

# ENVIRONMENTAL MANAGEMENT PLAN

FOR THE PROPOSED MINING ACTIVITIES MINING CLAIMS  
72972, 72973, 72974, 72975, 72976, 72977,  
72978, 72979, 72980 and 72981

## Erongo Region



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## 1. INTRODUCTION

Earth Environmental Services CC (EES) JV Alliance Environmental Consultancy CC (AEC) (herein referred to as the consultant) has been appointed by Mr. Karel. A Esterhuizen Snr (herein referred to as the proponent) to act on their behalf in obtaining an Environmental Clearance Certificate (ECC) for the proposed mining activities on 10 mining claims. The project area is located approximately 20km southeast of Swakopmund in the Erongo Region, Figure 1.

### 1.1. Project Activities

The general mineral exploration and mining activities are summarized as follows:

- i. Exploration activities include a desktop review of existing data as well as all past research. This is conducted in the general area to see if there are any prospective targets. This is done by purchasing high-resolution data from the Government and interpreting it as part of the first stage of exploration.
- ii. Regional reconnaissance assessment, which includes field-based activities such as regional mapping and sampling in order to identify and validate prospective targeted areas identified during stage 1. This step is only carried out if the step1 has identified some possible targets that need to be explored further.
- iii. Initial field-based activities such as widely distributed geological mapping, sampling, surveying, and maybe widely spaced trenching and drilling to verify the feasibility of any identified local target based on the regional data acquired in step 2 above. The degree or depth of exploration carried out at this stage is contingent on the discovery of viable/prospective mineral resources. Alternatively, if the specified target(s) proves to be non-variable, the license is revoked.

To assess the viability of the local targets, detailed local field-based operations such as localized site-specific geology mapping, trenching, bulk sample, surveying, and detailed drilling maybe carried out. If the detailed exploration activities yield positive results, the exploration data will be compiled into a pre-feasibility report, and if the prefeasibility results are positive, a detailed feasibility study will be conducted on the identified site-specific area, which will include detailed site-specific drilling, bulk sampling, and laboratory testing/test

mining. If economic gypsum is discovered within the MCs area, the proponent will implement gypsum mining operations.

The following is a summary of the envisaged multi-phased project development process that will be implemented if the proposed exploration is successful:

- ❖ Feasibility, planning, and permitting
- ❖ Preconstruction and site clearing for Wirtgen continuous surface (2 meters depth) mining, supporting infrastructure, storage, access, and energy and water supply.
- ❖ Construction of the proposed mine and supporting infrastructure
- ❖ Mine operation, processing, stockpiling, transportation
- ❖ Decommissioning, final rehabilitation, closure, and aftercare.

The mining method that will be employed at this site is a tried and tested method (with some amendment) in use at other existing mines in the vicinity and consists of the following:

1. Bulldozer and self-elevating scrapers are used to remove approximately 50cm topsoil.
2. The topsoil will be stockpiled (normally on the high side of the cleared area) in berms not exceeding 2m in height. The soil should not be stockpiled for an extended period of time as it may lead to large areas remaining exposed for extensive periods as well as the potential for topsoil to become "inert" (i.e., loss of seedbank and nutrient leaching). Therefore, Topsoil must be transported to previously mined out area as soon as possible and use in rehabilitation of that mined out area.
3. The actual mining of the Gypsum will be conducted using the Wirtgen continuous surface milling miner. The machine operates by cutting gypsum strips of 1.9m wide to a cutting depth of 2.0m.
4. The strips are usually between 200m and 400m long and mined in blocks 19m wide (i.e. 10 passes of the Wirtgen).
5. The Wirtgen cuts and crushes the Gypsum to a desired size, usually 20mm (or less).
6. The Wirtgen leaves the Gypsum material in windrows along each cut.

7. The windrows material is collected by self-elevating scrapers and taken to central stockpile, loaded on trucks and dispatched to market.

It is important to note that, no electricity is required, and no water is used in this process.

However, some equipment that may be used on the site will require diesel fuel for operation, this includes the following:

- Bulldozer
- Self-elevating scrapers
- Wirtgen Miner
- Wheel loaders
- Transport / dispatch vehicles

A small workshop area may be erected at the site to service the machinery regularly. The workshop will be constructed in a such a way that oil spills and other hazardous hydrocarbons will not percolate into the soil.

All extracted material will be mined and sold local. The mining of gypsum produces no to minimal waste. Production rate has been estimated at an initial +/- 150 000 tons per annum. The reserve will be measured based on prospecting results. The reserves will be quantified by a geologist and mostly only the areas of high grade will be mined. The total surface area of interest measures approximately 337.9384 hectares.

The expected market for sale of their product is in cement industries/factories where Gypsum sales directly to cement manufacturing companies as well as construction materials manufactures (Ceiling boards, etc.) and others.

### **ACCESS AND TRANSPORT**

The location will be accessible through the C34, D1984, and C28 routes which are already existing roads, there will be no creation of tracks. Prior to any site visit, authorization from the parks department will be acquired.

### **RESOURCES (WATER AND ELECTRICITY)**

No electricity is required. No water is used in the process.

**ACCOMMODATION AND SUPPORTING INFRASTRUCTURE**

- The mining team is envisioned to consist of 5-10 workers which will be transported daily on site.
- Two portable toilets will be installed onsite and regularly serviced.
- Excavator, loader, screening plant, 1x bakkie will be used for day-to-day activities.
- Waste will be collected and deposited at the Swakopmund municipal dumpsite.
- Hydrocarbon tanks will be stored on-site i.e., petrol 100litres and diesel 1000Litres.
- All hydrocarbon tanks will be appropriately stored and banded to hold 110% of the capacity of the tanks and all relevant permits should be applied for by the proponent as required (MME).
- The site has will have containerized offices used for storage

**1.2. Purpose of the document**

Earth Environmental Services (EES) JV Alliance Environmental Consultancy CC (AEC) has prepared this document as part of the Environmental Scoping and Impact Assessment for Proposed Exploration which was conducted in terms of the Environmental Management Act, 2007 (Act No 7 of 2007). This Environmental Management Plan is a live document that has been prepared based on the environmental effects identified in Environmental Scoping and Impact Assessment and should be read in conjunction with the Environmental Scoping and Impact Assessment Report.

The aim of this document is to provide management measures to address the environmental effects that have been identified in the Environmental Scoping and Impact Assessment report and to give possible mitigation measures/recommendations to address these effects. It is essential for personnel involved to fully be aware of the possible environmental issues and the means to avoid or minimize the potential impacts of activities on site.

Furthermore, the proponent fully understands the legal and policy requirements as a holder and operator of the facility. Impacts identified in the EIA form the basis of a set of environmental specifications that will be implemented on-site. These environmental specifications form the basis for an agreement between the company and the Ministry of

Environment, Forestry, and Tourism (MEFT) and these specifications become binding on the operational company.

### 1.3. Summary of the receiving environment

The EPL 8776 and associated Mining Claims lies within the Dorob National Park as gazetted under the Nature Conservation Ordinance No.4 of 1975 on 1 December 2010. The park neighbors up with Namib-Naukluft National Park and Skeleton Coast National Park. This park has a spectacular coastal dune belt, vast gravel plains, Namibia's richest coastal area for birds, rich botanical diversity, and major ephemeral river systems and their river mouths.

Erongo region has a subtropical dry arid climate, which annually has temperatures varying from 14°C to 21°C and barely above 25°C and below 13 °C. The two main coastal towns of the Erongo Region - Swakopmund and Walvis Bay, are centrally located on the Namibian coastline in the arid Namib Desert. These arid conditions are as a result of dry descending air and the upwelling of the cold Benguela Current. The central Namib is located within a summer rainfall zone, where most rainfall (0 – 50 mm/a) is variable and localized and can be expected between the months of January through to April. The location has an elevation between 110 – 150 meters above sea level. According to IEM (2022), the area has a prevailing easterly wind, average wind speed is approximately 1.7 meters per second (mps), with 21.3% calm days.

The site falls within the desert biome, which is characterized by central and southern desert vegetation type. Vegetation that occurs simultaneously on the coastal saline adapt to halophytic conditions such as semi-deserts, the Inland Foggy Zone which includes the project area, contains shrub communities (*Arthaerua leubnitiziae*) and lichen fields (*Caloplaca elegantissima-Xanthoparmelia walteri*), plants like Fensteralgen are more common under transparent stones such as quartz which also has a distinctive role in the fixation of minerals and soil formation. In general, the plant diversity of the project area varies between 50 – 99 (Mendelsohn et al., 2002).

The Dorob National Park is home to the Damara tern (*Sternula balaenarum*) a breeding seabird which is endemic to Namibia hence considered a flagship species of the coastal area and this coastal ecosystem serves as its breeding grounds. During the site visit no animals



were seen on the project area, however vertebrate animals are more common in spaces with such climatic conditions and sand texture. A possibility of unseen animals could be that most are in hibernation. Desert conditions are suitable habitats of some reptiles (geckos and snakes) and insects (beetles), the project area however has low richness in mammal species.

According to Christelis et al, 2011 the Swakopmund area is known to be underlined by rocks of the Damara Sequence with deposits of Cenozoic superficial which is comprised by thin colluvial soils, fluvial-marine and alluvium deposits overlie the bedrock at varying depths. The project area is covered by the Damara Granite Intrusions and the Kalahari groups with dominant rock types of granite, sand, and calcrete **Error! Reference source not found..** Areas in the coast are highly linked with corrosion, the corrosive environment can be imputed to fog moisture, high humidity, chlorides, sulphates, and plenitude airborne salts. Swakopmund areas have high valuable construction materials especially in the Swakop riverbed this sand is used for manufacturing concrete bricks as well as in concrete.

Figures 2 to 5 provides some baseline maps of the project area.

