading to WSL (2.2km) from the B8 road and internal roads at WSL damaged during wet season Lead to potential erosion and land degradation Excessive vehicle traffic, new roads and potholes	Proponent and management	No new roads to be initiated without the consent of MEFT Culverts to be regularly cleaned Potholes to be filled with building rubble
7	Minimize impacts on water abstraction from Kavango River	From the Kavango River Aesthetics of pump station in Kavango River <ul style="list-style-type: none"> • Noise pollution • Excess abstraction 	Proponent and management	i) Ensure that pump system is always protected from wildlife (hippo, crocodile, elephant) ii) Operate pumps only during daylight hours iii) To acquire Abstraction License for surface water from Ministry of Agriculture, Water & Land Reform (Form No. WA03-SW) iv) To install a water logger meter
8	Minimize soil and water pollution	Potential petrol and oil spillage on land and at the harbour; leakage of containers in storeroom and workshop Possible leakage and overflow at septic tanks	Management and maintenance team	i) No spillages recorded to date ii) Ongoing training to staff recommended on safety precautions iii) Septic tanks (Stage 1) are emptied on a rotational basis and emptied once ¾ capacity iv) hazardous fuel and oils kept in a storeroom with concrete floor and lockable door
9	Exotic plants	Exotic plants compete for space at the cost of indigenous species Exotic plants especially along riverine systems can become aggressive invaders and become dominant: loss of biodiversity	Proponent and gardeners	i) No exotic trees and shrubs to be planted ii) Existing exotics e.g. sisal to be systematically removed

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No.	ACTIVITY	POTENTIAL IMPACTS OBSERVED	WHO RESPONSIBLE	MITIGATION-ACTION RECOMMENDED
10	<p>Restaurant (Main and Kipi George Deck, deck, kitchen, bar, toilets)</p> <p><u>Main Restaurant:</u> 2x plastic septic tanks with a capacity of 1000-liter each catering for the above</p> <p><u>Kipi George Deck/restaurant:</u> Brick and concrete 2 chamber septic tanks with a capacity of 1000-liter each catering for the above</p>	<p>Soap and detergents in case of spillage or leakage harmful to micro-organisms in the soil</p> <p>In case of septic tank overflow blocked the smell and seepage into the sandy soil a possibility. If not contained can aesthetically spoil the environment.</p> <p>Solid waste not stored well: plastic harmful to wildlife when swallowed</p> <p>Rotting food leaves bad smell and attracts unwanted rodents and insects</p>	<p align="center">Management and kitchen staff</p>	<p>It is recommended that:</p> <ul style="list-style-type: none"> i) Only bio-degradable soaps to be used ii) Protocols to be in place on the hygienic operation of the restaurant and refuse disposal iii) Staff to receive ongoing training in service delivery, hygiene, the recycle & reuse concept iv) Left-over organic foods to be removed daily to compost heap v) All toilets to be checked daily if no leakage present vi) All septic tanks to be checked daily to determine if no blockage vii) Recycle bins to be tightly closed each evening <p>Note: 2x fat extractors to be installed at both restaurants</p>
11	<p>Fire extinguishers and Emergency Assembly Point</p>		<p align="center">Proponent and maintenance team leader</p>	<p>A matter of urgency:</p> <ul style="list-style-type: none"> i) Existing fire extinguishers to be checked to ensure the servicing dates are within dates ii) Emergency Assembly Point signage needs to be placed at strategic places: recommend at Kipi George lawn; Popa Falls viewpoint lawn and at the workshop vegetable garden

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WHITE SANDS LODGE, located on the northern banks of the Kavango River**

No.	ACTIVITY	POTENTIAL IMPACTS OBSERVED	WHO RESPONSIBLE	MITIGATION-ACTION RECOMMENDED
12	Accommodation (guests, managers, staff, watchman)	<p>Soap and detergents in case of spillage or leakage harmful to micro-organisms in the soil</p> <p>In case of septic tank overflow blockage a foul smell and seepage into the sandy soil a possibility</p> <p>Pollute the unique environment if not contained (aesthetics/wildlife) of solid and liquid waste</p>	Management	<p>i) Housekeeping staff to report leakage and to ensure that all solids are well stored at designated refuse storage site</p> <p>ii) Only bio-degradable soaps to be used</p> <p>iii) Housekeeping staff to report leakage and to ensure that all solids are well stored at designated refuse storage site</p> <p>iv) Good control in place: septic tanks (Stage 1) emptied on a regular basis once reached ¾ capacity</p>
13	Laundry operation	<p>Grey water and solids</p> <p>Detergents used potential harmful to soil micro-organisms should a leak occur</p> <p>Soap packages if left unattended can leach into the soil</p>	Management	<p>i) Exit piping to be checked daily</p> <p>ii) To use only bio-degradable soaps</p>
14	Storeroom safety (Petrol, chemicals, paint, lubricant oil, backup generator, gas bottles)	<p>Hazardous waste and solids (glass, tins, paper, plastic)</p> <p>Potential spillage of oil, diesel & petrol – lead to contamination of soil</p> <p>Solids if not controlled can pollute the environment & plastics danger to wildlife</p>	Management and maintenance team	<p>(i) Only certified containers used to store fuels and oil; ii) Recycle oils from engine services e.g. treat wood; iii) Storeroom is always locked; floor of storeroom is of concrete</p>

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No.	ACTIVITY	POTENTIAL IMPACTS OBSERVED	WHO RESPONSIBLE	MITIGATION-ACTION & RECOMMENDATIONS
15	Harbour/Boat trips Morning breakfast and evening sundowner cruises on the Kavango River	Solids if not well secured could land in the river and cause unnecessary pollution	Management and skipper of boats	A bin on board – all solids collected and to be taken back on shore during sundowner trips
16	NCS Green Scheme	Riverine forest potentially negatively affected by excessive use of chemicals	Proponent and manager of Green Scheme	Soil and water samples to be taken upstream of WSL and tested for toxins to determine cause of dead and dying trees at Green Scheme and WSL
17	Maintenance of buildings (rubble and discarded building material)	Building rubble, discarded tins, pipes, glass etc. Left-over trash from building	Management and maintenance team	i) Rubble to be used to fix access and internal roads (ca. 2,2km) from the B8 – an ongoing activity (Fig 11). ii) remainder of discarded building material to be stored for collection
18	New proposed Bush Lodge at WSL with 30 rooms and a restaurant	Increase in carbon footprint: Addition of solids Potential loss of habitat Increase in water abstraction and discharge	Proponent	This site on the existing 16ha plot needs to be self-sufficient and managed as follows: i)Dedicated infrastructure to store separated solids similar to currently in place ii)No trees to be removed at new site; buildings to be placed amongst the trees iii)New Sewage Treatment System to be established – current system not to be overloaded

The following Figures have reference to Table 9 above. **Figure 21:** indicates the extent of dead riverine trees west of WSL below the NCS Green Scheme at their pump station. **Figure 22:** shows signs of possible soil pollution at the western corner fence of WSL downstream of the Green Scheme. **Figure 23:** refers to exotic plants at WSL which should be eradicated as they have a potential threat to the riverine biodiversity of the Kavango River. **Figure 24:** fuel and other hazardous chemicals are well stored (concrete floor).

