

**APP- 003699**

**OPERATIONS OF STRAND HOTEL SWAKOPMUND, ERONGO  
REGION**

**UPDATED ENVIRONMENTAL MANAGEMENT PLAN**



**Prepared by:**




**Prepared for:**



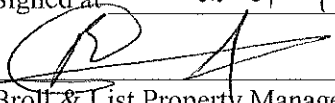
June 2022



<b>Project:</b>	<b>OPERATIONS OF STRAND HOTEL SWAKOPMUND, ERONGO REGION: UPDATED ENVIRONMENTAL MANAGEMENT PLAN</b>	
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<b>Report Approval</b>	 <b>André Faul</b> Environmental Assessment Practitioner	

I Brian Chingosho acting as a representative of Broll & List Property Management (Namibia) (Pty) Ltd, hereby confirm that the project description contained in this report is a true reflection of the information which the Proponent provided to Geo Pollution Technologies. All material information in the possession of the proponent that reasonably has or may have the potential of influencing any decision or the objectivity of this assessment is fairly represented in this report and the report is hereby approved.

Signed at Strand Hotel on the 25<sup>th</sup> day of June 2022.

  
Broll & List Property Management (Pty) Ltd 2007/030  
Business Registration



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## **LIST OF ABBREVIATIONS**

<b>AIDS</b>	Acquired Immune Deficiency Syndrome
<b>DEA</b>	Directorate of Environmental Affairs
<b>EA</b>	Environmental Assessment
<b>EIA</b>	Environmental Impact Assessment
<b>EMA</b>	Environmental Management Act No 7 of 2007
<b>EMP</b>	Environmental Management Plan
<b>EMS</b>	Environmental Management System
<b>GPT</b>	Geo Pollution Technologies
<b>HIV</b>	Human Immunodeficiency Virus
<b>HSE</b>	Health, Safety and Environment
<b>IUCN</b>	International Union for Conservation of Nature
<b>MEFT</b>	Ministry of Environment, Forestry and Tourism
<b>MSDS</b>	Material Safety Data Sheet
<b>NATH</b>	Namibian Academy for Tourism and Hospitality
<b>PPE</b>	Personal Protective Equipment
<b>SADC</b>	Southern African Development Community
<b>UNFCCD</b>	United Nations Framework Convention to Combat Desertification
<b>WHO</b>	World Health Organization





## **GLOSSARY OF TERMS**

**Alternatives** - A possible course of action, in place of another, that would meet the same purpose and need but which would avoid or minimize negative impacts or enhance project benefits. These can include alternative locations/sites, routes, layouts, processes, designs, schedules and/or inputs. The “no-go” alternative constitutes the ‘without project’ option and provides a benchmark against which to evaluate changes; development should result in net benefit to society and should avoid undesirable negative impacts.

**Assessment** - The process of collecting, organising, analysing, interpreting and communicating information relevant to decision making.

**Competent Authority** - means a body or person empowered under the local authorities act or Environmental Management Act to enforce the rule of law.

**Cumulative Impacts** - in relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

**Environment** - As defined in the Environmental Assessment Policy and Environmental Management Act - “land, water and air; all organic and inorganic matter and living organisms as well as biological diversity; the interacting natural systems that include components referred to in sub-paragraphs, the human environment insofar as it represents archaeological, aesthetic, cultural, historic, economic, palaeontological or social values”.

**Environmental Impact Assessment (EIA)** - process of assessment of the effects of a development on the environment.

**Environmental Management Plan (EMP)** - A working document on environmental and socio-economic mitigation measures, which must be implemented by several responsible parties during all the phases of the project.

**Environmental Management System (EMS)** - An Environment Management System, or EMS, is a comprehensive approach to managing environmental issues, integrating environment-oriented thinking into every aspect of business management. An EMS ensures environmental considerations are a priority, along with other concerns such as costs, product quality, investments, PR productivity and strategic planning. An EMS generally makes a positive impact on a company’s bottom line. It increases efficiency and focuses on customer needs and marketplace conditions, improving both the company’s financial and environmental performance. By using an EMS to convert environmental problems into commercial opportunities, companies usually become more competitive.

**Evaluation** – means the process of ascertaining the relative importance or significance of information, the light of people’s values, preference and judgements in order to make a decision.

**Hazard** - Anything that has the potential to cause damage to life, property and/or the environment. The hazard of a particular material or installation is constant; that is, it would present the same hazard wherever it was present.

**Interested and Affected Party (IAP)** - any person, group of persons or organisation interested in, or affected by an activity; and any organ of state that may have jurisdiction over any aspect of the activity.

**Mitigate** - The implementation of practical measures to reduce adverse impacts.

**Proponent (Applicant)** - Any person who has submitted or intends to submit an application for an authorisation, as legislated by the Environmental Management Act no. 7 of 2007, to undertake an activity or activities identified as a listed activity or listed activities; or in any other notice published by the Minister or Ministry of Environment & Tourism.

**Public** - Citizens who have diverse cultural, educational, political and socio-economic characteristics. The public is not a homogeneous and unified group of people with a set of agreed common interests and aims. There is no single public. There are a number of publics, some of whom

may emerge at any time during the process depending on their particular concerns and the issues involved.

**Scoping Process** - process of identifying: issues that will be relevant for consideration of the application; the potential environmental impacts of the proposed activity; and alternatives to the proposed activity that are feasible and reasonable.

**Significant Effect/Impact** - means an impact that by its magnitude, duration, intensity or probability of occurrence may have a notable effect on one or more aspects of the environment.

**Stakeholder Engagement** - The process of engagement between stakeholders (the proponent, authorities and IAPs) during the planning, assessment, implementation and/or management of proposals or activities. The level of stakeholder engagement varies depending on the nature of the proposal or activity as well as the level of commitment by stakeholders to the process. Stakeholder engagement can therefore be described by a spectrum or continuum of increasing levels of engagement in the decision-making process. The term is considered to be more appropriate than the term “public participation”.

**Stakeholders** - A sub-group of the public whose interests may be positively or negatively affected by a proposal or activity and/or who are concerned with a proposal or activity and its consequences. The term therefore includes the proponent, authorities (both the lead authority and other authorities) and all interested and affected parties (IAPs). The principle that environmental consultants and stakeholder engagement practitioners should be independent and unbiased excludes these groups from being considered stakeholders.

**Sustainable Development** - “Development that meets the needs of the current generation without compromising the ability of future generations to meet their own needs and aspirations” – the definition of the World Commission on Environment and Development (1987). “Improving the quality of human life while living within the carrying capacity of supporting ecosystems” – the definition given in a publication called “Caring for the Earth: A Strategy for Sustainable Living” by the International Union for Conservation of Nature (IUCN), the United Nations Environment Programme and the World Wide Fund for Nature (1991).

## 1 INTRODUCTION & BACKGROUND

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Broll & List Property Management (Namibia) (Pty) Ltd (the Proponent) requested Geo Pollution Technologies (Pty) Ltd to update their existing environmental management plan (EMP) for the Swakopmund Strand Hotel, Erongo Region. Construction of the hotel commenced in 2013 after an EIA and EMP were drafted (Ailonga et al., 2013) and an Environmental Clearance Certificate (ECC) for the development was obtained. The hotel is set on the Mole in Swakopmund, a well-known historic and iconic site.

In order to comply with Namibian legislation, and to adhere to all codes and standards applied in their operations, the Proponent wishes to apply for renewal of their existing environmental clearance certificate (ECC) for the hotel operations. In support of the ECC renewal application, the updated EMP will be submitted to the Ministry of Environment, Forestry and Tourism (MEFT). The EMP provides management options to ensure environmental impacts of the hotel are continually minimised. The environment being defined in the Environmental Assessment Policy and Environmental Management Act as “land, water and air; all organic and inorganic matter and living organisms as well as biological diversity; the interacting natural systems that include components referred to in sub-paragraphs, the human environment insofar as it represents archaeological, aesthetic, cultural, historic, economic, paleontological or social values”.