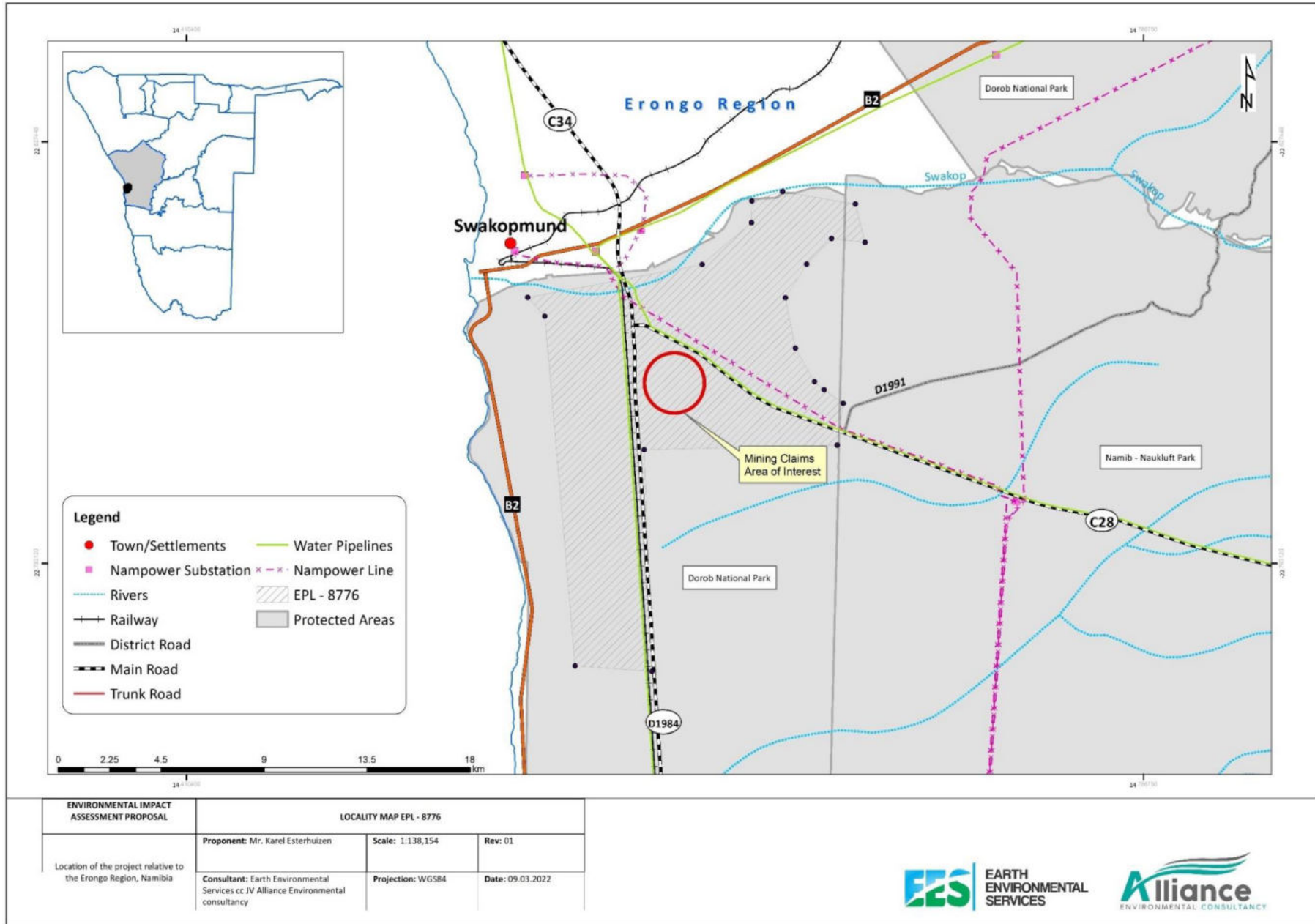


FIGURE 1 - REGIONAL LOCALITY OF THE PROPOSED PROJECT SITE

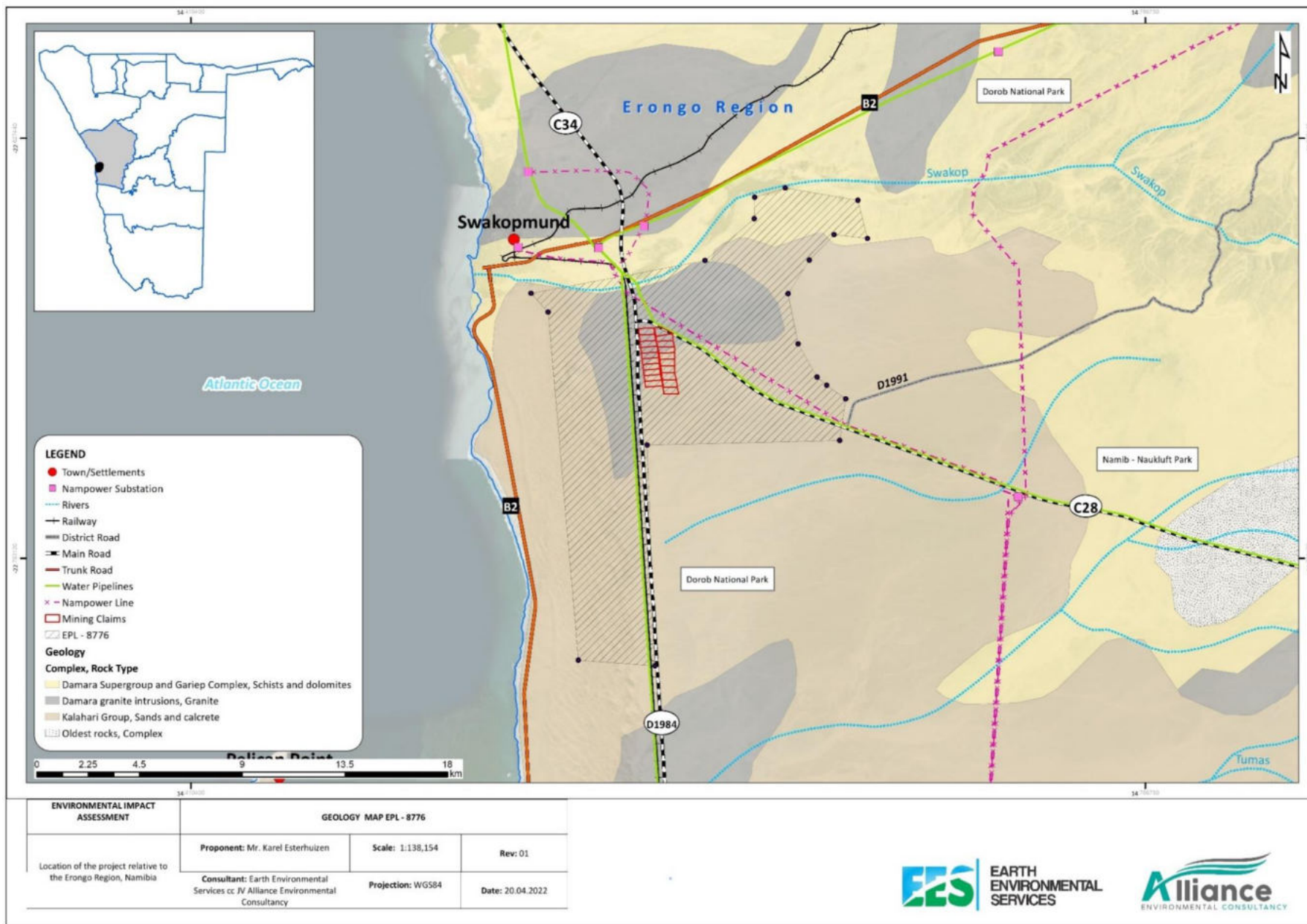


FIGURE 2 - GEOLOGY OF THE PROPOSED PROJECT AREA

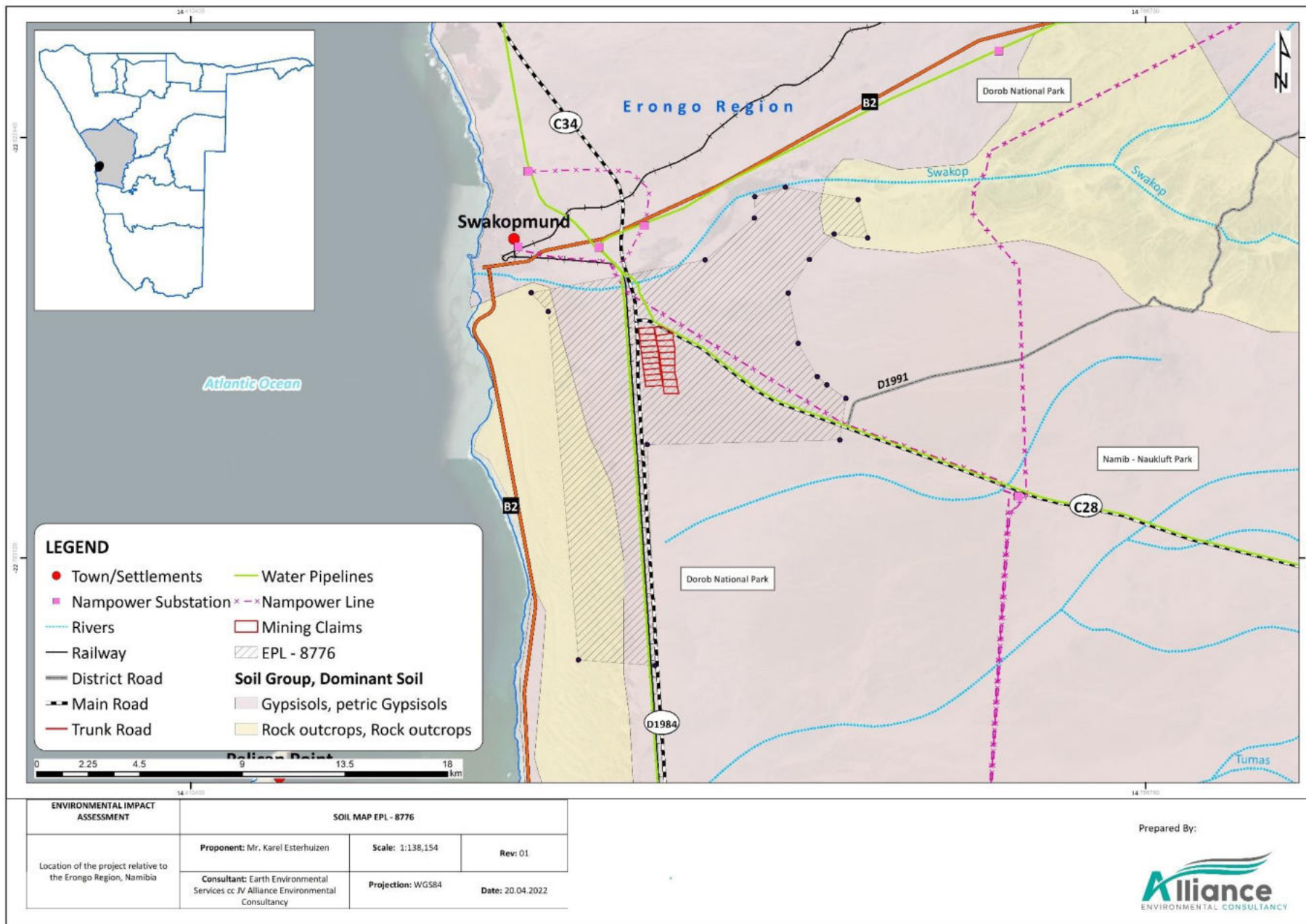


FIGURE 3 - DOMINANT SOIL TYPE SURROUNDING THE PROJECT AREA

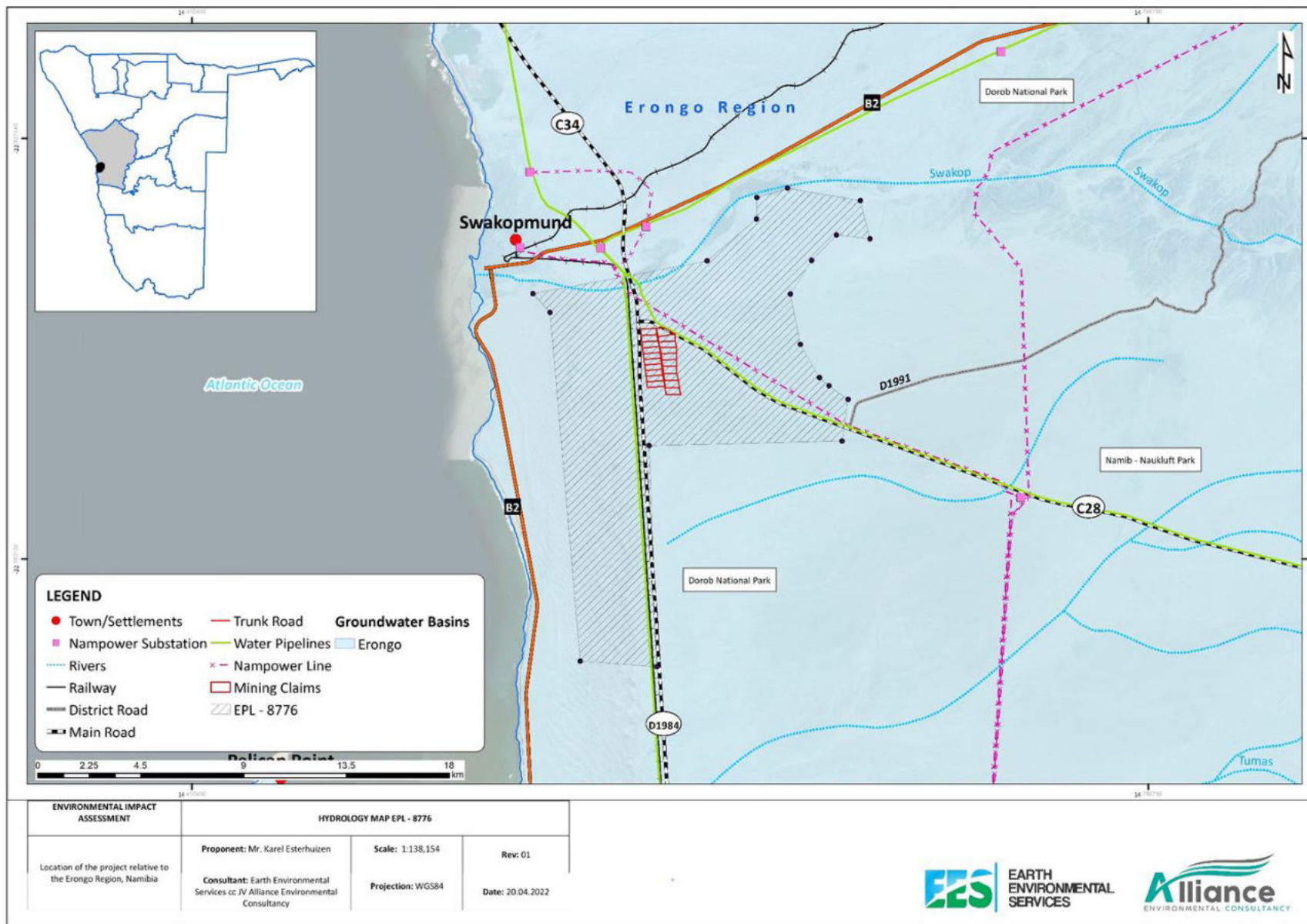


FIGURE 4 - GROUNDWATER BASINS AND HYDROLOGY OF THE PROJECT SITE

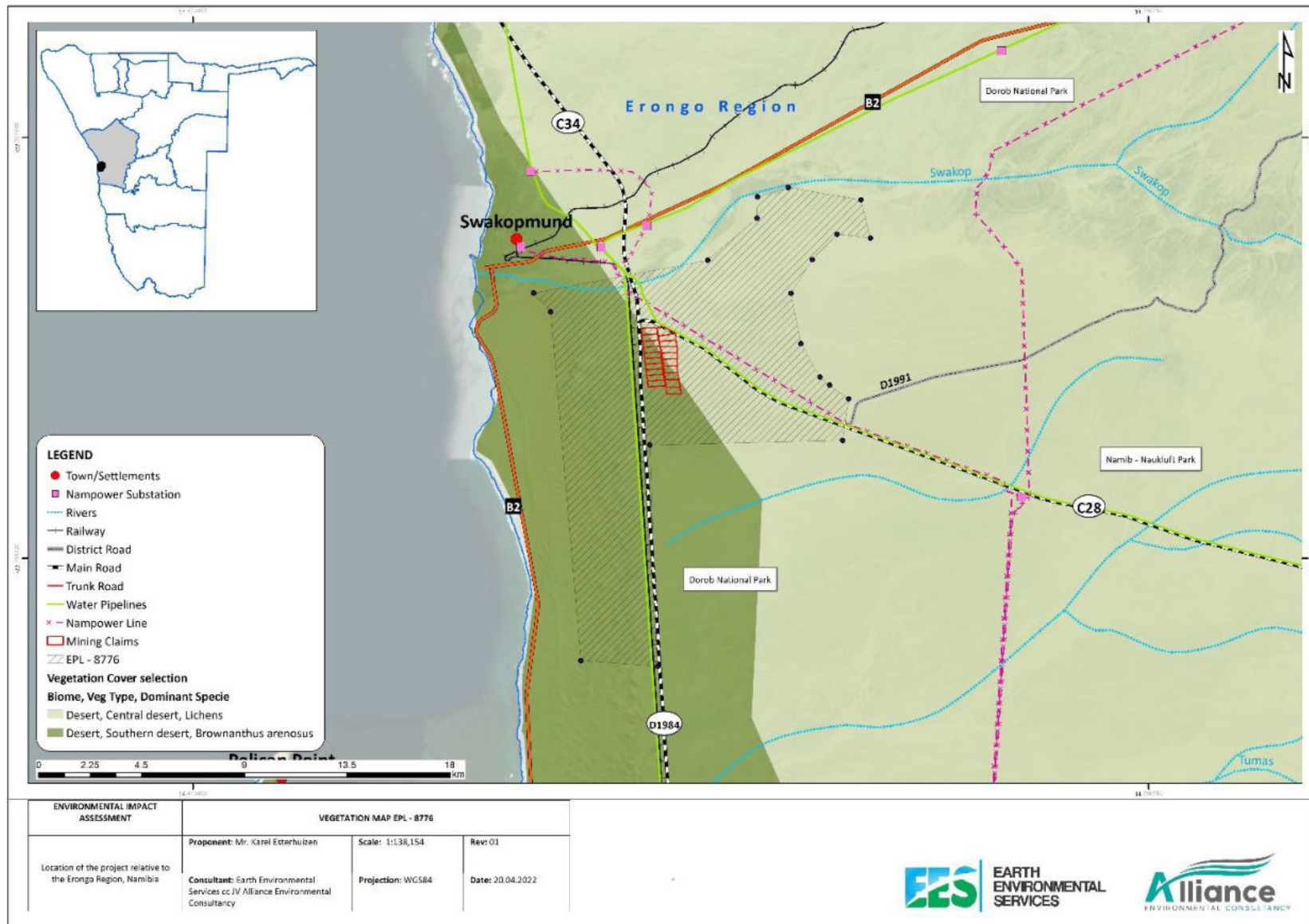


FIGURE 5 - VEGETATION OF THE PROJECT SITE

## 2. ENVIRONMENTAL MANAGEMENT PRINCIPLES

The Proponent will ensure that all project participants adhere to the following company goals:

- i. All employees will be obliged to undertake activities in an ecologically and socially responsible way. This applies to all consultants, workers, contractors, and subcontractors, as well as transporters, visitors, and anyone else who enters the premises.
- ii. Safeguard the health and safety of project personnel and the public against potential impacts of the project. This includes issues of road safety, precautions against dangers on site, potential hazards; and,
- iii. Promote good relationships with the surrounding settlements and other stakeholders.
- iv. Biophysical Environment
- v. Wise use and conservation of environmental resources, giving due consideration to the use of resources by present and future generations;
  - a. Prevent or minimize environmental impacts;
  - b. Minimize air, water, and soil pollution; and
  - c. Conserve Biodiversity.

In order to achieve the project's goal, the following principles must be followed:

TABLE 1 – PROJECT GOALS AND DESCRIPTIONS

TERM	DESCRIPTION
Accountability and Commitment	The Company Senior Executives and Line managers will be held responsible and accountable for: <ol style="list-style-type: none"> <li>a. Health and safety of site personnel while on duty,</li> <li>b. Environmental impacts caused by exploration activities or by personnel engaged in the daily operations of the site.</li> </ol>
Competence	The company will ensure a competent workforce through appropriate selection, training, and awareness of all safety, health, and environmental matters.

TERM	DESCRIPTION
Risk Assessment, Prevention, and Control	Identify, assess and prioritize potential environmental risks. Prevent or minimize risks through careful planning and design, allocation of financial resources, management, and workplace procedures. Intervene promptly in the event of adverse impacts arising.
Performance and Evaluation	Set appropriate objectives and performance indicators. Comply with all laws, regulations, policies, and environmental specifications. Implement regular monitoring and reporting of compliance with these requirements.
Stakeholder Consultation	Create and maintain opportunities for constructive consultations with employees, authorities, and other interested or affected parties. Seek to achieve an open exchange of information and mutual understanding in matters of common concern.
Continual Improvement	Through continual evaluation, reports, and innovation, seek to improve performance with regard to social health and well-being as well as environmental management throughout the lifespan of the project.
Financial Provisions for retail activities	In line with the internationally recognised "polluter pays principle" the company will make the necessary financial provision for compliance with the EMP.



### **3. ROLES AND RESPONSIBILITIES FOR ENVIRONMENTAL MANAGEMENT**

#### **3.1. Communication between Parties**

Emphasis will be put towards open communication between all parties, in order to reach a proactive approach towards potential environmental issues deriving from the project. This approach should guarantee that environmental impacts are anticipated and prevented, or minimized, rather than adopting a negative "policing" approach after negative impacts have already occurred.

The importance of a proactive approach cannot be over-emphasized, particularly in relation to preventing unnecessary tracks, and damage to vegetation (i.e., protected and endemic species) as these impacts cannot easily be remedied.

#### **3.2. The Operating Company**

The company is ultimately responsible for all stages of the project and the impacts resulting from those activities. The responsible persons will be the company's Environmental Control Officer (ECO) and Managing Director to ensure that:

- The EMP and its environmental specifications are included in contractual documents and it is required that contractors, and subcontractors, consultants etc. do meet the EMP requirements;
- The company and all its subcontractors, consultants etc. comply with all Namibian legislation and policies and any relevant International Conventions;
- Compliance with the environmental specifications is enforced on a day-to-day basis;
- Environmental audits are conducted periodically by a suitably qualified ECO to confirm that the environmental requirements are properly understood and effectively implemented;
- Sufficient budget is provided to implement those measures that have cost implications;
- The Site Manager must commission tree surveys well in advance of planned road construction so that the necessary site visits by forestry personnel and forestry permits are acquired; and,
- Open and effective communication is maintained between all parties concerning environmental management on the project.

### **3.3. Site Managers**

Day-to-day responsibility for environmental management will be assigned to the (Environmental Control Officer (ECO) and Manager Field Operations (MFO) for the duration of the project to:

- Be familiar with the contents of the EMP and applicable sections of the EIA and the measures recommended therein;
- Monitor compliance with the environmental specifications on a daily basis and enforce the environmental compliance on-site by communicating the ECO's directions to all personnel involved;