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Figure 21: Dead riverine trees and dead grass at the pump station of NCS Green Scheme.

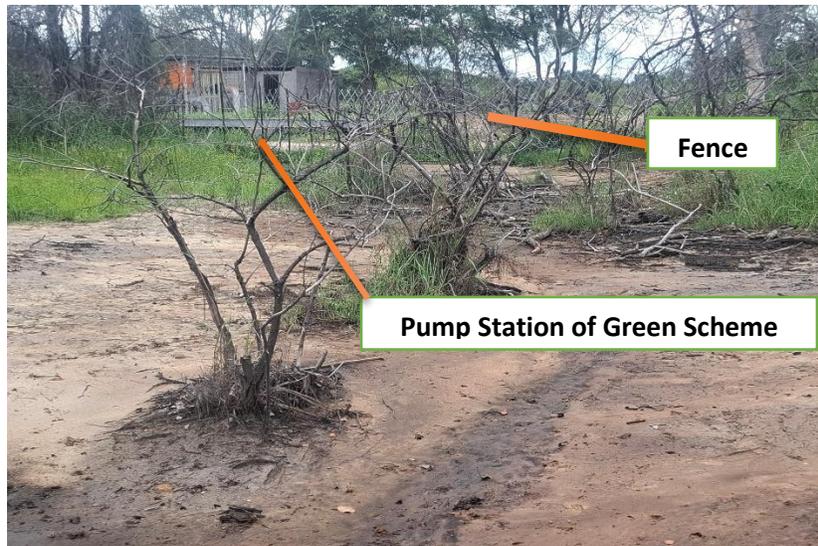


Figure 22: Bare soil and dead shrubs in the southwestern corner of WSL.

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Figure 23: Exotic sisal plants to be removed.



Figure 23: Secure storage for fuel.

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Summary of Key Points raised in Table 9 that require further attention by the Proponent

An update on progress made on points raised below shall be presented in the bi-annual EMP report as per requirement of the EC office of MEFT: Section C4 Points 6 and Point 14.

1. The **EMP is a living document**: this report must be filed at the manager's office and always be available to be consulted.
2. It is essential that **ongoing staff training** is provided by the managers on the importance and necessity of this EMP. All team members to be made aware of compliance.
3. Clear **roles and responsibilities** be allocated to employees to ensure that "Best Management Practices" are in place and maintained.
4. Stage 1 septic tank receivers to be provided weekly "**digestive enzymes boosters**" via the toilets to assist in initial breakdown of solids.
5. The current Stage 2 septic tank purification system is **to be fenced off** and all weeds around surface tanks removed (**Note**: on my third visit this request was already implemented)
6. **Sorting bins for glass, plastic, paper and tins** to be placed at strategic places: the kitchen, workshop and staff quarters prior dispatch to the cubicle storage unit.
7. The Proponent together with the EAP to **source a reliable recycling company** that will collect all recyclable solids for all lodges in the Mukwe Constituency (**Note**: on my third visit this request was already completed).
8. **Additional fire extinguishers** to be installed at luxury rooms and other strategic places.
9. All residue waste is to be taken to the official dumpsite allocated to Divundu which implies that all solids are taken out of BNP.
10. Signage: **Emergency Assembly Point** needs to be installed near Kipi George Deck lawn and 8 luxury rooms vicinity.
11. Management continues to ensure that they maintain **good standing with JV** Management committee.
12. **Water abstraction and discharge**: the application for 2 licenses at the Ministry of Agriculture, Water and Land Reform for river water abstraction and discharge of purified effluent are in process.
13. **Water meter logger** to determine daily usage to be installed.
14. Install an **UV light at outlet** of Stage 2 septic Tank No. 7.

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Environmental management Act: In accordance with section 37(2) of the Environmental Management Act, Act 7 of 2007 and Environmental Impact Assessment Regulation of 2012 (GG 4878) an ECC can be issued by the EC based on the EMP submitted. The Proponent is advised to comply with the conditions of approval as set out in **Section C4: Points 1-17** after receiving receipt of the ECC.

Point 6: “The Proponent shall appoint a suitable experienced environmental control officer, or site agent where appropriate, before the commencement of any listed activities to ensure compliance with the conditions of approval and mitigation stipulated in the approved EMP”.

Point 14: “The Proponent is required, from the date of commencing implementation of project activities, to compile and submit environmental monitoring reports (on project progress and the environmental management profile) on a bi-annual basis to the Office of the Environmental Commissioner”.

Due to the type and nature of the business, WSL operation strives to be in line with the best tourism industry practice. Mitigation measures are key to the operation of WSL and need to be revised from time to time i.e. to minimize the environmental effects at the specific location adjacent to a channel on the western bank of the Kavango River. It is for this reason that the existing EMP of November 2018 has been updated and presented in **Tables 7 and 9**.

In this Environmental Management Plan (EMP), the mitigation principles focus on:

- avoiding, minimizing, or compensating for negative environmental impacts arising from an activity, through measures like reducing pollution, conserving resources, and restoring ecosystems.

In summary, WSL is a tourism-based business venture that impacts on the environment in one way or the other, that calls for consideration of different alternatives. The WSL can be referred to as an eco-friendly lodge which strives to:

- Maintain low key impact waste generated
- Protocols are in place to reduce, reuse and recycle solid waste generated
- Reduce the risks to both the environment and public health
- Promote staff and community awareness on strategies to be considered and implemented in the “waste minimization”

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50



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**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
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SECTION 4: RECOMMENDATIONS AND CONCLUSION

It is the *objective of this report* to *list and to provide guidelines* to the Proponent in which sectors he could improve to ensure compliance according to the Environmental Management Act of 2007. The EMP is a recognized tool that can provide the assurance that the Proponent is able to make suitable provisions for mitigation.

White Sands Lodge is determined to take appropriate action to deliver:

- sustainable and safe waste management minimizes environmental impact on the fauna and flora and
- which in turn will support the socio-economic viability of the local community of the Khwe who reside in the Multiple Use Area of Bwabwata National Park.