The EMP is a tool used to take pro-active action by addressing potential problems before they occur. This limits potential future corrective measures that may need to be implemented and allows for application of mitigation measures for unavoidable impacts. This document should continue to be used as an on-site reference document during all phases (planning, maintenance, operations and decommissioning) of the hotel. All monitoring and records kept should be included in a report to ensure compliance with the EMP. Parties responsible for transgression of the EMP should be held responsible for any rehabilitation that may need to be undertaken. A Health, Safety and Environment (HSE) Policy could be used in conjunction with the EMP. Operators and responsible personnel must be taught the contents of these documents. Relevant regulations and guidelines must be adhered to and monitored regularly as outlined in the EMP.

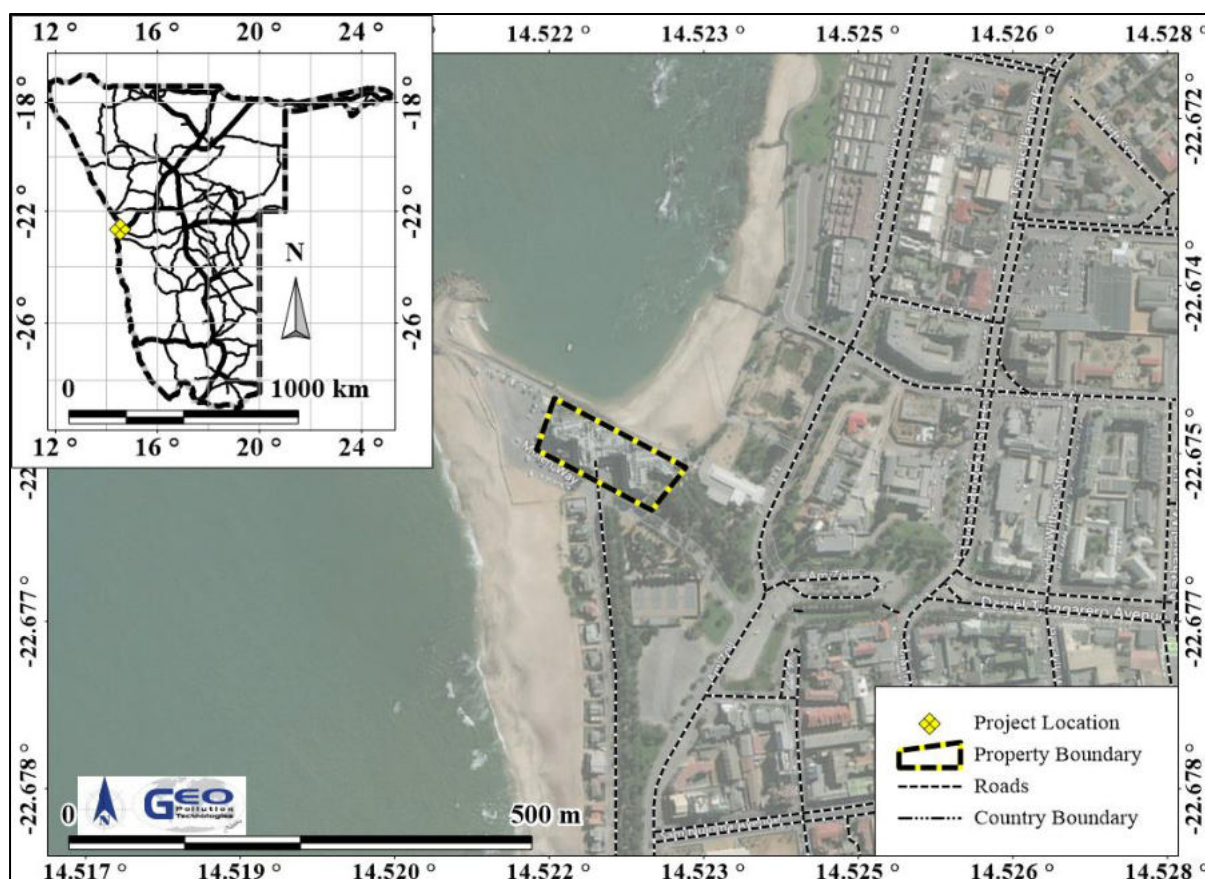
The updated EMP will be used to apply for renewal of the existing ECC in compliance with Namibia’s Environmental Management Act (Act No 7 of 2007).

## 2 SCOPE

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The scope of the updated EMP is to:

- ◆ Provide a brief overview of all components and related operations of the hotel.
- ◆ Summarise the legal and regulatory framework within which the hotel operates.
- ◆ Provide a brief description of identified impacts based on the initial EMP and provide a range of management actions which could mitigate the potential adverse impacts to acceptable levels.
- ◆ To provide sufficient information to the relevant competent authorities and the MEFT to make informed decisions regarding the development.



**Figure 2-1 Project location**

### 3 PROJECT DESCRIPTION

The upmarket hotel consist of three levels with 125 rooms and boast the following infrastructure:

- ◆ A spa with four treatment rooms;
- ◆ Conference and banqueting centre;
- ◆ Three restaurants which can seat 162 guest, 110 guests and 227 guests respectively;
- ◆ A lounge and cocktail bar;
- ◆ Small takeaway restaurant; and
- ◆ Curio shops and activity bar.

Water is supplied to the facility by the Municipality of Swakopmund as sourced from NamWater and electricity by Erongo Red as sourced from NamPower. All domestic waste generated is sorted for recycling purposes and collected by the Municipality of Swakopmund and / or an external contractor for disposal / recycling. Hazardous waste, if any, is disposed of at an appropriately classified waste disposal facility. Operational activities are typical of similar establishments in the hospitality industry. It involves, among others, tasks such as guest reception, ordering food, beverages and cleaning materials, preparation of food, cleaning and laundry services, general maintenance, and various office related activities. Operational activities are performed by a staff complement that includes skilled, semi-skilled and unskilled labour. The majority of the employees are required to have some training or experience in the hospitality industry.

### 4 ADMINISTRATIVE, LEGAL AND POLICY REQUIREMENTS

To protect the environment and achieve sustainable development, all projects, plans, programmes and policies deemed to have adverse impacts on the environment require an ECC, as per the Namibian legislation. The legislation and standards provided in Table 4-1 to Table 4-3 govern the environmental assessment process in Namibia and/or are relevant to the hotel.

**Table 4-1 Namibian law applicable to the project**

<b>Law</b>	<b>Key Aspects</b>
<b>The Namibian Constitution</b>	<ul style="list-style-type: none"> <li>◆ Promote the welfare of people</li> <li>◆ Incorporates a high level of environmental protection</li> <li>◆ Incorporates international agreements as part of Namibian law</li> </ul>
<b>Environmental Management Act</b> Act No. 7 of 2007, Government Notice No. 232 of 2007	<ul style="list-style-type: none"> <li>◆ Defines the environment</li> <li>◆ Promote sustainable management of the environment and the use of natural resources</li> <li>◆ Provide a process of assessment and control of activities with possible significant effects on the environment</li> </ul>
<b>Environmental Management Act Regulations</b> Government Notice No. 28-30 of 2012	<ul style="list-style-type: none"> <li>◆ Commencement of the Environmental Management Act</li> <li>◆ List activities that requires an environmental clearance certificate</li> <li>◆ Provide Environmental Impact Assessment Regulations</li> </ul>
<b>Namibia Tourism Board Act</b> Act no. 21 of 2000, Government Notice 261 of 200, 2000	<ul style="list-style-type: none"> <li>◆ provide for the registration and grading of accommodation establishments</li> <li>◆ provide for the declaration of any sector of the tourism industry as a regulated sector and for the registration of businesses falling within a regulated sector</li> <li>◆ Provides regulations and minimum requirements pertaining to <ul style="list-style-type: none"> <li>○ Levies payable</li> <li>○ Registrations of regulated businesses</li> <li>○ Registrations of accommodation establishments</li> </ul> </li> </ul>
<b>National Heritage Act of Namibia</b> Act No. 27 of 2004, Government Notice No. 287  General Notice 260 of 2006  General Notice 79 of 2008	<ul style="list-style-type: none"> <li>◆ Provides for the protection and conservation of places and objects of heritage significance and the registration of such places and objects</li> <li>◆ Defines as protected any remains of human habitation or occupation that are 50 or more years old found on or beneath the surface on land.</li> <li>◆ Provides for reporting of heritage finds, issuing of permits, and archaeological impact assessments.</li> <li>◆ Notice 260 of 2006 proclaims a portion of Swakopmund as a heritage conservation area.</li> <li>◆ Notice 79 of 2008 Prohibits the demolition of any building older than 50 years within a conservation area without written consent from the council.</li> </ul>
<b>Accommodation Establishments and Tourism Ordinance 20 of 1973</b>	<ul style="list-style-type: none"> <li>◆ Consolidate and amend the laws relating to accommodation establishments and tourism and to provide for the establishment of tourist recreation areas and incidental matters</li> <li>◆ Provides for regulations of tourism establishments</li> <li>◆ Numerous amendments and repeals</li> </ul>