- In the event of any infringements leading to environmental damage, personnel need to consult with the ECO and seek advice on any remedial measures to limit or rectify the damage;
- Maintain a record (photographic and written) of "before-and-after" conditions on site;
- Facilitate communication between all role players in the interests of effective environmental management; and,

### **3.4. Environmental Control Officer (ECO)**

The proponent must appoint a suitably qualified ECO who is responsible to:

- Undertake environmental audits of overall compliance with the environmental specifications. This should be done at least bi-annually for the project area,
- Submit a site inspection report to the Managing Director and MFO;
- Advise the MFO on interpretation and implementation of the environmental specifications as required; and,
- Make recommendations for remedial action in cases of non-compliance with the environmental specifications.
- The report should be submitted to the MEFT periodically at the time interval stipulated by law.

### 3.5. Contractors

The contractors will have the responsibility to:

- Familiarize themselves with the requirements of the EMP and comply with the environmental specifications within.
- Notify the ECO through the MFO timeously in advance of any actions that might have significant negative impacts. Mitigatory measures should be discussed and implemented before negative impacts arise;
- Conduct or arrange for environmental training for employees and sub-contractors;
- Undertake rehabilitation measures where required as far as possible, rehabilitation measures should be carried out progressively and not left till the end of the project.

## **4. ENVIRONMENTAL SPECIFICATIONS**

### **4.1. Compliance with the Environmental Specifications**

The activities will be conducted in an environmentally and socially responsible manner. The contractor and all personnel on-site will comply with the environmental specifications contained in this section.

### **4.2. Training and Awareness**

All site personnel and site contractors will receive the training to equip them with the necessary knowledge to comply with the environmental specifications. The MFO will ensure that an appropriate level of training is provided at all levels of site personnel.

### **4.3. Stakeholder Relations**

All site personnel will maintain good relations with the landowners and members of the public. Any complaints received by the ECO will be addressed.

### **4.4. Permits**

All relevant permits shall be obtained from relevant authorities

The removal or relocation of rare and endangered plants will be conserved and should it be removed or relocated it shall be done with the required permits from the Directorate of Forestry.

### **4.5. Road Safety**

The access roads can be dangerous at times due to dust from passing vehicles, poor camber, patches of loose sand, careless drivers and other external factors. All drivers must be aware of these hazards and take precautions to avoid them. Such precautions will include, but not be limited to:

- Complying with speed limits;
- Reducing speed considerably when visibility is poor;
- Being wary of other vehicles
- Travelling with lights on even in daylight;
- Slowing down for animals and birds on the road; and,
- Being cautious of other road users– taking into account reduced visibility due to dust.

#### 4.6. Access Tracks

- No new tracks will be made unless there are no pre-existing tracks, any new tracks or extensions should be established with the permission of the Municipality and other landowners.
- The selected access and site roads will be clearly marked. A single road only will be used to and from each destination. Turning points for vehicles will also be pre-selected and marked. Particular care will be taken to avoid damage to plants.
- Any elevated sites, or sites away from existing tracks, will be accessed on foot rather than by a vehicle.

#### 4.7. Conservation of Biodiversity

- Damage to protected species will be avoided at all cost.

#### 4.8. Wildlife Poaching

**NB: It is an offence to poach wildlife.**

No animal or bird is to be captured, killed or harmed in any way. Anyone caught violating this law will face suspension from the project and could be liable for prosecution. In a likewise manner, domestic livestock on farms may also not be harmed.

#### 4.9. Soil Management and Erosion Control

- During excavating and clearing the Contractor shall take care to remove as little topsoil as possible. All soil within 100mm of the cleared surface level shall be regarded as topsoil.
- Remove and separately stockpile any subsoil material that can be used for site backfilling.
- Topsoil shall be stockpiled (and seeded) in areas within the site boundary and approved by the Project Engineer in conjunction with the Environmental Consultant, for reuse and restoration.
- Avoid handling soil when wet as this may result in the loss of soil structure and compaction. Soils should not be handled during windy conditions, which may lead to the loss of soil through wind erosion.

- Soil erosion must be prevented at all times. Where evidence of soil erosion can and/or is taking place, this should be reported by the Contractor to the Project Engineer or Environmental Consultant.
- Unnecessary compaction of construction areas must be prevented, to reduce runoff velocity.
- Suitable erosion measures should be implemented in areas sensitive to erosion such as near water supply points, edges of slopes, etc. These measures could include the use of sandbags, hessian sheets, retention or replacement of vegetation.
- All the necessary precautions in terms of design and construction of earthworks, cuts, and fills must be taken.

#### **4.10. Pollution Control**

Should any incidence occur in terms of spilling, the Contractor (Developer) shall report it immediately to the Developer and the Contractor shall be responsible for containing and cleaning up the spillage. The Contractor (Developer) shall ensure that correct mitigation of the pollution is undertaken.