GOALS	ACTION-MITIGATION
New approach to enviro compliance	EMP to be regularly consulted; staff inhouse training on EMP compliance; best practices implemented
Enhance social benefits	Social responsibilities, includes employments, JV, training, community support as need arises
Adverse enviro impacts kept to a minimum	Protocols in place for solid waste management; to maintain high standards of current effluent discharge

The management of WSL has recognized the need to take appropriate action regarding:

RECOMMENDATIONS	APPROPRIATE ACTION
Stage 1: sewage receptor tanks	To add 1000-liter tanks at campsites
Stage 2: sewage refinery system	To fence off and clean the area
Safety and health as a priority goal	Proponent & managers to reduce risks wherever possible
Waste minimization and recycling	Proponent to source a reputable recycling company
Investigating cause of dead and dying trees	GRN to be convinced to determine type of toxins responsible

In addition, this EMP outlines the *roles* and *responsibilities* of the Proponent and management, to ensure that the best environmental management practices are in place.

It is to be re-emphasized that WSL is a medium-sized lodge which caters for a maximum of 16 guests per day during peak season at the chalets and luxury rooms and 32 guests at the campsites.

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Overall, the environmental impact can be rated as low. Management has in place procedures which focus on safeguarding adverse environmental impacts to both the abiotic and biotic environment.

The unique location of WSL, which is positioned in the heart of KAZA TFCA, is contributing to the following entities:

ENTITIY	CONTRIBUTIONS by PROPONENT of WSL
1	Contribution to Namibia's GDP
2	Positive upliftment to the socio-economic structure of Khwe community
3	Contribution to livelihoods of people through job creation
4	Stimulate, attract and encourage tourism in the KAZA TFCA
5	Provides guests with the best wildlife experience

Summary of Key Points raised in SECTIONS 2 and 3 that require further attention

No.	COMPLIANCE
1	The EMP reports of November 2018 and March 2026 are living documents and to be filed at the operational manager's office and always be available to be consulted.
2	It is essential that ongoing staff training is provided by WSL management to the staff on the importance and necessity of this EMP; all team members to be made aware of compliance.
3	The current storage for waste solids is organized and protected; pending is sourcing a reliable recycling company that can guarantee regular pick up;
4	Management to continue to ensure that they maintain good standing with EEC (Employment equity Commission) regarding labour issues.
5	Surface water abstraction and discharge of effluent: the process has been initiated by the EAP for water abstraction & effluent discharge; the need to finalize the formal application with the Department of Water Affairs
6	To refrain from planting exotic plant invaders which can negatively impact downstream RAMSAR wetland ecosystem.
7	Continuing to ensure that all solid waste (glass, tins, paper, plastic) accumulated is removed from the BNP

It is the mission of WSL to continue to promote its lodge as an environmentally eco-friendly destination. Policies, procedures and practices are available to the Proponent that can

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assist in managing and reducing the impact of waste on the immediate environment. It is the responsibility of the Proponent to continue to identify, evaluate and mitigate environmental impacts.

In conclusion, management is encouraged at all times to aim to: *reduce* (avoid/minimize), *reuse* and *recycle* waste where and whenever possible, which WSL currently strives to ensure that their lodge is rated and known for its environmental eco-friendly operation on the northern banks of the Kavango River where the carbon footprint is negligible.

From observations made, **WSL** could be ***nominated for the Eco Award Namibia***, which is a mark of distinction for accommodation establishments that are planned and managed according to eco-friendly principles.

Finally, the steps that the Proponent needs to follow and adhere to ensure compliance, include:

Commitment, Planning, Implementation of EMP, Evaluation and Review

ACKNOWLEDGEMENTS

To the Proponent Mr. Ronny Ratheiser for the cordial discussions and for providing relevant information (Documents 1-6) to this EMP and to his courteous staff who were always there to assist.

The EMP of November 2018, which is still in force, compiled by TEC (Windhoek) was a most helpful reference in compiling this EMP.

REFERENCES

- i) Environmental Management Act (EMA), No 7 of 2007
- ii) Environmental Management Act (EIA Regulation), GG No 30 of 2012
- iii) The 2008 Guide to EMA No 7 of 2007, MEFT
- iv) Google earth maps
- v) National Solid Waste Management Strategy (MEFT), 2018
- vi) Water Act and Regulation of 2013 and 2023
- vii) EMP Report of November 2018 on White Sands Lodge by TEC: Kosmas Shilongo & Jona Heita
- viii) All pictures taken by the EAP Klingelhoefter.

**Note: AI was not used in compiling nor was it used to generate both the
BID and EMP reports**

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**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

IN THE WITNESS WHEREOF, the undersigned representatives, being duly authorised thereto by their respective institution, have signed this contract in duplicate in English.

Execution on behalf of the Concessionaire:

SIGNED AT Mufiku ON 08, 11..... 2018.



WITNESS

For and on behalf of **THE CONCESSIONAIRE**



who warrants their authority hereto

Execution on behalf of the Operator:

SIGNED AT Mufiku ON 8 November..... 2018.