<b>Law</b>	<b>Key Aspects</b>
<b>The Water Act</b> Act No. 54 of 1956	<ul style="list-style-type: none"> <li>◆ Remains in force until the new Water Resources Management Act comes into force</li> <li>◆ Defines the interests of the state in protecting water resources</li> <li>◆ Controls water abstraction and the disposal of effluent</li> <li>◆ Numerous amendments</li> </ul>
<b>Water Resources Management Act</b> Act No. 11 of 2013	<ul style="list-style-type: none"> <li>◆ Provide for management, protection, development, use and conservation of water resources</li> <li>◆ Prevention of water pollution and assignment of liability</li> <li>◆ Not in force yet</li> </ul>
<b>Local Authorities Act</b> Act No. 23 of 1992, Government Notice No. 116 of 1992	<ul style="list-style-type: none"> <li>◆ Define the powers, duties and functions of local authority councils</li> <li>◆ Regulates discharges into sewers</li> </ul>
<b>Namibian Ports Authority Act</b> (Act No. 2 of 1994).	<ul style="list-style-type: none"> <li>◆ Manages and exercise control over the operation of lighthouses and other navigational aids in Namibia and its territorial waters.</li> <li>◆ Ensures navigational lighthouses are not obstructed / interfered with in any way to allow for safe navigation of ships.</li> </ul>
<b>Public and Environmental Health Act</b> Act No. 1 of 2015, Government Notice No. 86 of 2015	<ul style="list-style-type: none"> <li>◆ Provides a framework for a structured more uniform public and environmental health system, and for incidental matters</li> <li>◆ Deals with Integrated Waste Management including waste collection disposal and recycling; waste generation and storage; and sanitation.</li> </ul>
<b>Labour Act</b> Act No 11 of 2007, Government Notice No. 236 of 2007	<ul style="list-style-type: none"> <li>◆ Provides for Labour Law and the protection and safety of employees</li> <li>◆ Labour Act, 1992: Regulations relating to the health and safety of employees at work (Government Notice No. 156 of 1997)</li> </ul>
<b>Atmospheric Pollution Prevention Ordinance</b> Ordinance No. 11 of 1976	<ul style="list-style-type: none"> <li>◆ Governs the control of noxious or offensive gases</li> <li>◆ Prohibits scheduled process without a registration certificate in a controlled area</li> <li>◆ Requires best practical means for preventing or reducing the escape into the atmosphere of noxious or offensive gases produced by the scheduled process</li> </ul>
<b>Hazardous Substances Ordinance</b> Ordinance No. 14 of 1974	<ul style="list-style-type: none"> <li>◆ Applies to the manufacture, sale, use, disposal and dumping of hazardous substances as well as their import and export</li> <li>◆ Aims to prevent hazardous substances from causing injury, ill-health or the death of human beings</li> </ul>
<b>Pollution Control and Waste Management Bill (draft document)</b>	<ul style="list-style-type: none"> <li>◆ Not in force yet</li> <li>◆ Provides for prevention and control of pollution and waste</li> <li>◆ Provides for procedures to be followed for licence applications</li> </ul>

**Table 4-2 Municipal by-laws, guidelines and regulations**

<b>Municipal By-laws, Guidelines or Regulations</b>	<b>Key Aspects</b>
<b>Regulations Relating to Sewerage and Drainage: Local Authorities Act No. 23 of 1992</b>	<ul style="list-style-type: none"> <li>Regulates the discharge of effluent into sewers and prohibits the introduction of certain wastes or products including steam into the sewers system</li> </ul>

**Table 4-3 Relevant multilateral environmental agreements for Namibia and the development**

<b>Agreement</b>	<b>Key Aspects</b>
<b>Charter of the Regional Tourism Organisation of Southern Africa (RETOSA), 1997</b>	<ul style="list-style-type: none"> <li>Development of tourism through effective marketing of the Region in collaboration with the public and private sector.</li> <li>To facilitate, encourage and assist in the development of legal and ethical tourism throughout the Southern African Region taking due consideration of the overall development of the people, the Region and the Region's natural and cultural resources.</li> </ul>
<b>Stockholm Declaration on the Human Environment, Stockholm 1972.</b>	<ul style="list-style-type: none"> <li>Recognizes the need for a common outlook and common principles to inspire and guide the people of the world in the preservation and enhancement of the human environment.</li> </ul>
<b>Protocol on the Development of Tourism in SADC, 1998</b>	<ul style="list-style-type: none"> <li>The Protocol sets out SADC's objective to build upon the region's potential as a tourist destination.</li> </ul>
<b>Statutes of the World Tourism Organization, 1970</b>	<ul style="list-style-type: none"> <li>Promotion and development of tourism with a view to contributing to economic development, international understanding, peace, prosperity, and universal respect for, and observance of, human rights and fundamental freedoms for all without distinction as to race, sex, language or religion.</li> </ul>
<b>United Nations Framework Convention on Climate Change (UNFCCC)</b>	<ul style="list-style-type: none"> <li>The Convention recognises that developing countries should be accorded appropriate assistance to enable them to fulfil the terms of the Convention.</li> </ul>
<b>Convention on Biological Diversity, Rio de Janeiro, 1992</b>	<ul style="list-style-type: none"> <li>Under article 14 of The Convention, EIAs must be conducted for projects that may negatively affect biological diversity.</li> </ul>

The project is listed as an activity requiring an environmental clearance certificate as per the following points from Section 6 of Government Notice No. 29 of 2012:

#### Tourism Development Activities

- 6. The construction of resorts, lodges, hotels or other tourism and hospitality facilities: The hotel was constructed and is currently in operation and maintained accordingly.

## 5 ENVIRONMENTAL CHARACTERISTICS

The following section provides a brief description of the environment of the Strand Hotel.

### 5.1 LOCALITY AND SURROUNDING LAND USE

The Strand Hotel is situated in a tourist hotspot of Swakopmund known as the Mole. It is surrounded by typical tourist attractions such as the beach, cafes, a museum, the lighthouse, gardens and historic buildings. Due to the heritage value of the area, various regulations and restriction are set by the local municipality regarding building design, protection of historically significant buildings, etc.

#### *Implications and Impacts*

The site is situated in an area earmarked for tourism activities. Operations are thus similar in nature to surrounding properties. Traffic to and from the site is the most significant impact resulting from operations. Municipal regulations related to the protection of the heritage and architecture of the area prevent or limit unapproved changes to the facility and thus impacts on the heritage and aesthetic value / character of the area.

### 5.2 CLIMATE

Swakopmund is centrally located on the Namibian coastline in the arid Namib Desert. The arid conditions are a result of dry descending air and upwelling of the cold Benguela Current.