##### **4.10.1. Air pollution / Dust emission**

- Excavations and other clearing activities should only be done during permissible weather conditions to avoid drifting of sand and dust into neighboring areas.
- Soil and sand stockpiles shall be located in sheltered areas not exposed to the wind.
- Retention of vegetation where possible will reduce dust travel.
- Exposed surfaces must be re-vegetated as soon as possible.
- The movement of vehicles and other vehicles should be strictly controlled in order to reduce the impact of increased air pollution.
- Adherence to speed limits shall be enforced.
- Sensible and responsible use of equipment which generates dust.
- It is recommended to practice dust monitoring per month in order to take note of the dust emitted at different distances and directions around the project area during operations.

#### 4.10.2. Noise pollution

- Noise levels shall be kept within acceptable limits. All noise and sounds generated shall adhere to SABS 0103 specifications for maximum allowable noise levels for industrial areas.
- Noisy activities must be limited to between 06h00 to 18h00 to avoid disturbance of adjacent landowners.
- Noisy activities should not be allowed on weekends and public holidays unless specific arrangements have been made with the proponent and provided that neighbors have been timeously notified
- Vehicles and operating equipment must be regularly serviced.

#### 4.11. Waste Management

- The area needs to be kept clean, neat, and tidy to the satisfaction of the proponent and ECO. The proponent will provide bins at the worksites and will be responsible for the collection and containment of daily refuse and waste generated by his staff. Bins will be secured in such a way that wind cannot remove papers and plastics. Bins will also be secured against animals around the vicinity.
- No waste will be buried on site. All waste will regularly be removed to an approved waste disposal facility.

#### 4.12. Hazardous Substances

- All containers of fuel, oil, and any other hazardous substances will be kept sealed, and clearly labeled for identification.
- Tanks for fuels, oils, and any other hazardous substances need to be banded to hold 110% of the capacity of the tank to contain any possible spills.
- If any spills occur, clean-up shall occur immediately and disposed of appropriately.

#### 4.13. Fire Prevention

- Ensure an Emergency Response Plan
- No fires are to be left unattended
- Charcoal sourced from farmers should be 100% cured to avoid combustion

- The re burning of charcoal at minimal scale should be conducted during the day on less windy days with full supervision to avoid fly ashes to neighboring land.

#### 4.14. Archaeological Sites

- All archaeological remains are protected under the National Heritage Act (2004) and are not to be destroyed, disturbed, or removed. The Act also requires that any archaeological finds, be reported to the Heritage Council Windhoek (**Tel. 061-244375**). The same applies to rock art sites.
- The ECO will be notified without delay of any archaeological finds.

#### 4.15. Health and Safety

All company personnel will receive a detailed induction upon joining the project and on a regular basis thereafter.

- **Dust:** All staff will receive dust masks and proper PPE to prevent inhalation of potentially charcoal dust while carrying out any dust-producing activities associated with charcoal processing and packaging.
- Eating, drinking, and **smoking** while working with any materials that may contain radioactive or hazardous substances is forbidden. Good personal hygiene is encouraged (e.g., washing hands before eating) to prevent ingestion of potentially hazardous or radioactive materials.
- **Bees:** Bee stings are potentially dangerous to persons who are allergic to them. Bees are attracted to water, so water / liquid should not be left standing.
- **Snakes & Scorpions:** A number of poisonous snake and scorpion species may occur in the area. Therefore, precautions are required which include: -
  - Exercising caution when picking up rocks or equipment from the ground;
  - Looking at the ground when walking; and,
  - Wearing closed shoes and not walking barefoot.

In case of emergency Aspivenin (suction syringe) is permanently available at all workstations for the first aid treatment of snake bites, scorpion stings and bee stings. Antihistamine tablets should also be available for the first aid treatment of allergic reactions to bee stings.



**4.16. Work Stoppage**

The MFO will have the right to order work to stop in the event of environmental specification infringements that could result in damage to plants, wildlife, or personnel. Work will continue once the situation is rectified and brought to a state of compliance.

In the event of such work stoppage, the Contractor will not be entitled to claim for delays or standing time.

**4.17. Compliance Monitoring**

During mining activities, the company ECO will conduct site compliance inspections at least once a month. After each inspection the ECO will compile an EMP compliance report for regular submission to the MFO and biannually to the MEFT or as required.

## **5. MITIGATION MEASURES**

The purpose of the Environmental Management Plan is to provide a detailed plan to mitigate the negative and positive impacts identified in the environmental scoping and assessment report. Furthermore, it aims to provide actions with roles and responsibilities to implement the environmental specifications provided for to the proponent, contractors, subcontractors who will undertake the proposed activities.

The following table provides a large-scale summary overview of all the major environmental management aspects. The scoping study submitted with this EMP also provide mitigation measures for impacts identified therein under chapter 12.

TABLE 2 – EMP MITIGATION MEASURES

<b>Aspect</b>	<b>MANAGEMENT DETAILS</b>	<b>RESPONSIBLE PERSONS</b>	<b>FREQUENCY</b>
<b>Access Control</b>	<ul style="list-style-type: none"> <li>• Make use of existing tracks/roads as much as possible throughout the area.</li> <li>• Only drive along the existing tracks and avoid unnecessary drives around the area as it may harm vertebrate fauna and unique flora and may also cause erosion related problems, etc.).</li> <li>• Avoid off-road driving at night as this increases mortality of nocturnal species.</li> <li>• Implement and maintain off-road track discipline with maximum speed limits (30km/h)</li> <li>• Where tracks must be made to potential mining sites off the main routes, the routes should be selected along already disturbed areas or where there is minimal biodiversity expected to occur.</li> <li>• Avoid placing tracks within drainage lines. Avoid collateral damage (i.e. select routes that do not require the unnecessary removal of trees/shrubs, especially protected species).</li> <li>• Rehabilitate all new tracks created.</li> </ul>	Contractor, Project Manager	On-going
<b>Establishing Storage Areas</b>	<ul style="list-style-type: none"> <li>• Establishment of the supporting mining infrastructure should be done on an area with the least disturbance to the environment and within the non-sensitive areas.</li> <li>• Choice of location for storage areas must take into consideration prevailing winds, distance to water bodies and general on-site topography.</li> <li>• Storage areas must be designated, demarcated, and fenced if necessary.</li> <li>• Storage areas should be secure to minimize the risk of crime.</li> <li>• They should be safe from access by children and animals etc.</li> </ul>	Contractor, Project Manager	On-going

Aspect	MANAGEMENT DETAILS	RESPONSIBLE PERSONS	FREQUENCY
	<ul style="list-style-type: none"> <li>• Fire prevention facilities must be present at all storage facilities.</li> </ul>		
<b>Establishing Storage Areas</b>	<p><b><u>Hazardous Material Storage</u></b></p> <ul style="list-style-type: none"> <li>• Hazardous substances are those that are potentially poisonous, flammable, carcinogenic, or toxic. Some examples are diesel, petroleum, oil, bitumen, cement, solvent-based paints, lubricants, explosives, drilling fluids.</li> <li>• Material safety Data Sheets (MSDSs) shall be readily available on site for all chemicals and hazardous substances to be used on site. Where possible and available, MSDSs should additionally include information on ecological impacts and measures to minimize negative environmental impacts during accidental releases or escapes.</li> <li>• Hazardous storage areas must be 110% bunded with an impermeable liner to protect groundwater and soil from contamination. The Contractor shall submit a method statement to the Project Manager for approval.</li> <li>• Storage areas containing hazardous substance materials must be clearly signposted.</li> </ul>	Environmental Control Officer (ECO), Proponent	
<b>Education Of Site Staff on General Environmental Conduct</b>	<p><b><u>Environmental Education and Awareness</u></b></p> <ul style="list-style-type: none"> <li>• Ensure that all site personnel have a basic level of environmental awareness training. The proponent must submit a proposal for this training to the ECO for approval. Topics to be covered should include:               <ul style="list-style-type: none"> <li>○ What is meant by "environment";</li> <li>○ Why the environment needs to be protected and conserved</li> </ul> </li> </ul>	Environmental Control Officer (ECO), Proponent	During staff induction and ongoing

Aspect	MANAGEMENT DETAILS	RESPONSIBLE PERSONS	FREQUENCY
	<ul style="list-style-type: none"> <li>○ How construction activities can impact on the environment;</li> <li>○ What can be done to mitigate against such impacts;</li> <li>○ Awareness of emergency and spills response provisions;</li> <li>○ Social responsibility during mining activities, e.g., being considerate to local residents.</li> </ul> <ul style="list-style-type: none"> <li>● It is the proponent's responsibility to provide the site with no less than 1 hour's environmental training and to ensure that there is sufficient understanding to pass this information onto the anyone operating at the site.</li> <li>● The need for a 'clean site' policy also needs to be explained to all workers.</li> </ul>		
<b>Education Of Site Staff on General Environmental Conduct</b>	<p><b><u>Workers Conduct on site</u></b></p> <ul style="list-style-type: none"> <li>● A general regard for the social and ecological wellbeing of the site and adjacent areas is expected of the site staff. Workers need to be made aware of the following general rules:</li> <li>● No alcohol / drugs to be present on site.</li> <li>● No firearms allowed on site or in vehicles transporting staff to / from site (unless used by security personnel).</li> <li>● Prevent excessive noise.</li> <li>● Prevent unsocial behaviour.</li> <li>● Bringing pets onto the site is forbidden.</li> <li>● No harvesting of firewood from the site or from the adjacent areas.</li> </ul>	Proponent, Employees, Environmental Control Officer (ECO)	During staff induction and ongoing

<b>Aspect</b>	<b>MANAGEMENT DETAILS</b>	<b>RESPONSIBLE PERSONS</b>	<b>FREQUENCY</b>
	<ul style="list-style-type: none"> <li>• Staff are to make use of the facilities provided for them, as opposed to ad-hoc alternatives, (e.g., fires for cooking, the use of surrounding areas / bush as a toilet is forbidden).</li> <li>• Trespassing on private / commercial properties adjoining the site is forbidden.</li> <li>• Driving under the influence of alcohol is prohibited.</li> <li>• Other than the pre-approved security staff, no workers shall be permitted to live on site.</li> </ul>		
<b>Social Impacts</b>	<ul style="list-style-type: none"> <li>• Avoid exacerbating the influx of unemployed people to the area and address the unrealistic expectations about large numbers of jobs would be created.</li> <li>• Develop a standardized recruitment method for sub-contractor and field workers</li> <li>• The employment of local residents and local companies should be a priority.</li> <li>• Accommodation camp if required should be established in close consultation with the landowners and should consider provision of basic services.</li> <li>• Contract companies could submit a code of conduct, stipulating disciplinary actions where employees are guilty of criminal activities in and around the vicinity of the mining claims. Disciplinary actions should be in accordance with Namibian legislation.</li> <li>• Contract companies could implement a no-tolerance policy regarding the use of alcohol and workers should submit to a breathalyzer test upon reporting for duty daily.</li> </ul>	Contractor, Project Manager	During staff induction and ongoing

<b>Aspect</b>	<b>MANAGEMENT DETAILS</b>	<b>RESPONSIBLE PERSONS</b>	<b>FREQUENCY</b>
	<ul style="list-style-type: none"> <li>Request that the Roads Authority erect warning signs of heavy vehicles on affected public roads.</li> <li>Ensure that drivers adhere to speed limits and that speed limits are strictly enforced.</li> <li>Ensure that vehicles are road worthy, and drivers are qualified.</li> <li>Train drivers in potential safety issues.</li> </ul>		
<b>Fauna And Flora</b>	<p><b><u>Fauna and Flora</u></b></p> <ul style="list-style-type: none"> <li>No protected vegetation may be cleared without prior permission from the forestry department.</li> <li>Care must be taken to avoid the introduction of alien plant species to the site and surrounding areas.</li> <li>Disturbance to birds, animals and reptiles and their habitats should be minimized wherever possible.</li> <li>Avoid unnecessary affecting areas viewed as important habitat</li> <li>Avoid off-road driving at night as this increases mortality of nocturnal species.</li> <li>Implement and maintain off-road track discipline with maximum speed limits (e.g.,30km/h).</li> </ul>	Contractor, Project Manager	Ongoing
<b>Visual</b>	<ul style="list-style-type: none"> <li>Consider the landscape character and the visual impacts of the area including camp site from all relevant viewing angles, particularly from public roads.</li> <li>Use vegetation screening where applicable. Do not cut down vegetation</li> </ul>	Contractor, Project Manager	Ongoing