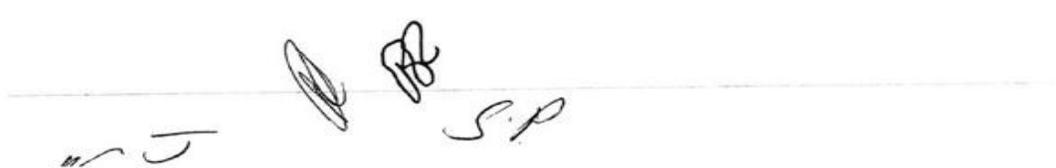


WITNESS

For and on behalf of **THE OPERATOR**



who warrants their authority hereto



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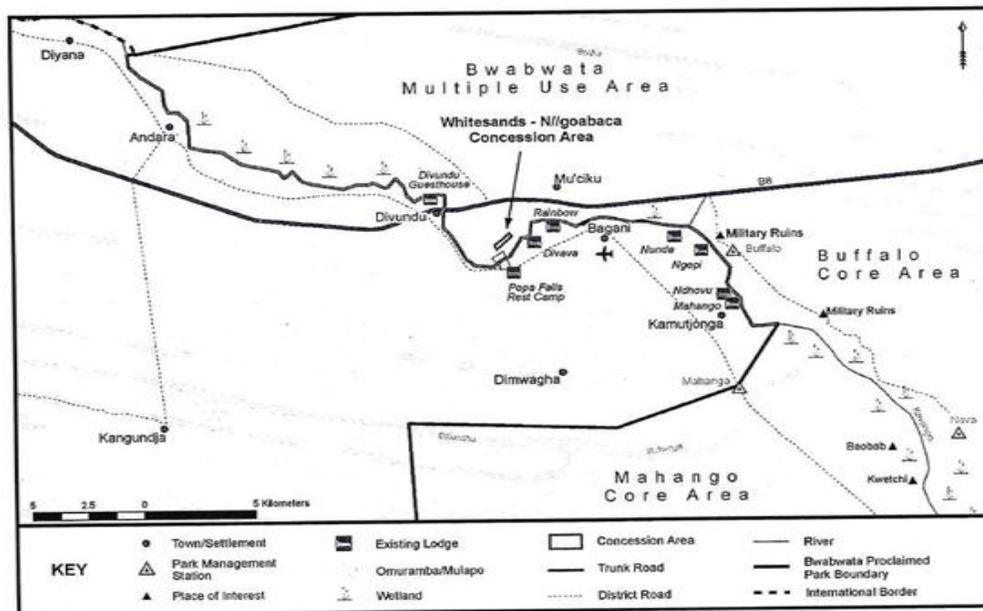
ANNEXURE 4 - TERMS AND CONDITIONS

1. CONCESSION AREA

The Concession Area is defined as

- The existing N//Goabaca campsite – White Sands area as demarcated in Map 1 and Map 2 of Annexure 4;
- The Kavango River, including its islands and rapids does not form a part of the Concession Area;
- Perimeter coordinate of the Concession Area are indicated in Table 1 of this Annexure below;
- The size of the Concession Area is approximately 18.7 (eighteen point seven) hectares.

Map 1: Overview of the White Sands / N//Goabaca Concession (see paragraph 1 (a) above).



[Handwritten signatures and initials]

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WHITE SANDS LODGE, located on the northern banks of the Kavango River**

Map 2: The White Sands / N//Goabaca Concession Area (see paragraph 1 (a) above)

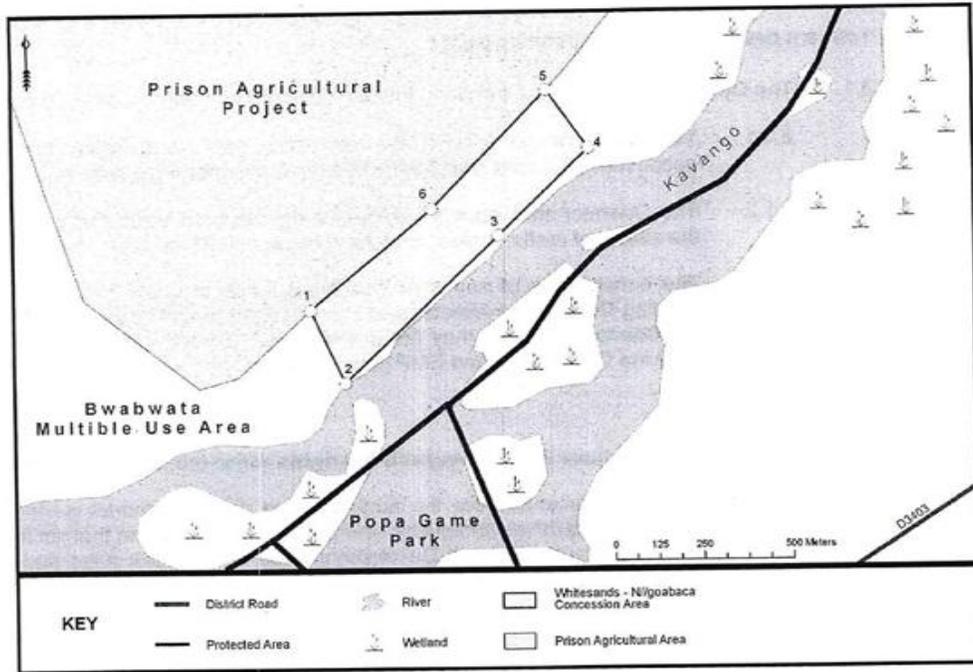


Table 1: Perimeter coordinates of the Concession Area:

Points	GPS Coordinates
1	S18 06°837 E 21 34.698
2	S18 06°952 E 21 34.753
3	S18 06°721 E 21 35.000
4	S18 06°587 E 21 35.145
5	S18 06°497 E21 35.078
6	S18 06°679 E21 34.894

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WHITE SANDS LODGE, located on the northern banks of the Kavango River

**Document 2: Name change on 10 July 2018 to ROVEJEMA Lodge and
Camping Group (Pty) LTD t/a White Sands Lodge at Popa Falls**

Form CM 9

REPUBLIC OF NAMIBIA
COMPANIES ACT:2004
(Section 50(3)) (Regulation 16(1))
(to be lodged in duplicate)

18067449

CERTIFICATE OF CHANGE OF NAME OF COMPANY

Registration Number of Company
2016/1142

This is to certify that

ALRO INVESTMENTS SIXTY SEVEN (PROPRIETARY) LIMITED

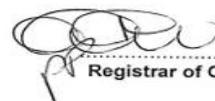
has changed its name by SPECIAL RESOLUTION and is now called

ROVEJEMA LODGE AND CAMPING GROUP (PROPRIETARY) LIMITED

and that the new name has this day been entered in the Register of Companies

Signed and sealed at WINDHOEK this 10 day of July of the year 2018




Registrar of Companies

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**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

Continuation of Form CM 9

REPUBLIC OF NAMIBIA
COMPANIES ACT, 2004
(Section 50(2)) (Regulation 16 (1))

APPLICATION FOR CHANGE OF NAME OF COMPANY

Registration Number of Company
2016/1142

Revenue stamp or
revenue franking
machine impression
N\$30,00

Existing name of company: ALRO INVESTMENTS SIXTY SEVEN (PROPRIETARY) LIMITED

In the special resolution, which is attached to this form, the name of the company was changed to:
ROVEJEMA LODGE AND CAMPING GROUP (PROPRIETARY) LIMITED

If changed name of company is not in official language, provide translation in as far as possible:



- * No shortened form of the name is registered.
- * Separate application is being made to register a shortened form of name.
- * Separate application is being made to deregister a shortened form of name.
- * Delete whichever is not applicable.

