



Application for Renewal of the Environmental Clearance Certificate

Environmental Progress and Monitoring Report for Sand Mining Activities from Sand Mine for KKKK Enterprise in Eshakeno Village, Ohangwena Region, Namibia

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ABBREVIATIONS

DEA	Department of Environmental Affairs
ECC	Environmental Clearance Certificate
EIA	Environmental Impact Assessment
EMA	Environmental Management Act (No. 7 of 2007)
EMP	Environmental Management Plan
MET	Ministry of Environment and Tourism
PPE	Personal Protective Equipment

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EXECUTIVE SUMMARY

The Environmental Progress and Monitoring Report (EPMR) is submitted by Greenspace Research Consultants cc for sand mining activities conducted by KKKK Enterprises cc (Reg.no.CC/2004/1299) in Eshakeno Village, Okongo Constituency, Ohangwena Region for the intend use of cement production. The purpose of this application is for the renewal of the Environmental Clearance Certificate (ECC) with the Ministry of Environment, Forestry and Tourism (MEFT) under the Directorate of Environmental Affairs (DEA).

The consultants will equally also serve as the Environmental Control Officers (ECO) for the operation of the sand mining activities for the period of three years commencing 28 May 2019 to 28 May 2022. The document EPMR is to provide the progress to date, monitoring activities along with the management measures aimed to address the impacts resulting from the sand mining activities, on both the environment and the community as the ECC had expired. The actual sand mining activities i.e., execution of the sand pit have not commenced as initially proposed due to various reasons; 1) challenges brought by the COVID-19 pandemic (2019-2021) and 2) limited financial capital funds to commence the open cast sand mining operations.

Greenspace Research Consultants cc (CC/2017/01383) is a 100% owned Namibian Consulting firm specializing in conducting Environmental Impact Assessments (EIA), Environmental Scoping Studies (ESS), Environmental Management Plans (EMP), Environmental Monitoring Report (EMR), research projects, feasibility studies, geographical information systems, data entry, data analysis and data interpretation, amongst other services. Greenspace Research Consultants cc team is made up of experts with experience in conduct EIAs, development of EMPs, report writing and geographic information system skills.

1. INTRODUCTION

1.1 Overview

Sand is one of the most important construction materials and has become a very important mineral for our society due to its many uses, and its demand continues to rise. It can be used for making concrete, filling roads, building sites, brick-making, making glass sandpapers, reclamations, etc. Due to its various uses, and demand in Namibia, sand mining falls under section 26, listing 2 (a) (GRN No. 232 of 2007) of the Environmental Management Act, 2007 (Act No. 7 of 2007) of the activities that may not be undertaken without environmental clearance certificate. Regulations No. 30 of 2012 requires that an environmental assessment be undertaken for all projects that may cause adverse environmental and social impacts. For this purpose, KKKK Enterprise cc had requested Greenspace Research Consultants cc to prepare an Environmental Progress and Monitoring Report for the KKKK Sand Mine project in Eshakeno Village.

This EMP was prepared and approved as part of the environmental assessment for the sand mining activities to be conducted by KKKK Enterprise cc. This EPMP content is therefore tailored according to the Regulations of the Environmental Management Act, 2007 (Act No 7 of 2007). The aim of this EPMP is to provide progress, monitoring activities and mitigation measures to address the potential environmental and social impacts that may result from the project. This will help KKKK Enterprise cc to ensure compliance to all relevant laws and policies. The KKKK Enterprise cc will be doing an open cast sand mining, whereby the stockpile (topsoil) layer will be excavated and stored on the side – for rehabilitation purposes.

2. PROJECT DESCRIPTION

The KKKK Enterprise cc is a registered (Reg.no.CC/2004/1299) Namibian company. The Company specializes in bricks manufacturing, cement products, building materials such as; road pavements, hollow bricks, interlocks, toilet pots and lintels etc. The KKKK Enterprise cc has been granted an ECC for the period of 28 May 2019 to 28 May 2022 for the development of Sand Mine in Eshakeno Village of Okongo Constituency, Ohangwena Region, Namibia (see Annexure 1).