Aspect	MANAGEMENT DETAILS	RESPONSIBLE PERSONS	FREQUENCY
	<p>unnecessary around the site and use it for site screening.</p> <ul style="list-style-type: none"> <li>• Avoid the use of very high fencing.</li> <li>• Minimize access roads and no off-road that could result in land scarring is allowed.</li> <li>• Minimize the presence of secondary structures: remove inoperative support structures.</li> <li>• Remove all infrastructure and reclaim or rehabilitate the project site after activities are completed.</li> </ul>		
<b>Air Quality</b>	<ul style="list-style-type: none"> <li>• Dust suppression techniques should be employed if the specific operation activity is likely to create dusty atmospheric conditions in excess of the periodic extremes.</li> <li>• Avoid activities that create excessive dust on extremely windy days.</li> <li>• Personnel are required to wear personal protection equipment if excessive dust is created for prolonged working periods.</li> </ul>	Contractor, Project Manager	Ongoing
<b>Noise</b>	<ul style="list-style-type: none"> <li>• A grievance procedure will be established whereby noise complaints can be received, recorded, and responded to appropriately.</li> <li>• Machineries and vehicles (moving and stationed) should be serviced regularly.</li> <li>• A noise management standard operating procedure (SOP) for the activities happening on-site should be developed</li> <li>• Avoid creating unnecessary noise by making sure that equipment that are not in used are always turned off and by avoiding operations during odd hours.</li> </ul>	Contractor, Project Manager	Ongoing



<b>Aspect</b>	<b>MANAGEMENT DETAILS</b>	<b>RESPONSIBLE PERSONS</b>	<b>FREQUENCY</b>
	<ul style="list-style-type: none"> <li>• Fit sound mufflers on all machinery where applicable.</li> <li>• Equip employees with proper PPE (noise reduction earmuffs)</li> <li>• Employees should work in shifts to avoid prolonged working hours and consequently prolonged exposure to noise.</li> </ul>		
<b>Soil And Groundwater Contamination</b>	<ul style="list-style-type: none"> <li>• Accidental spills that occur outside of the bund area must be contained and prevented from entering the stormwater system.</li> <li>• Spills must be treated with the appropriate spill absorbent.</li> <li>• Any significant spills or leak incidents must be reported in terms of the National Environmental Management Act and the Water Act.</li> </ul>	Contractor, Project Manager	Ongoing
<b>Waste</b>	<ul style="list-style-type: none"> <li>• The domestic waste, which is separated from all paper and organic materials, is taken to the nearest official dumpsite.</li> <li>• Oil from the servicing of the vehicles and machines is collected in drums and is taken together with all other industrial waste that is generated on site to the nearest hazardous waste site.</li> <li>• Storage areas that contain hazardous substances must be banded with an approved impermeable liner.</li> <li>• Bins and / or skips shall be provided at convenient intervals for disposal of waste within the site.</li> <li>• Bins should have liner bags for efficient control and safe disposal of waste.</li> <li>• Recycling and the provision of separate waste receptacles for different types of waste should be encouraged</li> <li>• Ensure good housekeeping</li> </ul>	All personnel	Ongoing

Aspect	MANAGEMENT DETAILS	RESPONSIBLE PERSONS	FREQUENCY
	<p><b><u>Ablutions</u></b></p> <ul style="list-style-type: none"> <li>Waterless toilets are to be maintained in a clean state and should be moved to ensure that they adequately service the work areas.</li> <li>The Contractor is to ensure that open areas or the surrounding bush are not being used as a toilet facility.</li> </ul>		
<b>Heritage sites destruction during mining activities</b>	<ul style="list-style-type: none"> <li>In addition, where possible, construction and operational activities are to be aligned along previously disturbed areas. Habitats surrounding the washes (rivers) host sensitive plant species which require permits for removal to avoid destruction. No wandering around the site, collecting of plant species or hunting should be allowed.</li> <li>A 'chance find' of any potential heritage site should be communicated to the police and the National Heritage Council of Namibia.</li> <li>If activities occur at the location where a 'chance find' has been made, then the activities should cease until the necessary authorities have visited the site and provided the go ahead to proceed with activities</li> </ul>	Contractor, Project Manager	Ongoing
<b>Rehabilitation</b>	<ul style="list-style-type: none"> <li>Small samples are preferably removed from site to avoid additional scars in the landscape.</li> <li>Litter from the site has been taken to the appropriate disposal site.</li> <li>Debris, scrap metal, etc. is removed before moving to a new site or closure of the mine.</li> <li>Water / Fuel tanks are dismantled and removed if not need for after use.</li> <li>Tracks on site and the access road are rehabilitated by smoothing the</li> </ul>	Contractor, Project Manager	Progressively and prior ceasing mining activities

<i>Aspect</i>	<b>MANAGEMENT DETAILS</b>	<b>RESPONSIBLE PERSONS</b>	<b>FREQUENCY</b>
	<p>'middle mannetjie'(middle ridge between the tracks) and raking the surface.</p> <ul style="list-style-type: none"> <li>• if applicable the stockpiled subsoil to be replaced (spread) and/or the site is neatly contoured to establish effective wind supported landscape patterns.</li> <li>• Replace the stored topsoil seed bank layer.</li> </ul>		

## 6. REHABILITATION

Disturbance of the earth's surface by any form of mining will result in complete removal of existing vegetation and ecosystems within the disturbed area. The impacts are significant, but localized to the disturbed area, and the overall extent of the impact is determined by the concentration of mining and the sensitivity of the disturbed ecosystems. During the operational phase of a quarry's life, the impact on the environment can be lessened by planning with future closure in mind.

The objectives of the closure and decommissioning are to:

- Provide a safe and stable landform compatible with the intended final use;
- Comply with relevant regulatory requirements and attain regulatory consensus on the successful closure and rehabilitation of the Project area;
- Complete the closure, decommissioning and rehabilitation works as quickly and cost effectively as possible whilst achieving primary objectives
- Produce a final “walk away” landform that is stable and that blends aesthetically into the surrounding landforms, yet as far as possible does not limit possible future land uses

### 6.1. Site Rehabilitation

Proponent should keep the disturbed areas to a minimum, plants should not be removed unless necessary; selective mining should be adopted so that the entire site is not cleared and affected at once; backfilling the topsoil should be done as soon as the gypsum from one site is mined, therefore topsoil should not be piled up for a long time.

### 6.2. Planning for Rehabilitation

The proposed post mining land-use will also influence the procedure and the plant species used for rehabilitation (Allan, 1998).

The following are the basic rehabilitation practices as summarized after the Minerals Council of Australia (1998), which with appropriate modifications, will apply to most disturbed areas.

1. Making Safe: After planning for rehabilitation, the first step is to clean up and make the area to be rehabilitated, safe. This involves the following:

- Removal of infrastructure and unused or unwanted equipment. No facilities or equipment should remain on site unless with the written approval of the landowner or relevant authority.
  - Removal of rubbish for disposal at approved sites. Care is required with residual toxic or hazardous materials including contaminated packaging and containers
2. Erosion Control: Progressive rehabilitation will be undertaken to stabilize disturbed areas as quickly as practical and to limit erosion.
- Restrict clearing to areas essential for the works
  - Windrow vegetation debris along the contour
  - Minimize length of time soil is exposed
  - Divert run-off from undisturbed areas away from the works
3. Topsoil Management: The mine rehabilitation strategy may include the following measures which are designed to minimize the loss of topsoil material respread on rehabilitated areas and promote successful vegetation establishment.
- Minimize the length of time that topsoil material is to be stockpiled.
  - Respread topsoil material in even layers at a thickness appropriate for the landform and land capability of the area to be rehabilitated.
  - Topsoil stockpiles are located in areas away from drainage lines or windy areas in order to minimise the risk of soil and wind erosion;
  - Rehabilitation areas of returned topsoil will be ripped, with care taken not to bring subsurface materials to the surface (e.g. large rocks). Ripping should only be sufficient to allow equipment to work efficiently. Ripping along slopes should be along contour.

## 5. MONITORING PLAN

The project monitoring is conducted under the EMP includes:

- (i) **Project readiness monitoring** - Monitoring to check progress on project readiness and close gaps through corrective actions.
- (ii) **Environmental quality monitoring** - To be conducted by a competent authority or person appointed by the proponent, involving the collection and analyses of air quality, noise and water quality data at designated monitoring locations for assessing compliance with applicable environmental quality and emission standards.
- (iii) **EMP compliance monitoring** - To be conducted by the Project Management Consultants to verify EMP compliance during project implementation.
- (iv) **Operational monitoring** - This is required as part of the operations of the subproject and will be undertaken by the relevant government department or a nominated private sector operator.

## 6. CONCLUSION

This Environmental Management Plan highlights the management measures that will be implemented to mitigate the environmental impacts of the proposed activities. Additionally, it highlights the need / requirements for the Environmental Emergency Preparedness and Response procedure.

The EMP is a legal document, which commits the applicant to comply with all management measures, monitoring programmes and other plans as presented herein. As part of the EMP, monitoring programmes have been provided to manage and control critical components of the environment. This is a live document which may be amended if project activities alter.

## APPENDIX A – LIST OF FLORA SPECIES THAT CAN BE FOUND IN THE AREA (NBRI, 2022)

Species	ENDEMISM	Protected	IUCN2
<i>Abutilon pycnodon</i> Hochr.			
<i>Acacia reficiens</i> Wawra subsp. <i>reficiens</i>			
<i>Acanthopsis hoffmannseggiana</i> (Nees) C.B.Clarke			
<i>Acrotome fleckii</i> (Gürke) Launert	Endemic		
<i>Adenolobus garipensis</i> (E.Mey.) Torre & Hillc.			
<i>Adenolobus pechuelii</i> (Kuntze) Torre & Hillc. subsp. <i>pechuelii</i>			
<i>Aizoanthemum dinteri</i> (Schinz) Friedrich	Endemic		
<i>Aizoanthemum galenioides</i> (Fenzl ex Sond.) Friedrich	Endemic		
<i>Aloe asperifolia</i> A.Berger	Endemic	Protected	
<i>Anticharis ebracteata</i> Schinz	Endemic		
<i>Anticharis imbricata</i> Schinz	Endemic		
<i>Arctotis venusta</i> Norl.			
<i>Aristida parvula</i> (Nees) De Winter			
<i>Arthraerua leubnitziae</i> (Kuntze) Schinz	Endemic		
<i>Atriplex lindleyi</i> Moq. subsp. <i>inflata</i> (F.Muell.) Paul G.Wilson			
<i>Atriplex semibaccata</i> R.Br. var. <i>appendiculata</i> Aellen			
<i>Blepharis grossa</i> (Nees) T.Anderson	Near Endemic		
<i>Blepharis obmitrata</i> C.B.Clarke			
<i>Boscia albitrunca</i> (Burch.) Gilg & Gilg-Ben.		Forestry Protected	
<i>Brachiaria glomerata</i> (Hack.) A.Camus			
<i>Brownanthus kuntzei</i> (Schinz) Ihlenf. & Bittrich			
<i>Calostephane marlothiana</i> O.Hoffm.	Endemic		
<i>Camptoloma rotundifolium</i> Benth.			
<i>Capparis hereroensis</i> Schinz	Endemic		
<i>Centropodia glauca</i> (Nees) Cope			
<i>Chascanum garipense</i> E.Mey.			
<i>Chenopodium murale</i> L. var. <i>acutidentatum</i> Aellen			
<i>Chenopodium murale</i> L. var. <i>murale</i>			
<i>Citrullus ecirrhosus</i> Cogn.	Near Endemic		

<i>Cladoraphis spinosa</i> (L.f.) S.M.Phillips			
<i>Cleome elegantissima</i> Briq.			
<i>Cleome foliosa</i> Hook.f. var. <i>lutea</i> (Sond.) Codd & Kers			
<i>Cleome gynandra</i> L.			
<i>Cleome semitetrandra</i> Sond.			
<i>Cleome suffruticosa</i> Schinz	Endemic		
<i>Codon royenii</i> L.			
<i>Commiphora oblanceolata</i> Schinz	Near Endemic		
<i>Commiphora saxicola</i> Engl.	Endemic		
<i>Commiphora wildii</i> Merxm.			
<i>Cordia</i> sp. C			
<i>Cotula anthemoides</i> L.			
<i>Cotula coronopifolia</i> L.			
<i>Cotyledon orbiculata</i> L. var. <i>orbiculata</i>			
<i>Crassothonna protecta</i> (Dinter) B.Nord.			
<i>Crotalaria colorata</i> Schinz subsp. <i>colorata</i>	Endemic		
<i>Crotalaria colorata</i> Schinz subsp. <i>erecta</i> (Schinz) Polhill	Endemic		
<i>Cucumis africanus</i> L.f.			
<i>Cullen tomentosum</i> (Thunb.) J.W.Grimes			
<i>Cyamopsis serrata</i> Schinz			
<i>Cynodon dactylon</i> (L.) Pers.			
<i>Cyperus laevigatus</i> L.			
<i>Cyperus marginatus</i> Thunb.			
<i>Datura innoxia</i> Mill.			
<i>Dauresia alliariifolia</i> (O.Hoffm.) B.Nord. & Pelsler			
<i>Deverra denudata</i> (Viv.) Pfisterer & Podlech subsp. <i>aphylla</i> (Cham. & Schltld.) Pfisterer & Podlech			
<i>Dichrostachys cinerea</i> (L.) Wight & Arn. subsp. <i>africana</i> Brenan & Brummitt var. <i>africana</i>			
<i>Dinteracanthus kaokoanus</i> (E.Tripp & K.G.Dexter) E.Tripp & I.Darbysh.	Endemic		
<i>Dipcadi platyphyllum</i> Baker			
<i>Doellia cafra</i> (DC.) Anderb.			
<i>Drimia fasciata</i> (B.Nord.) J.C.Manning & Goldblatt			