Date 09 April 2018

Signature *Patheiser*
Director/Manager/Secretary

fcs
Rubber stamp of company, each, or of secretaries
Financial Consulting Services (Pty) Ltd
P.O. Box 4440
Tel: 215100 Walvis Bay

Postal address of company
P.O. BOX 4440
WALVIS BAY
NAMIBIA

Perforated (To be completed by company)

Herewith certificate of change of name dated 09 April 2018

Name of Company ALRO INVESTMENTS SIXTY SEVEN
(PROPRIETARY) LIMITED
Postal Address P.O. BOX 4440
WALVIS BAY
(TO BE COLLECTED BY FCS)



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Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River

Document 3: ECC issued to White Sands Lodge, 4 March 2019


REPUBLIC OF NAMIBIA

MINISTRY OF ENVIRONMENT AND TOURISM

Tel: (00 26481) 284 2111
Fax: (00 26481) 232 057

E-mail: Hiskia.Mbura@met.gov.na
Enquiries: Mr. Hiskia Mbura

C/o Robert Mugabe 6
Dr. Kenneth Kaunda Street
Private Bag 13305
Windhoek
Namibia

06 March 2019

OFFICE OF THE ENVIRONMENTAL COMMISSIONER

The Director
Rovejema Lodge and Camping Group (Pty) Ltd
P. O. Box 2890
Swakopmund, Namibia

Dear Mr. Ronny Ratheiser

SUBJECT: ENVIRONMENTAL CLEARANCE CERTIFICATE FOR THE PROPOSED UPGRADE OF THE WHITESAND – NI/GOABACA TOURISM CONCESSION HUNTING CAMP AND CAMPSITE INTO A LODGE AND CAMPSITE IN THE BWABWATA NATIONAL PARK, KAVANGO EAST REGION

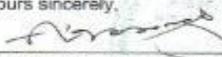
The Environmental Scoping Report and Environmental Management Plan submitted are sufficient as it made provisions of the environmental management concerning the project's activities. From this perspective, regular environmental monitoring and evaluations of environmental performance should be conducted. Targets for improvements should be established and monitored from time to time.

This Ministry reserves the right to attach further legislative and regulatory conditions during the operational phase of the project. In addition, the Environmental clearance certificate is issued with the condition that: all applicable and required permits are obtained and mitigations measures stipulated in the EMP are applied particularly with respect to management of ecological impacts.

On the basis of the above, this letter serves as an Environmental Clearance Certificate for the proposed development and operations to proceed. However, this clearance letter does not in any way hold the Ministry of Environment and Tourism accountable for misleading information, nor any adverse effects that may arise from this project activity. Instead, full accountability rests with the Mr. Ronny Ratheiser and their consultant.

This environmental clearance is valid for a period of 3 (three) years, effective from the date of issue unless withdrawn by this office.

Yours sincerely,


Fredrick Mupoti Sikabonga
DEPUTY ENVIRONMENTAL COMMISSIONER

"Stop the poaching of our rhinos"

All official correspondence must be addressed to the Permanent Secretary

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60

**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

**Document 4: Appointment letter of EAP Dr E Klingelhoefter,
December 2025**



**WHITE SANDS LODGE & CAMP SITE, BWABWATA NATIONAL PARK KAVANGO
EAST REGION NEAR DIVUNDU**

**The Environmental Commissioner
Mr. Timothy Mufeti
Ministry of Environment and Tourism
Private Bag 13306
WINDHOEK**

6 December 2025

**REQUEST for the RENEWAL of an ENVIRONMENTAL CLEARANCE CERTIFICATE
(ECC) for the operation of
WHITE SAND LODGE & CAMP SITE, KAVANGO REGION
APPOINTMENT OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)
Dr Ekkehard Klingelhoefter**

Dear Mr. Mufeti,

I make reference to the letter from the then Environmental Commissioner (EC) Mr. T. Nghitila, dated 06/03/2019 (find attached). This is to inform your kind office, that White Sands Lodge & Camp Site was partially closed for an extended period due to COVID 19 during 2020 to 2022 and only has commenced with further constructions as of February

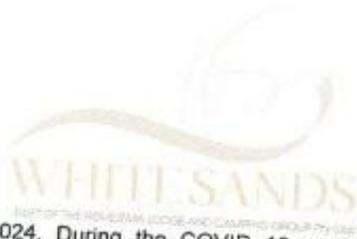
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61



Animal and Ecosystem Health Consultant
DR EKKEHARD KLINGELHOEFFER
☎ 081 719 3939
✉ ekkehardwk@gmail.com
📦 P.O.Box 594 Swakopmund

**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**



2024. During the COVID 19 years our ECC has elapsed. During the past years, management has embarked on the following activities:

- extensive maintenance of the buildings
- 8 new luxury rooms built
- upgrade of the waste management protocols
- continue to "go green" in beautifying the gardens
- implement extensive marketing strategies to attract clients from abroad

Project Name: Operation of WHITE SANDS LODGE & CAMP SITE, north of the Kavango River, 10km east of Divundu within the Bwabwata National Park.

Activity: Operating WHITE SANDS LODGE & CAMP SITE as a tourism establishment on the northern bank of the Kavango River, 10km east of Divundu.

For the lodge and camp sites to be accredited as an operating tourist establishment, as prescribed by the Environmental Management Act No. 7 of 2007, we are aware that the Environmental Clearance Certificate (ECC) to operate is overdue and needs to be reviewed every three years. Furthermore, the license application for surface water abstraction from the Kavango River and the license application for water discharge will be applied for through the Directorate of Water Affairs (MAFWLR).

We hereby wish to inform your kind office that I have appointed Dr. Ekkehard Klingelhoefter of Atlantic Consulting Services CC/ 2021/03824 as the Environmental Assessment Practitioner (EAP), to assist my company to be re-issued with an Environmental Clearance Certificate. His task will be as follows:

1. To ensure that a reviewed and updated Environmental Management Plan (EMP) is compiled, submitted for approval and implemented
2. To ensure that a rigorous Waste Management Protocol is in place
3. Water abstraction license and an effluent discharge license, as prescribed by the Ministry of Agriculture, Fisheries, Water and Land Reform, have been secured

Dr Klingelhoefter will be provided with a copy of the existing EMP and the current ECC including any additional documents relevant to the EMP that the EAP requires to update the current EMP.

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**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**



Please let me know if there is any additional information that is required by your kind office to ensure that our Environmental Clearance Certificate can be re-issued for a period of 3 years.