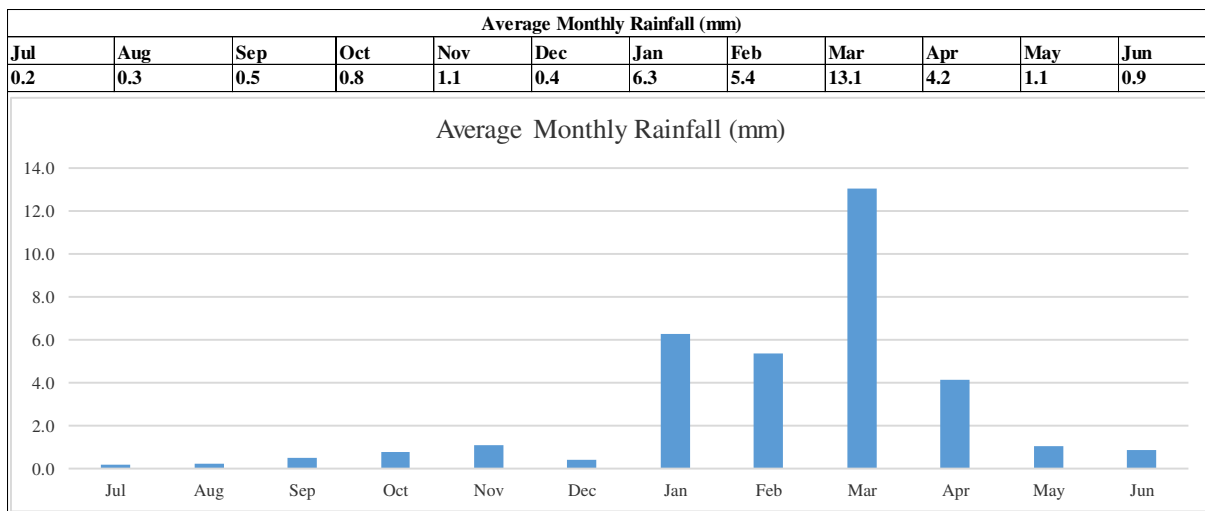
Namibia is situated within an anti-cyclone belt of the Southern Hemisphere. Winds generated from the high-pressure cell over the West Coast Ocean blow from a southerly direction when they reach the Namibian coastline. As the Namibian interior is warm (particularly in summer), localised low-pressure systems are created which draws the cold southerly winds towards the inland desert areas. These winds manifest themselves in the form of strong prevailing south-westerly winds. Winds near Swakopmund display two main trends; high velocity and frequency south to south-westerly winds in summer and high velocity, low frequency east to north-easterly winds during winter. During winter, the east winds generated over the hot Namib Desert have a strong effect on temperature resulting in temperature in the upper 30's degrees Celsius and tend to transport plenty of sand.

Thick fog or low stratus clouds are a regular occurrence in Swakopmund. This is due to the influence of the Benguela Current and forms the major source of water for the succulent and lichen flora in the Namib Desert. Variation in annual rainfall is very high and most communities within this environment are dependent on regular fog occurrences. Months with the highest likelihood of rainfall is January to April. Wind is predominantly south-westerly to south south-westerly except in winter months when regular, strong east to northeast winds occur.

**Table 5-1 Summary of climate data for Swakopmund (Atlas of Namibia)**

<b>Classification of climate</b>	Desert
<b>Precipitation</b>	0-50
<b>Variation in annual rainfall (%)</b>	> 100
<b>Average annual evaporation (mm/a)</b>	2,600-2,800
<b>Water deficit (mm/a)</b>	1,701-1,900
<b>Temperature °C</b>	<16





**Figure 5-1 Monthly average rainfall**

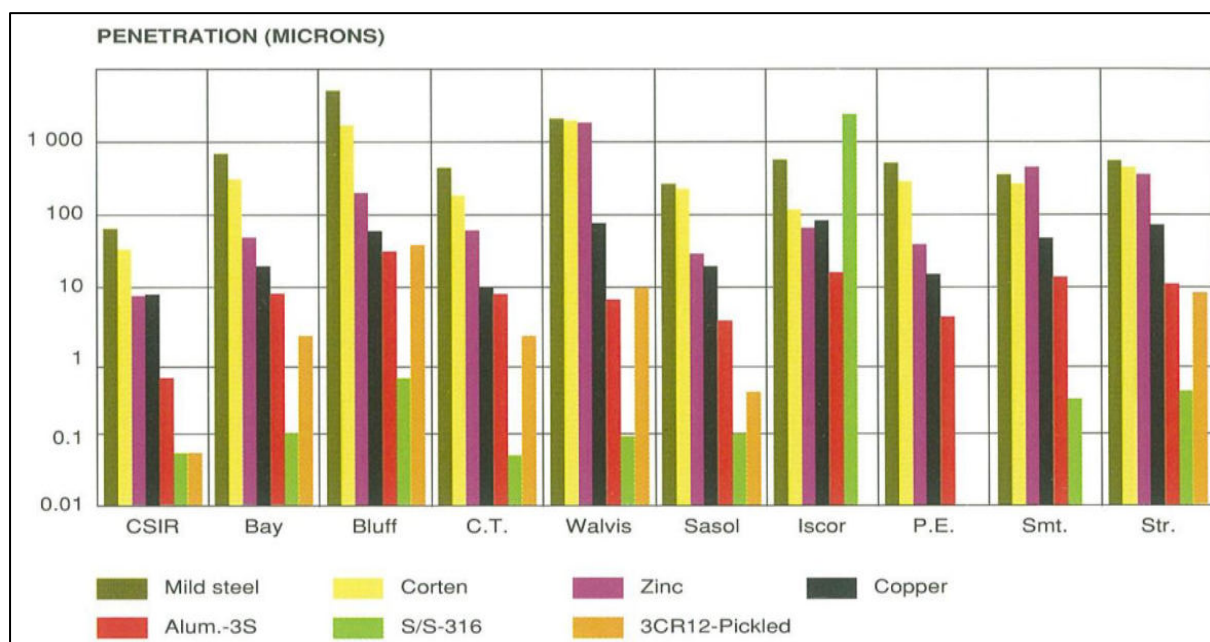
***Implications and Impacts***

Swakopmund receives very low rainfall and is historically not designed to cope with storm water runoff. Occasional thunderstorms do occur and can result in flooding, which can in turn damage infrastructure.

**5.3 CORROSIVE ENVIRONMENT**

Swakopmund is located in a corrosive environment, which may be attributed to the frequent salt-laden fog, periodic winds and abundance of aggressive salts (dominantly NaCl and sulphates) in the soil. The periodic release of hydrogen sulphide (H<sub>2</sub>S) from the ocean is expected to contribute to corrosion. See Figure 5-2 for corrosion comparison data of Walvis Bay with other centres. The corrosive environment of Swakopmund is expected to be closely related to that of Walvis Bay.

The combination of high moisture and salt content of the surface soil can lead to rapid deterioration of subsurface metal (e.g. pipelines) and concrete structures. Chemical weathering of concrete structures due to the abundant salts in the soil is a concern.



**Figure 5-2 Twenty year corrosion exposure results in southern African towns (Callaghan 1991)**

***Implications and Impacts***

Corrosion levels may be high and must be kept in mind when planning the maintenance of the establishment.

**5.4 TOPOGRAPHY AND DRAINAGE**

The landscape is classified as being in a flat western coastal plain composed of mobile dunes and gravel sandy plains, an area of dissection and erosional cutback. The site is not located within a river catchment and surface runoff would be towards the west and north to the Atlantic Ocean, situated next to the project area. The local landscape, and the site and its immediate surroundings, is generally flat with poorly developed drainage systems.

***Implications and Impacts***

During the operational phase, any pollutants that are not contained, and are transported via surface water flow, will be transported out of the site via the storm water drainage lines and potentially pollute the surrounding environment and ocean.

**5.5 GEOLOGY AND HYDROGEOLOGY**

The dominant surface soil cover in the area is petric Gypsisols. Local geology in the area consists of marble, schist, ortho-amphibolite, quartzite, dolerite sills and dykes of the Namibian Age – Karibib Formation of the Swakop Group. Surface geology at the site consists of coarse brown sand. Groundwater flow would be mainly through primary porosity in the topsoil cover and along fractures, faults and other geological structures (secondary porosity) present within the underlying hard rock formations.

Groundwater flow from the site can be expected in a westerly direction towards the Atlantic Ocean. No known production boreholes are located within a 5 km radius from the site.

***Implications and Impacts***

Groundwater is not utilised in the area. Pollution of the groundwater is however still prohibited. Shallow groundwater will lead to rapid lateral spreading of hydrocarbon products spilled or leaked during the maintenance phase. This may further have the potential to impact on underground utilities which may cause services interruptions to neighbouring properties such as the museum. The operational phase is not expected to negatively impact on any aspects related to geology and hydrogeology.

**5.6 PUBLIC WATER SUPPLY**

Water to Swakopmund town is supplied by NamWater and is sourced from the Omdel Dam (Omaruru Delta water scheme), situated in the Omaruru River about 30 km northeast of Henties Bay, on the C35 to Uis, as well as the Orano Desalination Plant. This area does not fall within a Water Control Area, however groundwater remains the property of the Government of Namibia.

***Implications and Impacts***

Being an existing establishment, it is not expected to have any additional impacts on public water supply but water saving should at all times be promoted.