<i>Dyerophytum africanum</i> (Lam.) Kuntze			
<i>Eleocharis seydliana</i> Podlech			
<i>Engleria africana</i> O.Hoffm.			
<i>Enneapogon desvauxii</i> P.Beauv.			
<i>Entoplocamia aristulata</i> (Hack. & Rendle) Stapf			
<i>Eragrostis annulata</i> Rendle ex Scott-Elliot			
<i>Eragrostis omahekensis</i> De Winter	Endemic		
<i>Eriocephalus pinnatus</i> O.Hoffm.	Endemic		
<i>Euclea pseudebenus</i> E.Mey. ex A.DC.			
<i>Euphorbia giessii</i> L.C.Leach	Endemic		
<i>Euphorbia glanduligera</i> Pax			
<i>Euphorbia lignosa</i> Marloth	Near Endemic		
<i>Euphorbia phylloclada</i> Boiss.			
<i>Fagonia minutistipula</i> Engl.			
<i>Faidherbia albida</i> (Delile) A.Chev.		Forestry Protected	
<i>Felicia anthemidodes</i> (Hiern) Mendonça			
<i>Felicia smaragdina</i> (S.Moore) Merxm.	Endemic		
<i>Ficus cordata</i> Thunb. subsp. <i>cordata</i>		Forestry Protected	
<i>Flaveria bidentis</i> (L.) Kuntze			
<i>Forsskaolea hereroensis</i> Schinz	Near Endemic		
<i>Frankenia pulverulenta</i> L.			
<i>Galenia africana</i> L.			
<i>Galenia papulosa</i> (Eckl. & Zeyh.) Sond.			
<i>Galenia papulosa</i> (Eckl. & Zeyh.) Sond. var. <i>microphylla</i> Adamson			
<i>Gazania jurineifolia</i> DC. subsp. <i>scabra</i> (DC.) Roessler	Near Endemic		
<i>Geigeria ornativa</i> O.Hoffm.			
<i>Geigeria rigida</i> O.Hoffm.	Endemic		
<i>Gisekia africana</i> (Lour.) Kuntze var. <i>africana</i>			
<i>Glinus lotoides</i> L. var. <i>lotoides</i>			
<i>Gomphocarpus filiformis</i> (E.Mey.) Dietr.			
<i>Gossypium herbaceum</i> L. subsp. <i>africanum</i> (Watt) Vollesen			
<i>Helichrysum argyrosphaerum</i> DC.			
<i>Helichrysum candolleanum</i> H.Buek			

<i>Helichrysum herniarioides</i> DC.			
<i>Helichrysum obtusum</i> (S.Moore) Moeser			
<i>Helichrysum roseo-niveum</i> Marloth & O.Hoffm.			
<i>Heliotropium albiflorum</i> Engl.	Endemic		
<i>Heliotropium curassavicum</i> L.			
<i>Heliotropium ovalifolium</i> Forssk.			
<i>Heliotropium tubulosum</i> E.Mey. ex DC.			
<i>Hermannia affinis</i> K.Schum.			
<i>Hermannia amabilis</i> Marloth ex K.Schum.	Endemic		
<i>Hermannia helianthemum</i> K.Schum.			
<i>Hermannia solaniflora</i> K.Schum.	Near Endemic		
<i>Hermbstaedtia spathulifolia</i> (Engl.) Baker	Endemic		
<i>Hexacyrtis dickiana</i> Dinter	Near Endemic		
<i>Hibiscus elliotiae</i> Harv.			
<i>Hirpicium gazanioides</i> (Harv.) Roessler			
<i>Hoodia currorii</i> (Hook.) Decne. subsp. <i>currorii</i>		Protected	
<i>Hoodia gordonii</i> (Masson) Sweet ex Decne.		Protected	Near Threatened
<i>Hypertelis cerviana</i> (L.) Thulin			
<i>Hypertelis salsoloides</i> (Burch.) Adamson var. <i>salsoloides</i>			
<i>Indigastrum argyroides</i> (E.Mey.) Schrire			
<i>Indigofera auricoma</i> E.Mey.			
<i>Indigofera heterotricha</i> DC. subsp. <i>heterotricha</i>			
<i>Jamesbrittenia barbata</i> Hilliard	Endemic		
<i>Jamesbrittenia canescens</i> (Benth.) Hilliard var. <i>canescens</i>			
<i>Jamesbrittenia hereroensis</i> (Engl.) Hilliard	Endemic		
<i>Jamesbrittenia maxii</i> (Hiern) Hilliard			
<i>Juncus rigidus</i> Desf.			
<i>Kissenia capensis</i> Endl.			
<i>Kleinia longiflora</i> DC.			
<i>Kohautia caespitosa</i> Schnizl. subsp. <i>brachyloba</i> (Sond.) D.Mantell			
<i>Kohautia ramosissima</i> Bremek.			

<i>Launaea intybacea</i> (Jacq.) P.Beauv.			
<i>Leobordea platycarpa</i> (Viv.) B.-E. van Wyk & Boatwr. [2]			
<i>Lepidium englerianum</i> (Muschl.) Al- Shehbaz			
<i>Limeum argute-carinatum</i> Wawra ex Wawra & Peyr. var. <i>argute-</i> <i>carinatum</i>			
<i>Limeum myosotis</i> H.Walter var. <i>confusum</i> Friedrich			
<i>Lobelia thermalis</i> Thunb.			
<i>Lolium rigidum</i> Gaudich.			
<i>Lophiocarpus polystachyus</i> Turcz.			
<i>Lycium oxycarpum</i> Dunal			
<i>Lycium tetrandrum</i> Thunb.			
<i>Maerua schinzii</i> Pax		Forestry Protected	
<i>Mesembryanthemum cryptanthum</i> Hook.f.			
<i>Mesembryanthemum guerichianum</i> Pax			
<i>Microcharis disjuncta</i> (J.B.Gillett) Schrire var. <i>disjuncta</i>			
<i>Monechma cleomoides</i> (S.Moore) C.B.Clarke			
<i>Monechma desertorum</i> (Engl.) C.B.Clarke	Endemic		
<i>Monechma divaricatum</i> (Nees) C.B.Clarke			
<i>Myxopappus hereroensis</i> (O.Hoffm.) Källersjö	Endemic		
<i>Nesaea luederitzii</i> Koehne var. <i>luederitzii</i>			
<i>Nidorella resedifolia</i> DC. subsp. <i>resedifolia</i>			
<i>Odysea paucinervis</i> (Nees) Stapf			
<i>Ondetia linearis</i> Benth.	Endemic		
<i>Ophioglossum polyphyllum</i> A.Braun			
<i>Ornithogalum rautanenii</i> Schinz	Endemic		
<i>Ornithogalum stapffii</i> Schinz	Endemic		
<i>Ornithoglossum vulgare</i> B.Nord.			
<i>Orthanthera albida</i> Schinz			
<i>Osteospermum microcarpum</i> (Harv.) Norl. subsp. <i>microcarpum</i>			
<i>Panicum repens</i> L.			
<i>Parkinsonia africana</i> Sond.			

<i>Paspalum vaginatum</i> Sw.			
<i>Pechuel-loeschea leubnitziae</i> (Kuntze) O.Hoffm.			
<i>Pelargonium otaviense</i> R.Knuth			
<i>Pergularia daemia</i> (Forssk.) Chiov. var. <i>daemia</i>			
<i>Petalidium canescens</i> (Engl.) C.B.Clarke	Endemic		
<i>Petalidium variabile</i> (Engl.) C.B.Clarke var. <i>spectabile</i> Mildbr.	Endemic		
<i>Phragmites australis</i> (Cav.) Steud.			
<i>Poa annua</i> L.			
<i>Polygala guerichiana</i> Engl.			
<i>Polygonum plebeium</i> R.Br.			
<i>Polypogon monspeliensis</i> (L.) Desf.			
<i>Polypogon viridis</i> (Gouan) Breistr.			
<i>Potamogeton pectinatus</i> L.			
<i>Psilocaulon kuntzei</i> (Schinz) Dinter & Schwantes			
<i>Psilocaulon salicornioides</i> (Pax) Schwantes	Near Endemic		
<i>Raphionacme haeneliae</i> Venter & Verhoeven	Endemic		
<i>Rhus marlothii</i> Engl.			
<i>Ruellia marlothii</i> Engl.			
<i>Ruppia maritima</i> L.			
<i>Salsola aphylla</i> L.f.			
<i>Salsola arborea</i> C.A.Sm. ex Aellen			
<i>Salsola gemmifera</i> Botsch.			
<i>Salsola kali</i> L.			
<i>Salsola swakopmundi</i> Botsch.	Endemic		
<i>Salvadora persica</i> L. var. <i>persica</i>			
<i>Salvia garipensis</i> E.Mey. ex Benth.	Near Endemic		
<i>Sarcocaulon mossamedense</i> (Welw. ex Oliv.) Hiern	Near Endemic		
<i>Sarcocornia natalensis</i> (Bunge ex Ung.-Sternb.) A.J.Scott var. <i>affinis</i> (Moss) O'Callaghan			
<i>Senecio engleranus</i> O.Hoffm.	Endemic		
<i>Senecio flavus</i> (Decne.) Sch.Bip.			
<i>Sesamum marlothii</i> Engl.	Endemic		
<i>Sesbania pachycarpa</i> DC. subsp. <i>dinterana</i> J.B.Gillett	Near Endemic		
<i>Sesuvium sesuvioides</i> (Fenzl) Verdc.			

<i>Sonchus oleraceus</i> L.			
<i>Spergularia media</i> (L.) C.Presl			
<i>Sporobolus consimilis</i> Fresen.			
<i>Sporobolus nebulosus</i> Hack.	Near Endemic		
<i>Sporobolus virginicus</i> (L.) Kunth			
<i>Stapelia kwebensis</i> N.E.Br.		Protected	
<i>Stipagrostis ciliata</i> (Desf.) De Winter var. <i>capensis</i> (Trin. & Rupr.) De Winter			
<i>Stipagrostis damarensis</i> (Mez) De Winter	Near Endemic		
<i>Stipagrostis dinteri</i> (Hack.) De Winter			
<i>Stipagrostis giessii</i> Kers			
<i>Stipagrostis hermannii</i> (Mez) De Winter	Near Endemic		
<i>Stipagrostis hochstetteriana</i> (Beck ex Hack.) De Winter var. <i>hochstetteriana</i>			
<i>Stipagrostis hochstetteriana</i> (Beck ex Hack.) De Winter var. <i>secalina</i> (Henrard) De Winter			
<i>Stipagrostis namaquensis</i> (Nees) De Winter			
<i>Stipagrostis obtusa</i> (Delile) Nees			
<i>Stipagrostis schaeferi</i> (Mez) De Winter			
<i>Stipagrostis subacaulis</i> (Nees) De Winter			
<i>Suaeda merxmuelleri</i> Aellen			
<i>Suaeda plumosa</i> Aellen			
<i>Tamarix ramosissima</i> Ledeb.			
<i>Tamarix usneoides</i> E.Mey. ex Bunge			
<i>Tapinanthus oleifolius</i> (J.C.Wendl.) Danser			
<i>Tephrosia dregeana</i> E.Mey. var. <i>dregeana</i>	Near Endemic		
<i>Tetraena clavata</i> (Schltr. & Diels) Beier & Thulin	Near Endemic		
<i>Tetragonia decumbens</i> Mill.			
<i>Tetragonia reduplicata</i> Welw. ex Oliv.			
<i>Trianthema hereroensis</i> Schinz	Endemic		
<i>Tribulus excrucians</i> Wawra			
<i>Tribulus zeyheri</i> Sond. subsp. <i>zeyheri</i>			
<i>Trichodesma africanum</i> (L.) Lehm.			