Yours sincerely,

Mr Ronny Ratheiser

Email: ronny@whitesands.com.na
Cell no. + 264 (0) 81 127 6851

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**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

Document 5: APP number allocation from EC office, 29 December 2025

New application for an Environmental Clearance Certificate

Ministry of Environment and Tourism

07:15 (13
hours ago)



REPUBLIC OF NAMIBIA
Ministry of Environment, Forestry & Tourism

2025-12-29

Dear Ekkehard Klingelhoefter,

Thank you for applying for an Environmental Clearance Certificate (ECC) for Rovejema Lodge and Camping Group (Pty) LTD t/a as White Sands Lodge & Camping at Popa Falls. Your application has been registered with application number **APP 251229 006842**

Thank you

Phillip Troskie Building
P/Bag 13306, Windhoek | Tel: +264 61 284 2111 | DEA: +264 61 284 2701

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Correspondences can be done on the portal or please use
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Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River

**Document 6: Verification: Screening notification & instructions received
from EC office, 12 January 2026.**

Your application is verified

Inbox



Ministry of Environment and Tourism

13:00 (4 hours ago)

to me



REPUBLIC OF NAMIBIA
Ministry of Environment, Forestry & Tourism

2026-01-12

Dear Ekkehard Klingelhoefter,

This email serves to inform you that your application **APP-006842** has been verified

Taking the following into considerations:

- Location of the project
- Pollution potential
- Scale of operation of the project

Please upload the following documents:

- 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)

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65



Animal and Ecosystem Health Consultant
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**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

- Preliminary Site Map (Project boundaries) with coordinates (decimal degrees) and a Legend
- CV of Environmental Assessment Practitioner (EAP)
- Declaration for the Submission of Assessment Reports and other Support Documents (upload Declaration Form from www.eia.meft.gov.na (downloads)

Please login onto our portal to upload required documents, if any
<https://eia.met.gov.na>

NB- for the purpose of Section 38 of the Environmental Management Act, 2007 read with Regulation 4(d), kindly forward copies of all relevant documents i.e. (application forms, EIA, Scoping reports, EMP etc.) to the office of the Environmental Commissioner

Thank you

Phillip Troskie Building

P/Bag 13306, Windhoek | Tel: +264 61 284 2111 | DEA: +264 61 284 2701

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**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

**Document 7: Report on dead and dying trees at NCS Green and White
Sands Lodge at Popa Falls**

ED Mr. T. Nghithila
Government Office Park
Ministry of Agriculture, Fisheries, Water and land Reform
Private Bag 13184
WINDHOEK

Date: 23 February 2026

Cc Mr Timothy Mufeti: Environmental Commissioner
Cc Mr Johnson Ndokosho: Director of Forestry

**OBSERVATIONS MADE of DEAD and DYING RIVERINE TREES below Namibia Correctional Services
GREEN SCHEME and at WHITE SANDS LODGE in proximity of
POPA FALLS on 24 & 25 JANUARY and 15 & 16 FEBRUARY 2026**

Dear ED Nghithila,

White Sands Lodge (WSL) at Popa Falls, Divundu, appointed me as the Environmental Assessment Practitioner to review and update their Environmental Management Plan. During my investigations I noticed that at White Sands Lodge, downstream from the Green Scheme of the Namibia Correctional Services {NCS}, the riverine forest trees were dying.

On further investigation west of WSL, I noticed that the entire riverine forest was dead and the soil even bare of grass and shrubs.

In January I undertook a preliminary plant survey within the 16ha land allocated to WSL (report is attached). During my 2nd visit in February, I took a walk along the northern banks of the Kavango River west and east of WSL. In summary the following observations were made:

- Downstream East of WSL: trees were intact and doing well, however, some dead branches were detected on a few living trees
- Upstream West of WSL: from the pump station and upstream of the NCS, the entire riverine forest has died

The question arose as to why this die off, as trees were growing at the water edge of the Kavango River, water therefore not being a limiting factor. Current literature refers to forests dying globally due to climate change and insect infestations. However, initial results indicate that this is not the case here.

Request:

I hereby humbly request if your Ministry staff could please visit the site and take water and soil samples upstream and downstream of WSL to determine which toxins are causing the trees to die.

Please let me know if there is any additional information pertaining to this topic.

Yours sincerely,



Dr. Ekkehard Klingelhoef: Environmental Assessment Practitioner (EAP)

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67



Animal and Ecosystem Health Consultant
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**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

**OBSERVATIONS MADE of DEAD and DYING TREES at WHITE SANDS LODGE at
POPA FALLS on 24 & 25 JANUARY 2026**

White Sands Lodge (WSL) at Popa Falls is a favorite hospitality destination that offers guests the experience of spending relaxing moments under the canopy of trees with the sounds of water flowing over the rapids at Popa Falls.

During a visit to WSL in January 2026, it was observed that trees were found to be dead and others in the process of dying (Table 1). The question arose as to why this die off, as trees were growing at the water edge of the Kavango River - water therefore not a limiting factor. Current Literature refers to forests dying globally due to climate change and/or insect infestations. However, initial results indicate that this is not the case.

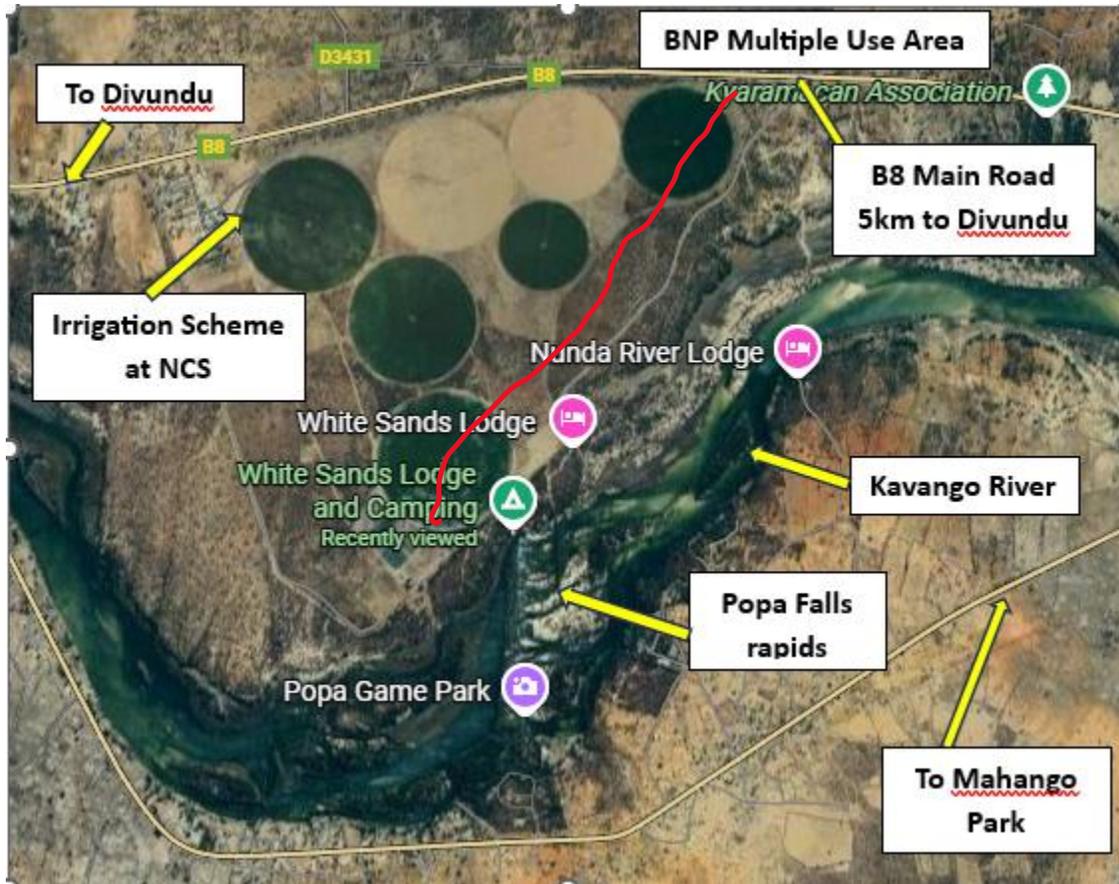
**Table 1: Trees identified that were either dead or in the process of dying at White Sands Lodge,
January 2026**