**5.7 FAUNA AND FLORA**

Swakopmund lies in a desert vegetation zone sparsely populated by xerophytic dwarf -shrubs and grasses. Some of the main plant species of this area are *Brownanthus arenosus*, *Othonna cylindrical* and *Euphorbia gummifera*. Bird, reptile and scorpion diversity is relatively high and adapted to marine and desert ecosystems. No vegetation of note is present in the direct vicinity of the proposed site.

***Implications and Impacts***

The establishment operates within an already disturbed urban area. Thus no immediate threat to biodiversity in the area is expected, however, uncontrolled pollution can cause damage to any biodiversity surrounding the site. Lighting used at night may blind or disorientate birds like flamingos that fly at night which may lead to collisions with man-made structures. Due to the nature of the site, this is however unlikely. Smaller birds and seagulls may frequent the site to scavenge for food at the restaurants and can become a nuisance.

**5.8 DEMOGRAPHIC AND ECONOMIC CHARACTERISTICS**

According to the results of the 2011 Population and Housing Census (National Planning Commission, 2012) Swakopmund has 44,725 people. Economic activities relate mostly to tourism and businesses within the area and around the site. The town is known as a tourist and commercial area.

***Implications and Impacts***

The establishment will provide employment to people from the area. Some skills development and training also benefit employees during the operational phase.

**Table 5-2 Demographic characteristics of Swakopmund, the Erongo Region and nationally (Namibia Statistics Agency, 2011)**

	Swakopmund	Erongo Region	Namibia
<b>Population (Males)</b>	23,703	79,823	1,021,912
<b>Population (Females)</b>	21,022	70,986	1,091,165
<b>Population (Total)</b>	44,725	150,809	2,113,077
<b>Unemployment (15+ years)</b>	25.63%	22.6%	33.8%
<b>Literacy (15+ years)</b>	98.82%	96.7%	87.7%
<b>Education at secondary level (15+ years)</b>	56.14%	71.8%	51.2%
<b>Households considered poor</b>	N/A	5.1%	19.5%

**5.9 CULTURAL, HERITAGE AND ARCHAEOLOGICAL ASPECTS**

The site is situated near the historic CBD of Swakopmund and in a declared (heritage) conservation area, with various culturally important heritage and historic buildings within the vicinity.

***Implications and Impacts***

General operations of the hotel are not expected to impact on any cultural, heritage and archaeological aspects. Any future renovations or maintenance is required to adhere to the building regulations and guidelines set by the Swakopmund Municipality, specifically to preserve the heritage and architectural uniqueness of the area.

## **6 ENVIRONMENTAL MANAGEMENT PLAN**

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The purpose of this section is to list the most pertinent environmental impacts that are expected from the operational, maintenance and potential decommissioning activities of the hotel. The following general guidance for the EMP is based on the initial EIA and EMP of 2013 (Ailonga et al., 2013), and primary and secondary information obtained regarding the hotel and its current operations.

### **6.1 OBJECTIVES OF THE EMP**

The EMP provides management options to ensure impacts of the hotel is minimised. The objectives of the EMP are:

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

### **6.2 IMPLEMENTATION OF THE EMP**

Section 6.3 outline the management of the environmental elements that may be affected by the different activities. Impacts addressed and mitigation measures proposed are seen as minimum requirements which have to be elaborated on. Delegation of prevention and mitigation measures as well as reporting activities should be determined by the Proponent and included in the EMP. The EMP is a living document that must be prepared in detail, and regularly updated, by the Proponent as the project progress and evolve.

The EMP and ECC must be communicated to the hotel managers. A copy of the ECC and EMP should be kept on site. All monitoring results must be reported on as indicated. Reporting is important for any future renewals of the ECC and must be submitted to the MEFT. Renewal of ECC will require six monthly reports based on the monitoring prescribed in this EMP.

Various potential and definite impacts will emanate from the operations and decommissioning phases. The majority of these impacts can be mitigated or prevented. The prevention and mitigation measures are listed below.

### **6.3 MANAGEMENT OF IMPACTS: OPERATIONS AND MAINTENANCE**

The following section provide management measures for both the operational phase as well as maintenance activities related to the hotel.

### 6.3.1 Planning

During the phases of planning for operations, maintenance and decommissioning of the hotel, it is the responsibility of the Proponent to ensure they are and remain compliant with all legal requirements. The Proponent must also ensure that all required management measures are in place prior to and during all phases, to ensure potential impacts and risks are minimised. The following actions are recommended for the planning phase and should continue during various other phases of the project:

- ◆ Ensure that all necessary permits from the various ministries, local authorities and any other bodies that governs the operations and maintenance of the project are in place and remains valid. This includes registration with the Hospitality Association of Namibia (HAN).
- ◆ As part of a contractor management program, ensure that the relevant sections of the EMP, as applicable to their scope of work, are communicated to contractors and subcontractors.
- ◆ Employees to adhere to relevant sections of the EMP, as applicable to their scope of work and general operations.
- ◆ Make provisions to have a Health, Safety and Environmental Coordinator or similar to oversee implementation of the EMP and general environmental related compliance at the site.
- ◆ Have the following emergency plans, equipment and personnel on site where reasonable to deal with all potential emergencies:
  - Risk management / mitigation / EMP/ Emergency Response Plan and HSE Manuals;
  - Adequate protection and indemnity insurance cover for incidents;
  - Comply with the provisions of all relevant safety standards;
  - Procedures, equipment and materials required for emergencies.
- ◆ A fund or insurance to cover environmental incidents, if such an event ever occurs, must be maintained.
- ◆ Establish and / or maintain a reporting system to report on aspects of operations, maintenance and decommissioning as outlined in the EMP.
- ◆ Submit bi-annual reports to the MEFT to allow for environmental clearance certificate renewal after three years. This is a requirement by MEFT.
- ◆ Update the EMP and apply for an amendment application should any of the listed activities of the EMA be triggered.
- ◆ Appoint a specialist environmental consultant to update the EMP and apply for renewal of the environmental clearance certificate prior to expiry.

### **6.3.2 Skills, Technology and Development**

During various phases of the hotel, training is provided to a portion of the workforce to be able to conduct certain tasks according to the required standards. Skills are periodically transferred to an unskilled workforce for general tasks. Development of people and technology are key to economic development. During normal operations, employees will enhance their working expertise while some individuals may be identified for promotion and additional skills development and training.

**Desired Outcome:** To see an increase in skills of local Namibians, as well as development and technology advancements in the tourism industry and local community.

#### **Actions**

##### **Enhancement:**

- ◆ If the skills exist locally, contractors and employees must first be sourced from the region and then nationally.
- ◆ Employees to be informed about parameters and requirements for references upon employment.

##### **Responsible Body:**

- ◆ Proponent
- ◆ Contractors

##### **Data Sources and Monitoring:**

- ◆ Record should be kept of training provided.
- ◆ Ensure that all training is certified or managerial reference provided (proof provided to the employees) inclusive of training attendance, completion and implementation.
- ◆ Bi-annual summary report based on employee training.

### **6.3.3 Economic Resilience and Employment**

The change in land use lead to changes in the way revenue is generated and paid to the national treasury. Skilled and unskilled labour are required for the operations and maintenance associated with the hotel. A report released by the World Travel and Tourism Council (2018), prior to the Covid19 pandemic, estimated that Namibia will see a growth of 3.6% in travel and tourism's contribution to employment over the next 10 years. The expected growth is higher than estimations for Sub-Sahara Africa (2.3%). As a result of the ongoing Covid19 pandemic, Namibia has seen a significant reduction in tourism, however the tourism sector is beginning to slowly recover. Increased travel within Namibia, and specifically to Swakopmund, is therefore expected to increase the demand for accommodation and related services.

**Desired Outcome:** Contribution to national treasury and continued remuneration of temporary and permanent employees as per the Labour Act. Continued contributions to social security.

#### **Actions**

##### **Enhancement:**

- ◆ If the skills exist locally, contractors and employees must first be sourced from the town, then the region and then nationally.
- ◆ Develop and maintain a contractor management program, inclusive of compliance reviews of service level agreements etc.

##### **Responsible Body:**

- ◆ Proponent

##### **Data Sources and Monitoring:**

- ◆ Bi-annual summary report based on employee records and financial contributions to the various institutions such as social security, receiver of revenue etc.