<i>Tripteris microcarpa</i> Harv. subsp. <i>microcarpa</i>			
<i>Tripteris microcarpa</i> Harv. subsp. <i>septentrionalis</i> (Norl.) B.Nord.			
<i>Tripteris nervosa</i> Hutch.	Endemic		
<i>Triraphis pumilio</i> R.Br.			
<i>Vahlia capensis</i> (L.f.) Thunb. subsp. <i>vulgaris</i> Bridson var. <i>vulgaris</i>			
<i>Verbesina encelioides</i> (Cav.) Benth. & Hook.f. ex A.Gray var. <i>encelioides</i>			
<i>Welwitschia mirabilis</i> Hook.f.	Near Endemic	Protected	
<i>Xanthium strumarium</i> L.			
<i>Zannichellia palustris</i> L.			
<i>Zygophyllum simplex</i> L.			
<i>Zygophyllum spongiosum</i> Van Zyl			
<i>Zygophyllum stapffii</i> Schinz	Endemic		

## APPENDIX B – LIST OF FAUNA SPECIES THAT CAN BE FOUND IN THE AREA (UCCB, 2011)

Reptile diversity known and/or expected to occur in the general Kuiseb delta and dune belt area – i.e., Walvis Bay and Swakopmund areas.

Species: Scientific name	Species: Common name	Namibian conservation and legal status	International status
<b>TURTLES AND TERRAPINS</b>			
<i>Pelomedusa subrufa</i>	Marsh/Helmeted Terrapin	Secure	
<b>SNAKES</b>			
<b>Thread Snakes</b>			
<i>Leptotyphlops occidentalis</i>	Western Thread Snake	Endemic ;Secure	SARDB Peripheral
<i>Leptotyphlops labialis</i>	Damara Thread Snake	Endemic ;Secure	
<b>Burrowing Snakes</b>			
<i>Xenocalamus bicolor bicolor</i>	Bicoloured Quill-snouted Snake	Secure	
<b>Typical Snakes</b>			
<i>Lamprophis fuliginosus</i>	Brown House Snake	Secure	
<i>Lycophidion capense</i>	Cape Wolf Snake	Secure	
<i>Pseudaspis cana</i>	Mole Snake	Secure	
<i>Dipsina multimaculata</i>	Dwarf Beaked Snake	Endemic ;Secure	
<i>Psammophis trigrammus</i>	Western Sand Snake	Endemic ;Secure	
<i>Psammophis notostictus</i>	Karoo Sand Snake	Secure	
<i>Psammophis leightoni namibensis</i>	Namib Sand Snake	Secure	
<i>Dasypeltis scabra</i>	Common/Rhombic EggEater	Secure	
<i>Aspidelaps lubricus infuscatus</i>	Coral Snake	Secure	
<i>Aspidelaps scutatus</i>	Shield-nose Snake	Secure	
<i>Naya nigrincincta</i>	Black-necked Spitting Cobra	Endemic ;Secure	
<i>Bitis arietans</i>	Puff Adder	Secure	
<i>Bitis caudalis</i>	Horned Adder	Secure	
<i>Bitis peringueyi</i>	Péringuey's Adder	Endemic ;Secure	
<b>LIZARDS</b>			
<b>Skinks</b>			
<i>Typhlosaurus braini</i>	Brains's Blind Legless Skink	Endemic ;Secure	
<i>Typhlacontias brevipes</i>	FitzSimmons' Burrowing Skink	Endemic ;Secure	
<i>Trachylepis occidentalis</i>	Western Three-striped Skink	Secure	
<i>Trachylepis striata wahlbergi</i>	Striped Skink	Secure	

<i>Trachylepis sulcata</i>	Western Rock Skink	Secure	
<i>Trachylepis variegata variegata</i>	Variegated Skink	Secure	
<b>Old World Lizards</b>			
<i>Heliobolus lugubris</i>	Bushveld Lizard	Secure	
<i>Meroles anchietae</i>	Shovel-snouted Lizard	Secure	
<i>Meroles cuneirostris</i>	Wedge-snouted Desert Lizard	Endemic ;Secure	
<i>Meroles micropholidotus</i>	Small-scaled Desert Lizard	Endemic ;Rare?	
<i>Meroles reticulatus</i>	Reticulated Desert Lizard	Endemic ;Secure	
<i>Meroles suborbitalis</i>	Spotted Desert Lizard	Secure	
<i>Pedioplanis breviceps</i>	Short-headed Sand Lizard	Endemic ;Secure	
<i>Pedioplanis namaquensis</i>	Namaqua Sand Lizard	Secure	
<i>Pedioplanis inornata</i>	Plain Sand Lizard	Endemic ;Secure	
<b>Plated Lizards</b>			
<i>Cordylosaurus subtessellatus</i>	Dwarf Plated Lizard	Endemic ;Secure	
<b>Monitors</b>			
<i>Varanus albigularis</i>	Rock Monitor	Vulnerable; Peripheral Protected Game	CITES Appendix II Safe to Vulnerable
<b>Agama</b>			
<i>Agama planiceps</i>	Namibian Rock Agama	Secure	
<b>Chameleons</b>			
<i>Bradypodion pumilum</i>	Cape Dwarf Chameleon	Introduced alien Secure	CITES Appendix II
<i>Chamaeleo namaquensis</i>	Namaqua Chameleon	Secure	CITES Appendix II
<b>Geckos</b>			
<i>Afroedura africana</i>	African Flat Gecko	Endemic ;Rare?	
<i>Chondrodactylus angulifer namibensis</i>	Giant Ground Gecko	Secure	
<i>Narudasia festiva</i>	Festive Gecko	Endemic ;Secure	
<i>Pachydactylus bicolor</i>	Velvety Thick-toed Gecko	Endemic ;Secure	
<i>Pachydactylus kockii</i>	Koch's Thick-toed Gecko	Endemic ;Secure	
<i>Pachydactylus turneri</i>	Turner's Thick-toed Gecko	Secure	
<i>Pachydactylus scherzi</i>	Schertz's Thick-toed Gecko	Endemic ;Secure	
<i>Pachydactylus rugosus rugosus</i>	Rough Thick-toed Gecko	Endemic ;Secure	
<i>Pachydactylus weberi weneri</i>	Weber's Thick-toed Gecko	Endemic ;Secure	



<i>Palmatogecko rangei</i>	Wed-footed Gecko	Endemic ;Secure	
<i>Ptenopus carpi</i>	Carp's Barking Gecko	Endemic ;Secure	
<i>Ptenopus garrulus maculatus</i>	Common Barking Gecko	Secure	
<i>Ptenopus kocki</i>	Kock's Barking Gecko	Endemic ;Secure	
<i>Rhoptropus afer</i>	Common Namib Day Gecko	Endemic ;Secure	
<i>Rhoptropus boultoni</i>	Boulton's Namib Day Gecko	Endemic ;Secure	
<i>Rhoptropus bradfieldi</i>	Bradfield's Namib Day Gecko	Endemic ;Secure	

Amphibian diversity known and/or expected to occur in the general Kuiseb delta and dune belt area – i.e. Walvis Bay and Swakopmund areas.

<b>Species: Scientific name</b>	<b>Species: Common name</b>	<b>Status</b>
<b>Toads</b>		
<i>Poyntonophrynus dombensis</i>	Dombe Toad	Endemic
<i>Poyntonophrynus hoeschi</i>	Hoesch's Toad	Endemic
<i>Amietophrynus poweri</i>	Power's Toad or Western Olive Toad	
<b>Rain Frogs</b>		
<i>Breviceps adspersus</i>	Common/Bushveld Rain Frog	
<b>Rubber Frog</b>		
<i>Phrynomantis annectens</i>	Marbled Rubber Frog	Endemic
<b>Bull and Sand Frogs</b>		
<i>Tomopterna tandyi</i>	Tandy's Sand Frog	
<b>Platannas</b>		
<i>Xenopus laevis</i>	Common Platanna	

Mammal diversity known and/or expected to occur in the general Kuiseb delta and dune belt area – i.e. Walvis Bay and Swakopmund areas.

<b>Species: Scientific name</b>	<b>Species: Common name</b>	<b>Namibian conservation</b>	<b>Species: Scientific name</b>
<b>Moles</b>			
<i>Eremitalpa granti</i>	Grant's Golden Mole	Endemic; Secure	<sup>1</sup> Vulnerable
<b>Elephant Shrews</b>			
<i>Macroscelides proboscideus flavicaudatus</i>	Round-eared Elephant-shrew	Endemic; Secure	
<b>Bats</b>			
<i>Lissonycteris angolensis</i>	*Angolan Soft-furred Fruit Bat	Not listed	
<i>Tadarida aegyptiaca</i>	Egyptian Free-tailed Bat	Secure	

<i>Cistugo seabrai</i>	Namibian Wing-gland Bat	Endemic; Rare	<sup>1</sup> Vulnerable; <sup>2</sup> Near Threatened
<i>Laephotis namibensis</i>	Namib Long-eared Bat	Endemic; Insufficiently known	
<i>Nycteris thebaica</i>	Common Slit-faced Bat	Secure	
<i>Rhinolophus clivosus</i>	Geoffroy's Horseshoe Bat	Secure	<sup>1</sup> Near Threatened
<i>Rhinolophus darling</i>	Darling's Horseshoe Bat	Secure	<sup>1</sup> Near Threatened
<i>Rhinolophus capensis</i>	*Cape Horseshoe Bat	Secure	<sup>1</sup> Near Threatened; <sup>2</sup> Near Threatened
<i>Taphozous mauritanus</i>	*Mauritanian Tomb Bat	Secure	
<i>Chaerephon ansorgei</i>	*Ansorge's Free-tailed Bat	Not listed	
<i>Sauromys petrophilus</i>	Roberts's Flat-headed Bat	Secure	
<i>Miniopterus natalensis</i>	Natal Long-fingered Bat	Secure	<sup>1</sup> Near Threatened
<i>Eptesicus hottentotus</i>	Long-tailed Serotine	Secure	
<i>Neoromicia zuluensis</i>	*Zulu Serotine	Secure	
<i>Pipistrellus rueppellii</i>	*Rüppell's Pipistrelle	Insufficiently known; Peripheral	
<b>Hares and Rabbits</b>			
<i>Lepus capensis</i>	Cape Hare	Secure	
<b>Rodents</b>			
<b>Rats and Mice</b>			
<i>Parotomys littledalei namibensis</i>	Littledale's Whistling Rat	Endemic; Secure	<sup>1</sup> Near Threatened
<i>Rhabdomys pumilio</i>	Striped Mouse	Secure	
<i>Mus musculus</i>	House Mouse	Invasive alien	
<i>Aethomys chrysophilus</i>	Red Veld Rat	Secure	
<i>Micaelamys (Aethomys) namaquensis</i>	Namaqua Rock Mouse	Secure	
<i>Rattus</i>	House Rat	Invasive alien	
<i>Rattus norvegicus</i>	Brown Rat	Invasive alien	
<i>Desmodillus auricularis</i>	Short-tailed Gerbil	Secure	
<i>Gerbillurus paeba infernus</i>	Hairy-footed Gerbil	Endemic; Insufficiently known	
<i>Gerbillurus tytonis</i>	Dune Hairy-footed Gerbil	Endemic; Secure	
<i>Gerbillurus setzeri</i>	Setzer's Hairy-footed Gerbil or Namib Brush- tailed Gerbil	Endemic	
<i>Petromyscus collinus</i>	Pygmy Rock Mouse	Endemic; Secure	
<i>Mastomys coucha</i>	Southern Multimammate Mouse	Secure	
<i>Petromys typicus</i>	Dassie Rat	Endemic; Secure	<sup>1</sup> Near Threatened
<b>Carnivores</b>			
<i>Hyaena brunnea</i>	Brown Hyena	Insufficiently known;	<sup>1</sup> Near Threatened

Peripheral	2Near Threatened	Vulnerable?	
Crocuta	Spotted Hyena	Secure? Peripheral	1Near Threatened
Felis silvestris	African Wild Cat	Vulnerable	CITES Appendix II
Vulpes chama	Cape Fox	Vulnerable?	
Canis mesomelas	Black-backed Jackal	Secure; Problem animal	
Ictonyx striatus	Striped Polecat	Secure	
Suricata suricatta marjoriae	Suricate	Endemic; Secure	
Antelopes			
Sylvicapra grimmia	Common Duiker	Secure	
Antidorcas marsupialis	Springbok	Secure; Huntable game	

Bird diversity known and/or expected to occur in the general Kuiseb delta and dune belt area – i.e. Walvis Bay and Swakopmund areas.