Species	Common name	No. dead trees	No. dying trees	Total trees lost	As a % dead	As a % Dying	Total trees lost as %
<i>Acacia Nilotica</i>	Knob thorn	15	10	25	13.8	9.2	22.9
<i>Combretum Imberbe</i>	Leadwood	4	7	11	3.7	6.4	10.1
<i>Diospyros Mespiliformis</i>	Jackal berry Nunda	21	4	25	19.3	3.7	22.9
<i>Philenoptera Nelsii</i>	Apple leaf	3	5	8	2.8	4.6	7.3
<i>Scelrocarya Birrea</i>	Maroela	0	1	1	0.0	0.9	0.9
<i>Terminalia Sericea</i>	Silver cluster	0	1	1	0.0	0.9	0.9
<i>Albizia Versicola</i>	Poison pod	0	1	1	0.0	0.9	0.9
<i>D. cinerea</i>	Sickle bush	2	0	2	1.85	0.0	1.85
<i>Grewia spp</i>	Grewia	2	0	2	1.85	0.0	1.85
<i>No ID Not recognizable</i>	n/a	18	15	33	16.5	13.8	30.3
TOTAL		65	44	109	59.6	40.4	100.0

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**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

Figure 1 provides a “birds eye” view of White Sands Lodge at Popa Falls in proximity of the Government Green Scheme at the Namibia Correctional Services.



**Figure 1: The location of White Sands Lodge, north of the Kavango River near
Divundu (earth google maps) (red line = road to White Sands Lodge)**

**BNP = Bwabwata National Park; NCS = Namibia Correctional Services - Green scheme
(385ha)**

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**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

Figure 2 provides a google earth map of the location of White Sands Lodge along the northern banks of the Kavango River.



Figure 2: Satellite image indicating the location of White Sands Lodge (Red Block), on a 16ha raised landscape on the northern banks of the Kavango River

SE, NE and SW, NW perimeter corners

NCS = Namibia Correctional Services

Figures 3 to 7 depict dead and dying trees as well as a diesel/oil slick detected in the southwestern corner of White Sands Lodge next to the Green Scheme pump station.

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**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**



Figure 3: Signs of diesel/oil slick and dying reeds with dead and dying trees in the background, 50m from the water intake pump of the Correctional Services



Figure 4: Bare soil polluted with diesel/oil ?? at White Sands Lodge, 50m from the Correctional Services water intake pump station

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WHITE SANDS LODGE, located on the northern banks of the Kavango River**



Figure 5: Bare soil polluted with diesel/oil at White Sands Lodge, 50m from the Correctional Services water intake pump station



Figure 6: Dead *Combretum imberbe* tree 50m from the Kavango River at White Sands Lodge

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**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**



**Figure 7: A dying *Diospyros mespiliformis* at the embankment of the
Kavango River at White Sands Lodge**

Recommendation

- A comprehensive survey to be undertaken including the Correctional Services terrain where the “Green Scheme” is situated on a ca 385ha surface area
- Water samples upstream and downstream of the Kavango River for analysis
- A range of soil samples to be taken at NCS and WSL for further analysis
- The area further up of the Kavango River to be surveyed especially where the Green Schemes are located.

This draft document is shared with Mr. Ronny Ratheiser owner of White Sands Lodge and Government officials based in the Kavango East and Zambezi Regions. A follow up visit is planned for February 2026.

Yours sincerely,



Date: 29 January 2026

Dr. Ekkehard Klingelhoef: Environmental Assessment Practitioner (EAP)

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Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River

**Document 8: Declaration of authorship for the Submission of
Assessment Reports**

Declaration of authorship

APPLICATION NUMBER: APP 251229-006842

Project Title:

WHITE SANDS LODGE at POPA FALLS

Operation of a tourism establishment on the northern banks of the Kavango River east of
Divundu bridge, within Bwabwata National Park (BNP), Kavango East Region

EKKEHARD KLINGELHOEFFER

(full name of Environmental Assessment Practitioner - EAP) understand and agree that the information I have furnished in this submission will be reviewed by the Office of the Environmental Commissioner (OEC). I accept that the Environmental Commissioner, will hold me accountable in terms of Section 43(1)(b) of the Environmental Management Act, Act No. 7 of 2007 for any inaccurate or misleading information knowingly provided in the following documentation.

Tick the box (es) applicable to your submission:

- Pro Forma Environmental Contract for Mining Claim(s)
- Environmental Questionnaire For Mining Scoping report
- Environmental Impact Assessment (EIA)
- Environmental Management Plan (EMP),
- Consent from Relevant Authority

I certify, and, acknowledge that the provision of such information will impede the lawful carrying out of the duties, responsibilities and functions of the Environmental Commissioner. I declare that the information submitted is my own work. All direct or indirect sources used are acknowledged as references.