#### **6.3.4 Demographic Profile and Community Health**

Greater economic prosperity as linked to the flourishing hotel operations may have led to a slight change in the demographic profile of the local community. This may have resulted in the in-migration and growth in informal settlements. Community health may be exposed to factors such as communicable disease like HIV/AIDS and alcoholism/drug abuse. An increase in people in the area may potentially increase the risk of criminal and socially deviant behaviour such as vandalism. However, such trends are considered unlikely.

**Desired Outcome:** To prevent the occurrence of social ills and prevent the spread of diseases such as HIV/AIDS.

#### **Actions:**

##### **Prevention:**

- ◆ Employ only local people from the town where possible, deviations from this practice should be justified appropriately.
- ◆ Ensure sanitation facilities and all related sanitation requirements are available and maintained at the hotel for all employees.
- ◆ Develop and implement a maintenance and inspection program at staff sanitation facilities at the hotel.
- ◆ Educational programmes for employees on various topics of social behaviour HIV/AIDs and general upliftment of employees' social status.
- ◆ Appointment of reputable contractors.

##### **Responsible Body:**

- ◆ Proponent

##### **Data Sources and Monitoring:**

- ◆ Facility inspection sheet for all areas which may present environmental health risks, kept on file.
- ◆ Bi-annual summary report based on educational programmes and training conducted.



### 6.3.5 Traffic

The operational phase has resulted in an increase traffic flow to the site which may increase congestion and increase the risk of incidents and accidents. Large vehicles possibly associated with maintenance or deliveries to the site may require sections of the road to be closed off. Traffic at the site is however well managed through the provision of a sufficient amount of parking spaces and road signage.

**Desired Outcome:** Minimum impact on traffic and no transport or traffic related incidents.

#### **Actions**

##### **Prevention:**

- ◆ Erect clear signage regarding parking and access and exit points at the establishment.

##### **Mitigation:**

- ◆ If any traffic impacts are expected, traffic management should be performed to prevent these.
- ◆ The placement of signs to warn and direct traffic will mitigate traffic impacts.
- ◆ Pedestrian crossing should be available and clearly marked.

##### **Responsible Body:**

- ◆ Proponent

##### **Data Sources and Monitoring:**

- ◆ Any complaints received regarding traffic issues should be recorded together with action taken to prevent impacts from repeating itself.
- ◆ A bi-annual report should be compiled of all incidents reported, complaints received, and action taken.

### **6.3.6 Health, Safety and Security**

Activities associated with operations and maintenance is reliant on human labour and therefore health and safety risks exist. Some health and safety risk exist to both staff and guest during the operation phase. Day to day care and maintenance activities by staff can for example result in minor injuries related to working with machinery, chemicals, working in the kitchen, etc. Furthermore, an increase in tourists to the area may result in increased criminal activities targeted at tourist.

**Desired Outcome:** To prevent injury, health impacts and theft.

#### **Actions**

##### **Prevention:**

- ◆ Implement and maintain an integrated health and safety management system, to act as a monitoring and mitigating tool, which includes emergency response plans, housekeeping rules, MSDS's and signage requirements (PPE, flammable etc.).
- ◆ Selected personnel should be trained in first aid and a first aid kit must be available on site. The contact details of all emergency services, including emergency evacuation services, must be readily available.
- ◆ Clearly label dangerous and restricted areas as well as dangerous equipment and products. This includes chemical storage.
- ◆ Equipment and goods that will be locked away on site must be placed in a way that does not encourage criminal activities (e.g. theft).
- ◆ Provide all employees with required and adequate personal protective equipment (PPE).
- ◆ All Health and Safety standards specified in the Labour Act should be complied with.
- ◆ Implementation of maintenance register for all equipment and hazardous substance storage areas.
- ◆ Ensure legal appointments, of appropriately qualified and trained personnel, are in place for all necessary maintenance and specialised operational activities.
- ◆ All industry specific health and safety procedures and regulations applicable to the kitchen and the preparation of food for guests should be in place and adhered to, this should include a food handler's medical survey programme.
- ◆ Implement and maintain a food safety program at all facilities where food is prepared and provided to staff and guests (including staff and guest allergies).
- ◆ Security personnel, procedures and measures must be in place to protect workers and clients. Restrict loiterers from entering the site.
- ◆ Reduce the amount of cash kept on site to reduce the risk of robberies, especially during cash in transit activities.

##### **Responsible Body:**

- ◆ Proponent
- ◆ Contractors

##### **Data Sources and Monitoring:**

- ◆ Any incidents must be recorded with action taken to prevent future occurrences.
- ◆ A bi-annual report should be compiled of all incidents reported. The report should contain dates when training were conducted and when safety equipment and structures were inspected and maintained.

### 6.3.7 Fire

Operational and maintenance activities may increase the risk of the occurrence of uncontrolled fires. The site is located in a developed area which may increase the difficulty of fighting fires. The establishment does not store any flammable substances in bulk. The risk of fires occurring is low and mostly related to activities such as gas burners etc. used in kitchens, guests smoking in rooms and electrical failure.

**Desired Outcome:** To prevent property damage, possible injury and impacts caused by uncontrolled fires.

#### **Actions:**

##### **Prevention:**

- ◆ Prepare a holistic fire protection and prevention plan. This plan must include evacuation plans and signage, an emergency response plan and a firefighting plan.
- ◆ Ensure an adequately functioning and regularly serviced fire detection and suppressant system is operational throughout the hotel.
- ◆ Have an electrical maintenance / service and inspection plan in place, this should include; regular inspections on high and low voltage reticulation systems; annual infrared scans on all main distribution boards and electrical equipment; annual Earth leakage tests, transformer management plan and legal appointments of responsible, qualified personnel.
- ◆ Develop and implement a maintenance program for all Liquid Petroleum Gas (LPG) installations on site.
- ◆ LPG gas cylinders should be stored in an enclosed, secure area and serviced regularly with fire extinguishers readily available.
- ◆ Ensure extraction canopies at cooking areas are regularly inspected and effectively maintained.
- ◆ Personnel training (safe operational procedures, firefighting, fire prevention and responsible housekeeping practices) should be implemented.
- ◆ Ensure all chemicals are stored according to material safety data sheet (MSDS) instructions and all spills or leaks are cleaned up immediately.
- ◆ Maintain firefighting equipment and good housekeeping.
- ◆ No-smoking signs should be placed in all rooms.
- ◆ The proponent should liaise with the local Fire Brigade to ensure that all fire requirements are met.

##### **Mitigation:**

- ◆ Implement the fire protection and prevention plan in the event of a fire.
- ◆ Quick response time by trained staff will limit the spread and impact of fire.

##### **Responsible Body:**

- ◆ Proponent
- ◆ Contractors

##### **Data Sources and Monitoring:**

- ◆ A register of all incidents must be maintained on a daily basis. This should include measures taken to ensure that such incidents do not repeat themselves.
- ◆ A bi-annual report should be compiled of all incidents reported. The report should contain dates when fire drills were conducted and when fire equipment was tested and training given.

### **6.3.8 Noise**

Since the hotel is a tourist establishment, noise are typically kept to a minimum not to be a disturbance to guests. However, during maintenance activities, some noise generating activities can exist that may lead to hearing loss in workers.

**Desired Outcome:** To prevent any nuisance and hearing loss due to noise generated.

#### **Actions**

##### **Prevention:**

- ◆ Follow World Health Organization (WHO) guidelines on maximum noise levels (Guidelines for Community Noise, 1999) to prevent hearing impairment.
- ◆ All machinery (e.g. compressors for cold rooms and air conditioners, etc.) must be regularly serviced to ensure minimal noise production.

##### **Mitigation:**

- ◆ Hearing protectors as standard PPE for workers in situations with elevated noise levels.

##### **Responsible Body:**

- ◆ Proponent
- ◆ Contractors

##### **Data Sources and Monitoring:**

- ◆ WHO Guidelines.
- ◆ Maintain a complaints register.
- ◆ Bi-annual reporting on complaints and actions taken to address complaints and prevent future occurrences.

### **6.3.9 Waste Production**

Various waste streams are produced during the operational and maintenance phases. Waste may include hazardous waste associated with hydrocarbon products and chemicals, and soil and water contaminated with such products. Domestic waste will be generated by the hotel and related operations. Waste presents a contamination risk and when not removed regularly may become a health and / or fire hazard.