Species: Scientific name	Species: Common name	Status: Namibia	Status: Southern Africa
<i>Struthio camelus</i>	Common Ostrich		
<i>Podiceps cristatus</i>	Great Crested Grebe		
<i>Tachybaptus ruficollis</i>	Little Grebe		
<i>Podiceps nigricollis</i>	Black-necked Grebe		
<i>Pelecanus onocrotalus</i>	Great White Pelican		
<i>Pelecanus rufescens</i>	Pink-backed Pelican		
<i>Phalacrocorax lucidus</i>	White-breasted Cormorant		
<i>Morus capensis</i>	Cape Gannet	Specially protected	Vulnerable; Breeding endemic
<i>Phalacrocorax capensis</i>	Cape Cormorant		Near-threatened; Breeding endemic
<i>Phalacrocorax neglectus</i>	Bank Cormorant	Specially protected	Endemic; Endangered
<i>Phalacrocorax africanus</i>	Reed Cormorant		
<i>Phalacrocorax coronatus</i>	Crowned Cormorant		Endemic; Near-threatened
<i>Anhinga melanogaster</i>	Darter		
<i>Ardea cinerea</i>	Grey Heron		
<i>Ardea melanocephala</i>	Black-headed Heron		
<i>Ardea purpurea</i>	Purple Heron		
<i>Egretta garzetta</i>	Little Egret		
<i>Egretta intermedia</i>	Yellow-billed Egret		
<i>Egretta alba</i>	Great Egret		

<i>Egretta ardesiaca</i>	Black Egret		
<i>Bubulcus ibis</i>	Cattle Egret		
<i>Ardeola ralloides</i>	Squacco Heron		
<i>Ixobrychus minutus</i>	Little Bittern		
<i>Scopus umbretta</i>	Hamerkop		
<i>Ciconia nigra</i>	Black Stork		
<i>Phoenicopterus ruber</i>	Greater Flamingo	Vulnerable	
<i>Phoenicopterus minor</i>	Lesser Flamingo	Vulnerable	Near-threatened
<i>Dendrocygna viduata</i>	Whitefaced Duck		
<i>Alopochen aegyptiacus</i>	Egyptian Goose		
<i>Anas capensis</i>	Cape Teal		
<i>Anas hottentota</i>	Hottentot Teal		
<i>Anas erythrorhyncha</i>	Redbilled Teal		
<i>Anas smithii</i>	Cape Shoveller		
<i>Netta erythrophthalma</i>	Southern Pochard		
<i>Sagittarius serpentarius</i>	Secretarybird		
<i>Gyps africanus</i>	White-backed Vulture		
<i>Aegypius tracheliotus</i>	Lappet-faced Vulture		
<i>Circaetus pectoralis</i>	Black-chested Snake-Eagle		
<i>Elanus caeruleus</i>	Black-shouldered Kite		
<i>Aquila verreauxii</i>	Verreaux's Eagle		
<i>Aquila rapax</i>	Tawny Eagle		
<i>Polemaetus bellicosus</i>	Martial Eagle		
<i>Buteo augur</i>	Augur Buzzard		
<i>Melierax canorus</i>	Southern Pale ChantingGoshawk		Near endemic
<i>Falco peregrines</i>	Peregrine Falcon		
<i>Falco biarmicus</i>	Lanner Falcon		
<i>Falco chicquera</i>	Red-necked Falcon		
<i>Falco rupicolus</i>	Rock Kestrel		
<i>Falco rupicoloides</i>	Greater Kestrel		
<i>Francolinus adspersus</i>	Red-billed Francolin		
<i>Trunix sylvatica</i>	Kurrichane Buttonquail		
<i>Porphyrio</i>	African Purple Swamphen		
<i>Gallinula chloropus</i>	Common Moorhen		
<i>Fulica cristata</i>	Red-knobbed Coot		
<i>Ardeotis kori</i>	Kori Bustard		
<i>Neotis ludwigii</i>	Ludwig's Bustard		Endangered;Near endemic
<i>Eupodotis rueppellii</i>	Rüppell's Korhaan	Endemic	Near endemic
<i>Eupodotis afra</i>	Black Korhaan		
<i>Actophilornis africanus</i>	African Jacana		
<i>Rostratula benghalensis</i>	Painted Snipe		
<i>Haematopus moquini</i>	African Black Oystercatcher	Vulnerable	Near threatened ;Endemic
<i>Charadrius marginatus</i>	White-fronted Plover		
<i>Charadrius pallidus</i>	Chestnut-banded Plover		Near threatened

<i>Charadrius pecuarius</i>	Kittlitz's Plover		
<i>Charadrius tricollaris</i>	Three-banded Plover		
<i>Vanellus armatus</i>	Blacksmith Lapwing		
<i>Recurvirostra avosetta</i>	Pied Avocet		
<i>Himantopus</i>	Black-winged Stilt		
<i>Burhinus capensis</i>	Spotted Thick-knee		
<i>Cursorius rufus</i>	Burchell's Courser		
<i>Rhinoptilus africanus</i>	Double-banded Courser		
<i>Larus dominicanus</i>	Kelp Gull		
<i>Larus cirrocephalus</i>	Grey-headed Gull		
<i>Larus hartlaubii</i>	Hartlaub's Gull		Endemic
<i>Sterna bergii</i>	Swift Tern		
<i>Sterna balaenarum</i>	Damara Tern	Endemic; Endangered	Near threatened; Breeding endemic
<i>Chlidonias hybridus</i>	Whiskered Tern		
<i>Pterocles namaqua</i>	Namaqua Sandgrouse		Near endemic
<i>Pterocles bicinctus</i>	Double- banded Sandgrouse		Near endemic
<i>Columba guinea</i>	Speckled Pigeon		
<i>Columba livea</i>	Rock Dove		
<i>Streptopelia capicola</i>	Cape Turtle Dove		
<i>Streptopelia senegalensis</i>	Laughing Dove		
<i>Streptopelia capicola</i>	Cape Turtle-Dove		
<i>Oena capensis</i>	Namaqua Dove		
<i>Agapornis roseicollis</i>	Rosy-faced Lovebird	Endemic	Near endemic
<i>Corythaixoides concolor</i>	Grey Go-away-bird		
<i>Tyto alba</i>	Barn Owl		
<i>Otus leucotis</i>	Southern White- facedScops-Owl		
<i>Glaucidium perlatum</i>	Pearl-spotted Owlet		
<i>Bubo africanus</i>	Spotted Eagle Owl		
<i>Bubo lacteus</i>	Giant Eagle Owl		
<i>Caprimulgus tristigma</i>	Freckled Nightjar		
<i>Apus bradfieldi</i>	Bradfield's Swift		Near endemic
<i>Colius</i>	White-backed Mousebird		Endemic
<i>Urocolius indicus</i>	Red-faced Mousebird		
<i>Ceryle rudis</i>	Pied Kingfisher		
<i>Merops hirundineus</i>	Swallow-tailed Bee-eater		
<i>Upupa epops</i>	Hoopoe		
<i>Phoeniculus cyanomelas</i>	Scimitar-billed Woodhoopoe		
<i>Tockus monteiri</i>	Monteiro's Hornbill	Endemic	
<i>Tockus nasutus</i>	African Grey Hornbill		
<i>Lybius leucomelas</i>	Pied Barbet		
<i>Dendropicos fuscescens</i>	Cardinal Woodpecker		
<i>Mirafra sabota</i>	Sabota Lark		
<i>Mirafra curvirostris</i>	Long-billed Lark		

<i>Calendulauda erythrochlamys</i>	Dune Lark	Endemic	Endemic
<i>Chersomanes albofasciata</i>	Spike-heeled Lark		Near endemic
<i>Calandrella cinerea</i>	Red-capped Lark		
<i>Alauda starki</i>	Stark's Lark		Endemic
<i>Ammomanopsis grayi</i>	Gray's Lark	Endemic	Near endemic
<i>Certhilauda subcoronata</i>	Karoo Long-billed Lark		Endemic
<i>Eremopterix verticalis</i>	Grey-backed Sparrowlark		Near endemic
<i>Hirundo fuligula</i>	Rock Martin		
<i>Riparia paludicola</i>	Brown-throated Martin		
<i>Dicrurus adsimilis</i>	Fork-tailed Drongo		
<i>Corvus capensis</i>	Cape Crow		
<i>Corvus albus</i>	Pied Crow		
<i>Parus cinerascens</i>	Ashy Tit		Near endemic
<i>Anthoscopus minutes</i>	Cape Penduline Tit		Near endemic
<i>Turdoides bicolor</i>	Pied Babbler		
<i>Pycnonotus nigricans</i>	African Red-eyed Bulbul		Near endemic
<i>Monticola brevipes</i>	Short-toed Rock Thrush		
<i>Namibornis herero</i>	Herero Chat	Endemic	Near endemic
<i>Oenanthe monticola</i>	Mountain Wheatear		Near endemic
<i>Cercomela familiaris</i>	Familiar Chat		
<i>Cercomela tracterac</i>	Tracterac Chat		Near endemic
<i>Cercomela schlegelii</i>	Karoo Chat		Near endemic
<i>Myrmecocichla formicivora</i>	Ant-eating Chat		Endemic
<i>Erythropygia paena</i>	Kalahari Robin		
<i>Parisoma subcaeruleum</i>	Chestnut-vented Tit-Babbler		Near endemic
<i>Parisoma layardi</i>	Layard's Tit-Babbler		Endemic
<i>Zosterops pallidus</i>	Orange River White-eye		Endemic
<i>Sylvietta rufescens</i>	Long-billed Crombec		
<i>Eremomela icteropygialis</i>	Yellow-bellied Eremomela		
<i>Eremomela gregalis</i>	Karoo Eremomela		
<i>Acrocephalus baeticatus</i>	African Reed-Warbler		
<i>Acrocephalus gracilirostris</i>	Lesser Swamp-Warbler		
<i>Cisticola aridulus</i>	Desert Cisticola		
<i>Cisticola subruficapilla</i>	Grey-backed Cisticola		Near endemic
<i>Cisticola juncidis</i>	Zitting Cisticola		
<i>Prinia flavicans</i>	Black-chested Prinia		
<i>Melaenornis mariquensis</i>	Marico Flycatcher		Near endemic
<i>Bradornis infuscatus</i>	Chat Flycatcher		Near endemic
<i>Muscicapa striata</i>	Spotted Flycatcher		
<i>Batis pririt</i>	Pirit Batis		Near endemic

<i>Motacilla capensis</i>	Cape Wagtail		
<i>Anthus navaeseelandiae</i>	Richard's Pipit		
<i>Anthus similis</i>	Long-billed Pipit		
<i>Anthus vaalensis</i>	Buffy Pipit		
<i>Tchagra australis</i>	Brown-crowned Tchagra		
<i>Lanius collaris</i>	Common Fiscal		
<i>Laniarius atrococcineus</i>	Crimson-breasted Shrike		Near endemic
<i>Nilaus afer</i>	Brubru		
<i>Telophorus zeylonus</i>	Bokmakierie		Near endemic
<i>Creatophora cinerea</i>	Wattled Starling		
<i>Lamprotornis nitens</i>	Cape Glossy Starling		
<i>Onychognathus nabouroup</i>	Pale-winged Starling		Near endemic
<i>Chalcomitra senegalensis</i>	Scarlet-chested Sunbird		
<i>Nectarinia mariquensis</i>	Marico Sunbird		
<i>Nectarinia fusca</i>	Dusky Sunbird		Near endemic
<i>Passer domesticus</i>	House Sparrow		
<i>Passer motitensis</i>	Great Sparrow		Near endemic
<i>Passer melanurus</i>	Cape Sparrow		Near endemic
<i>Passer griseus</i>	Southern Grey-headed Sparrow		
<i>Sporopipes squamifrons</i>	Scaly-feathered Finch		Near endemic
<i>Plocepasser mahali</i>	White-browed Sparrow-Weaver		
<i>Philetairus socius</i>	Sociable Weaver		Endemic
<i>Ploceus velatus</i>	Southern Masked Weaver		
<i>Quelea</i>	Red-billed Quelea		
<i>Euplectes orix</i>	Southern Red Bishop		
<i>Estrilda erythronotos</i>	Black-faced Waxbill		
<i>Estrilda astrild</i>	Common Waxbill		
<i>Amadina erythrocephala</i>	Red-headed Finch		Near endemic
<i>Vidua regia</i>	Shaft-tailed Whydah		
<i>Serinus alario</i>	Black-headed Canary		
<i>Serinus flaviventris</i>	Yellow Canary		Near endemic
<i>Crithagra atrogularis</i>	Black-throated Canary		
<i>Serinus albogularis</i>	White-throated Canary		Near endemic
<i>Emberiza capensis</i>	Cape Bunting		Near endemic
<i>Emberiza tahapisi</i>	Cinnamon-breasted Bunting		
<i>Emberiza impetuani</i>	Lark-like Bunting		Near endemic