Consultancy Name: ATLANTIC CONSULTING SERVICES CC

EAP Signature: *E. Klingelhoeffer (EAP)*

Date: 27 FEBRUARY 2027

NB- To be submitted jointly with Scoping Report, EIA, EMP documents to the Office of the Environmental Commissioner

Note: AI was neither used to write nor to generate this EMP report

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74



Animal and Ecosystem Health Consultant
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**Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for
WHITE SANDS LODGE, located on the northern banks of the Kavango River**

Document 9: Abbreviated CV of EAP Dr E Klingelhoefter – December 2025



Ekkehard Klingelhoefter

Domicile

Wasserfall Street No. 2
Swakopmund,
Erongo Region

Office at Plot No 18
Kubu and Kwena, Kaliembeza Village
Katima Mulilo, Zambezi Region

Contact details

Email: ekkehardwk@gmail.com

Cell-phone: 081 719 3939

Marital status Married to Marion (Homeopathic Practitioner); they have a daughter and a son.

Higher Education Qualifications achieved:

- BSc degree major in Botany and Zoology
- BSc (Hons) in Wildlife Management
- MSc in Terrestrial Ecology: Tongaland Elephant
- PhD in Fishery Management and Oceanography
- Diploma in Tertiary Education (focus on Androgocis and Gerongocis)
- Diploma in Oceanography: Open University, UP

Languages spoken

- a.** English (fluent); **b.** German (fluent); **c.** Afrikaans (fluent) ;
d. Numerous Nguni dialects (basic to fluent)

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Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for WHITE SANDS LODGE, located on the northern banks of the Kavango River

Positions held to date

- Student researcher: on human elephant conflict amongst the Tonga community (30 months), Kwa Zulu Natal, RSA
- Regional Conservation Ecologist (4 years), Mpumalanga, RSA
- Lecturer to future teachers (2 years) at Mgwenya Teachers College: Biology, RSA
- Lecturer to future wildlife conservationists (3 years) at NUST (Polytechnikon of Namibia)
- Principal scientist of the horse mackerel research unit: Swakopmund, Atlantic Ocean (7 years)
- Chief scientist of the oceanographer research unit: Swakopmund, Atlantic Ocean (6 years)
- Director & Deputy Director: Aquaculture & Inland Fisheries (8 years) for MFMR
- Regional Training Officer for: Angola, Namibia, South Africa: BCC (Benguela Current Commission - 1 year)
- Lecturer & HoD: Department of Wildlife Management and Tourism Studies -UNAM (10 years)
- Currently operating as a Freelance Environmental Consultant (EIA and EMPs)

Atlantic Consulting Services cc

Director of this CC and as a team of professionals offer the following services with focus on Wildlife, Fisheries (Aquaculture/Aquaponics), Tourism establishments (EMPs for the Compliance on waste management)) and student support.

- EIA/EMP with focus on aquaculture & aquaponics projects and lately waste management plans (EMPs) at tourism establishments along the banks of rivers and wetlands
- Guide for international students on educational tours in Namibia
- Part time lecturing and student support (research proposals, editing Hons, MSc and PhD thesis)
- Logistics for student internships, practical and field excursions
- Aquaculture license application
- Business plans relating to conservation and aquaculture
- Consultancies in other related fields disciplines

Other fields of expertise

- a. Acquired skills in project implementation and management e.g. GRN capital projects (Aquaculture Units) and co-ordinated the development of infrastructure for a Wildlife/Tourism Campus at Katima Mulilo.
- b. Feasibility studies e.g. aquaponics for Hans Seidel Foundation.
- c. EIA/EMP consultancies: focus on aquaculture e.g. Salmon Farming in the sea off Luederitz, EMP for waste management at Lodges.
- d. Capacity building to staff and students within the Department of Wildlife Management and Tourism Studies (DWMTS), at Katima Mulilo UNAM Campus.
- e. Experience in staff structure development for different Divisions/Directorates based on expected outcomes/deliverables.
- f. Pre-planning, implementation, monitoring and evaluation of donor agency projects within the Ministry of Fisheries and Marine Resources e.g. with GTZ/GIZ, JICA, VietNam, Cuba, Spain, Norway, Finland, Iceland and lately KfW (through UNAM).

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Reviewed & Updated ENVIRONMENTAL MANAGEMENT PLAN (EMP) for WHITE SANDS LODGE, located on the northern banks of the Kavango River

- g.** Gained experience in working with international / regional organizations such as GTZ/GIZ; KfW; NORAD; ICEDA; JICA; NNF; IWC, Tuna Commission, NAMPAB, Spanish Agency (SAIDC); Benguela Current Commission - BCC (Angola, and South Africa).
- h.** Represented Namibia at the:
 - International Whaling Commission in Grenada and Newfoundland
 - FAO in Rome, Italy on Fisheries related issues.
- i.** Ability to teach and mentor students – at Polytechnic (NUST) and UNAM pertaining to conservation, wildlife management, HWC, plant taxonomy, entomology, ornithology, ecology, coastal and inland fishery research – to name a few.
- j.** Instrumental in promoting and developing the aquaculture sector in Namibia; assist in drafting the Aquaculture Strategic Plan, Act and Regulations.
- k.** Curriculum development in conservation, wildlife management and aquaculture programs.
- l.** Develop the field Attachment (Internship) Training Manual for students of the Polytechnikon (1988) and revised/updated for the Department of Wildlife Management and Tourism Studies (2014 and 2023).
- m.** Conducted a feasibility study on the potential of aquaponics in the Zambezi Region as an alternative livelihood, for the Hans Seidel Foundation (Windhoek) in 2021.

Latest co-author Publication

Meyer, M., **Klingelhoefter, E.**, Naidoo, R., Wingate, V., and Börner, J...2021. Tourism opportunities drive woodland and wildlife conservation outcomes of community-based conservation in Namibia's Zambezi Region. *ECOLEC*, Vol. 180 (c). DOI: 10.1016/j.ecolecon.2020.1068638.

Currently in draft:

- i) Biannual bird counts in the Kasai Channel at Impalila Island, of the Zambezi Region.
- i) Vegetation mapping of Impalila Island, in the Zambezi Region.

Self-drive ambitions:

It is my ambition to contribute through new innovative approaches to:

- the betterment of the livelihoods of communities in rural areas
- lecture students and to ensure that they acquire the necessary skills to enter the job market or to be self-employed (entrepreneurship)
- to continue to promote and to support the aquaculture industry (mariculture and aquaponics)
- encourage lodges to implement best practices in waste management
- contribute to the sustainable management and utilization of the natural marine and terrestrial resources
- to offer student support and mentorship in research projects, internship and field excursions.

Current focus:

To assist lodge owners located at the Chobe, Zambezi, Kwando and Kavango Rivers with their Environmental Management Plans (EMPs) to ensure that Proponents comply with the Policy, Act and Regulation of MEFT and are issued with an ECC. Furthermore, to provide support to acquire water abstraction and discharge of effluent licenses from MAWLR Department of Water Affairs.

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