**Desired Outcome:** To reduce the amount of waste produced, and prevent pollution and littering.

#### **Actions**

##### **Prevention:**

- ◆ Develop a waste management plan which should categorise different waste streams and handling of such waste. This should include waste reduction and recycling initiatives and regular inspection and maintenance of waste storage areas.
- ◆ Ensure adequate waste storage facilities are available.
- ◆ Ensure waste cannot be blown away by wind.
- ◆ Prevent scavenging (human and non-human) of waste.
- ◆ All regulation and by-laws relating to environmental health should be adhered to.

##### **Mitigation:**

- ◆ Waste should be disposed of regularly and at appropriately classified disposal facilities, this includes hazardous material (empty chemical containers, contaminated rugs, paper water and soil).
- ◆ See the material safety data sheets available from suppliers for disposal of contaminated products and empty containers.
- ◆ Liaise with the local authority regarding waste and handling of hazardous waste.

##### **Responsible Body:**

- ◆ Proponent
- ◆ Contractors

##### **Data Sources and Monitoring:**

- ◆ A register of hazardous waste disposal should be kept. This should include type of waste, volume as well as disposal method/facility.
- ◆ Any complaints received regarding waste should be recorded with notes on action taken.
- ◆ All information and reporting to be included in a bi-annual report.

### **6.3.10 Ecosystem and Biodiversity Impact**

The nature of the operational activities is such that the probability of creating a habitat for flora and fauna to establish is low. No significant impact on the biodiversity of the area is predicted as the site is currently void of natural fauna and flora. Impacts are therefore mostly related to pollution of the environment as well as potential impact of bright lights disorientating and blinding birds flying at night (e.g. Flamingos).

**Desired Outcome:** To avoid pollution of and impacts on the ecological environment.

#### **Actions.**

##### **Mitigation:**

- ◆ Mitigation measures related to waste handling and the prevention of groundwater, surface water and soil contamination should limit ecosystem and biodiversity impacts.
- ◆ Avoid scavenging of waste by fauna.
- ◆ Direct all outside lights down to working surfaces and use reduced brightness lighting or auto dimming lights at night where safe to do so.
- ◆ The establishment of habitats and nesting sites at the establishment should be avoided where possible.

##### **Responsible Body:**

- ◆ Contractor
- ◆ Proponent

##### **Data Sources and Monitoring:**

- ◆ All information and reporting to be included in a bi-annual report.

### **6.3.11 Groundwater, Surface Water and Soil Contamination**

The risk of contamination of the environment is low and if it occur will also be of limited magnitude. Sources of contamination can be spills and leaks from operational or maintenance vehicles, chemicals used during maintenance such as paints and solvents, and foodstuffs not properly disposed (e.g. cooking oil). Shallow groundwater may lead to rapid dispersion of pollutants, also to the ocean, and may potentially negatively impact surrounding underground utilities.

**Desired Outcome:** To prevent the contamination of water and soil.

#### **Actions**

##### **Prevention:**

- ◆ Appointment of reputable contractors for general maintenance activities.
- ◆ Preventative and mitigation measures related to handling of waste during operational activities will reduce the risk of contamination of the environment.

##### **Mitigation:**

- ◆ All spills or uncontained waste must be cleaned up immediately.

##### **Responsible Body:**

- ◆ Proponent
- ◆ Contractors

##### **Data Sources and Monitoring:**

- ◆ A bi-annual report should be compiled of any complaints received and action taken to address such complaints.

### **6.3.12 Visual Impact**

This impact is not only associated with the aesthetics of the site, but also the structural integrity. The hotel was developed in 2013 and designed to form part of the character of Swakopmund. The site should be kept clean, tidy and maintained to ensure it remains aesthetically pleasing and does not add the urban decay.

**Desired Outcome:** To minimise aesthetic impacts associated with the hotel.

#### **Actions**

##### **Prevention:**

- ◆ Regular waste disposal, good housekeeping and routine maintenance on infrastructure will ensure that the longevity of structures are maximised and a low visual impact is maintained.

##### **Responsible Body:**

- ◆ Proponent
- ◆ Contractors

##### **Data Sources and Monitoring:**

- ◆ A maintenance record should be kept.
- ◆ A report should be compiled of all complaints received and actions taken.



### **6.3.13 Impacts on Cultural, Archaeological and Heritage Aspects and Historic Buildings**

Operations are not expected to cause any damage to buildings or objects with historic, heritage or cultural value. However, maintenance activities, specifically where such activities cause vibrations, may result in damage. The development is further situated in an area declared as a heritage conservation area and buildings that are not maintained may negatively impact on the aesthetic character of the area.

**Desired Outcome:** No impact on historic / heritage buildings and archaeological / culturally important sites.

#### **Actions**

##### **Prevention:**

- ◆ If archaeological / culturally important sites or any other archaeologically important artefact is found during maintenance activities any work in that area must be halted and the relevant authorities must be informed.
- ◆ The Swakopmund Municipality's aesthetical committee and the NHCN must be consulted for any activities that may potentially have a negative impact on any buildings or objects with culturally, historic or archaeological significance.
- ◆ Where possible, vibrations as a result of maintenance activities should be kept to a minimum. If maintenance activities is expected to result in high levels of ground-borne vibration, with possible building damage, a zone of influence should be determined, extent of possible impacts assessed and mitigation prescribed.

##### **Mitigation:**

- ◆ Emergency procedures for corrective action available on file.

##### **Responsible Body:**

- ◆ Proponent
- ◆ Contractors

##### **Data Sources and Monitoring:**

- ◆ A bi-annual report should be compiled of all incidents that occurred and corrective action taken.

#### **6.3.14 Cumulative Impact**

Possible cumulative impacts associated with the operational phase and any maintenance activities are mainly related to an increase of people in the area (tourist, visitors and employees). This will have a positive cumulative impact the economic activities in the area. It may also result in increased noise, traffic and possible crime as a result of criminals targeting tourists.

**Desired Outcome:** To minimise all cumulative impacts associated with the hotel.

#### **Actions**

##### **Mitigation:**

- ◆ Addressing each of the individual impacts as discussed and recommended in the EMP would reduce the cumulative impact.
- ◆ Reviewing biannual and annual reports for any new or re-occurring impacts or problems would aid in identifying cumulative impacts and help in planning if the existing mitigations are insufficient.

##### **Responsible Body:**

- ◆ Proponent

##### **Data Sources and Monitoring:**

- ◆ Bi-annual summary report based on all other impacts must be created to give an overall assessment of the impact of the operational phase.

#### **6.4 DECOMMISSIONING AND REHABILITATION**

Decommissioning is not foreseen during the validity of the ECC. Should decommissioning occur at any stage, rehabilitation of the area may be required. Decommissioning will entail the complete removal of all infrastructure including buildings and underground infrastructure, if any, not forming part of post decommissioning land use. Any pollution present on the site must be remediated. The impacts associated with this phase include noise and waste production as structures are dismantled. Noise must be kept within WHO standards and waste should be contained and disposed of at an appropriately classified and approved waste facility and not dumped in the surrounding areas. Should operations be decommissioned with no employment or remuneration plan for the employees, a significant social and economic impact will be suffered by the local community. The EMP for the hotel will have to be reviewed and updated prior to decommissioning to cater for changes made to the site and implement guidelines and mitigation measures related to social and environmental aspects.

#### **6.5 ENVIRONMENTAL MANAGEMENT SYSTEM**

The Proponent could implement an Environmental Management System (EMS) for their operations. An EMS is an internationally recognized and certified management system that will ensure ongoing incorporation of environmental constraints. At the heart of an EMS is the concept of continual improvement of environmental performance with resulting increases in operational efficiency, financial savings and reduction in environmental, health and safety risks. An effective EMS would need to include the following elements:

- ◆ A stated environmental policy which sets the desired level of environmental performance;
- ◆ An environmental legal register;
- ◆ An institutional structure which sets out the responsibility, authority, lines of communication and resources needed to implement the EMS;
- ◆ Identification of environmental, safety and health training needs;
- ◆ An environmental program(s) stipulating environmental objectives and targets to be met, and work instructions and controls to be applied in order to achieve compliance with the environmental policy; and
- ◆ Periodic (internal and external) audits and reviews of environmental performance and the effectiveness of the EMS.
- ◆ The EMP.

## **7 CONCLUSION**

Operations of Strand Hotel Swakopmund has a positive impact on the tourism sector operational in the area and Namibia. In addition to the provision of accommodation and tourism related activities, the establishment contribute locally to employment, skills transfer and training, which in turn develops the local workforce during operations of the various aspects of the establishment..

Negative impacts associated with the operations and maintenance of the facility can successfully be mitigated. Implementing a safety, health, environment and quality (SHEQ) policy will contribute to effective management procedures to prevent and mitigate impacts. All regulations relating to tourism and health and safety legislation should be implemented. Noise pollution should at all times meet the prescribed WHO requirements to prevent hearing loss and not to cause a nuisance. Fire prevention should be adequate, and health and safety regulations should be adhered to in accordance with the regulations pertaining to relevant laws and internationally accepted standards of operation. Any waste produced must be removed from site and disposed of at an appropriate facility or re-used or recycled where possible. Hazardous waste must be disposed of at an approved hazardous waste disposal site.

The updated EMP should continue to be used as an on-site reference document for the operations of the hotel. Parties responsible for transgressing of the EMP should be held responsible for any rehabilitation that may need to be undertaken. The Proponent could use an in-house Environment Management System in conjunction with the environmental management plan. All operational personnel must be taught the contents of these documents.

## **8 REFERENCES**

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Ailonga C, Shippiki M, Mukuve Z, Ndjaula H. 2013. Proposed New Kempinski Strand Hotel Development at Swakopmund, Environmental Impact Assessment Report.

## **Appendix A: Environmental Clearance Certificate**





## REPUBLIC OF NAMIBIA

### MINISTRY OF ENVIRONMENT AND TOURISM

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#### OFFICE OF THE ENVIRONMENTAL COMMISSIONER

The Managing Director  
 Broll & List Property Management (Pty) Ltd  
 P.O. Box 2309  
 Windhoek  
 Namibia

Dear Sir/ Madam


**SUBJECT: ENVIRONMENTAL CLEARANCE FOR THE PROPOSED AMENDMENT TO THE ENVIRONMENTAL ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN FOR THE PROPOSED STRAND HOTEL WITHIN THE SWAKOPMUND MOLE, SWAKOPMUND DISTRICT, ERONGO REGION**

The updated Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) submitted is sufficient as it made an adequate provision of the environmental management concerning the proposed activities. From this perspective regular environmental monitoring and evaluations on environmental performance should be conducted. Targets for improvements should be established and monitored throughout this process.

In view of the fact that your project is located in an environmentally sensitive area, this Ministry reserves the right to attach further legislative and regulatory conditions during the operational phase of the project. From this perspective, I issue this clearance with the following conditions: All key stakeholders, particularly the regional authority, must be properly consulted and written consent obtained prior to any development activities. Moreover, all developmental activities concerning this project must be supervised and approved by the Municipality of Swakopmund.

On the basis of the above, this letter serves as an environmental clearance for the project to commence. However, this clearance letter does not in anyway hold the Ministry of Environment and Tourism accountable of any wrong doing, for insufficient information, nor any adverse effects that may arise from this project activity. Instead, full accountability rests with the proponent and his/ her consultants.

Yours sincerely,

  
 Teofilus Nghitila  
 ENVIRONMENTAL COMMISSIONER

*All official correspondence must be addressed to the Permanent Secretary*





## **Appendix B: Consultants' Curriculum Vitae**



**ENVIRONMENTAL SCIENTIST****André Faul**

André entered the environmental assessment profession at the beginning of 2013 and since then has worked on more than 160 environmental impact assessments including assessments of the petroleum industry, harbour expansions, irrigation schemes, township establishment and power generation and transmission. André's post graduate studies focussed on zoological and ecological sciences and he holds a M.Sc. in Conservation Ecology and a Ph.D. in Medical Bioscience. His expertise is in ecotoxicological related studies focussing specifically on endocrine disrupting chemicals. His Ph.D. thesis title was The Assessment of Namibian Water Resources for Endocrine Disruptors. Before joining the environmental assessment profession he worked for 12 years in the Environmental Section of the Department of Biological Sciences at the University of Namibia, first as laboratory technician and then as lecturer in biological and ecological sciences.

**CURRICULUM VITAE ANDRÉ FAUL**

Name of Firm	:	Geo Pollution Technologies (Pty) Ltd.
Name of Staff	:	ANDRÉ FAUL
Profession	:	Environmental Scientist
Years' Experience	:	21
Nationality	:	Namibian
Position	:	Environmental Scientist
Specialisation	:	Environmental Toxicology
Languages	:	Afrikaans – speaking, reading, writing – excellent English – speaking, reading, writing – excellent

**EDUCATION AND PROFESSIONAL STATUS:**

B.Sc. Zoology	:	University of Stellenbosch, 1999
B.Sc. (Hons.) Zoology	:	University of Stellenbosch, 2000
M.Sc. (Conservation Ecology)	:	University of Stellenbosch, 2005
Ph.D. (Medical Bioscience)	:	University of the Western Cape, 2018

First Aid Class A	EMTSS, 2017
Basic Fire Fighting	EMTSS, 2017

**PROFESSIONAL SOCIETY AFFILIATION:**

Environmental Assessment Professionals of Namibia (Practitioner)

**AREAS OF EXPERTISE:**

Knowledge and expertise in:

- ◆ Water Sampling, Extractions and Analysis
- ◆ Biomonitoring and Bioassays
- ◆ Biodiversity Assessment
- ◆ Toxicology
- ◆ Restoration Ecology

**EMPLOYMENT:**

2013-Date	:	Geo Pollution Technologies – Environmental Scientist
2005-2012	:	Lecturer, University of Namibia
2001-2004	:	Laboratory Technician, University of Namibia

**PUBLICATIONS:**

Publications:	5
Contract Reports	+160
Research Reports & Manuals:	5
Conference Presentations:	1

**ENVIRONMENTAL GEOLOGIST****Wikus Coetzer**

Wikus has 6 years' experience in environmental science related fields with 4 years' experience in conducting environmental impact assessments and preparation of environmental management plans. He holds an honours degree in Environmental Sciences – Environmental Geology from the Northwest-University Potchefstroom (NWU) South Africa. He first completed a B.Sc. degree in Geology and Botany in the required time also from the Northwest University Potchefstroom, South Africa. His honours project focused on the rehabilitation and phytoremediation of various tailings types and soils.

He has working experience as an environmental monitor / assisting environmental officer at Petra Diamonds, Cullinan Diamond Mine (CDM) where he gained a proper understanding of environmental monitoring responsibilities as well as legislations, regulations and the implementation of EMS/ISO14001. He started working at Geo Pollution Technologies in 2017, and regularly conducts/assists and report on environmental impact assessments, environmental management plans and pollution surveys.

**CURRICULUM VITAE WIKUS COETZER**

Name of Firm	:	Geo Pollution Technologies (Pty) Ltd.
Name of Staff	:	WIKUS COETZER
Profession	:	Environmental Geologist
Nationality	:	South African
Position	:	Environmental Geologist
Specialisation	:	Environmental Geology/ Geochemistry
Languages	:	Afrikaans – speaking, reading, writing English – speaking, reading, writing

**EDUCATION AND PROFESSIONAL STATUS:**

B.Sc. Environmental and Biological Sciences – Geology & Botany	:	NWU Potchefstroom 2013
B.Sc. (Hons.) Environmental Sciences – Environmental Geology	:	NWU Potchefstroom 2014

First Aid Class A	EMTSS, 2017
Basic Fire Fighting	EMTSS, 2017

**AREAS OF EXPERTISE:**

Knowledge and expertise in:

- ◆ Phytoremediation
- ◆ Environmental Geology / Geochemistry
- ◆ Environmental Monitoring
- ◆ Environmental Compliance
- ◆ Environmental Impact Assessments
- ◆ Environmental Management Plans

**EMPLOYMENT:**

2017 - Date:	Geo Pollution Technologies
2015 - 2016:	Petra Diamonds CDM – Environmental monitor / Assisting environmental officer
2015:	Petra Diamonds CDM – Graduate program: Environmental Officer
2014:	NWU Potchefstroom department of Geo and Spatial Sciences – Research assistant

**PUBLICATIONS:**

Contract Reports: +60