The size of the area is 1 ha (one hectare), see annexure 1 for site pictures. The site is located between Okongo and Eenhana, on the Okongo-Eenhana C45 Main Road (see Figure 1). The area is west of Okongo Town, and its 12 km away from Okongo Town. The

project is established to explore and mine sand for aforementioned products on an exclusive 10-year tenure contract.

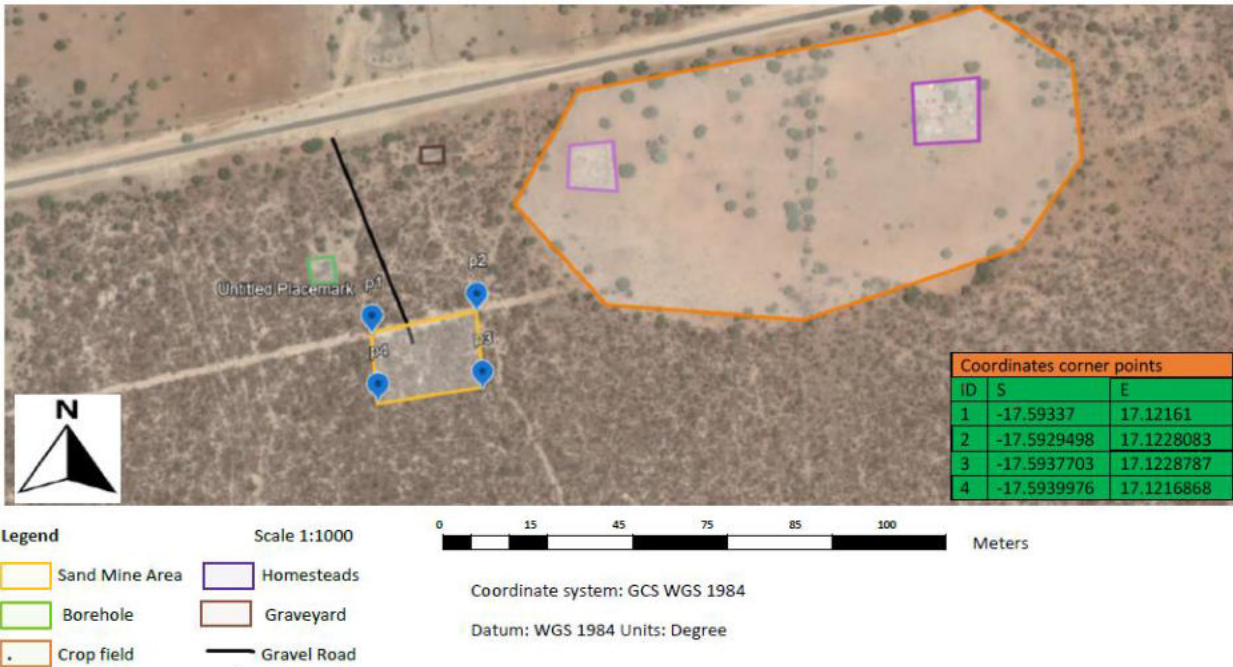


Figure 1: Map showing the proposed sand mine site in Eshakeno Village, Ohangwena Region



Figure 2: Sand mine site area that had been cleared.

Table 1: Features of the Project

Feature of the Project	
Name of the project	KKKK Sand Mine
Name of the Applicant	KKKK Enterprises cc
Location	Eshakeno Village, Okongo Constituency, Ohangwena Region.
Scale and total volume of proposed sand mining unit	More than 1000 m ³
Size of the site	1 hectare
Burrow pit depth	3 meters
Mode of transportation	Excavator, front loader and trucks.
Intended use of sand	Brickmaking and cement products
Tenure of operation	10 years

1.1. Mining Method: The KKKK Enterprises cc will be doing an open cast sand mining, whereby the stockpile (topsoil) layer will be excavated and stored on the side – for rehabilitation purposes. The desired sand, some centimeters below the topsoil to a maximum depth of 3 meters will be excavated for commercial purposes. The sand mining will not involve any blasting. Additionally, no further processing of the sand mined material will be done onsite. The required volume of sand will be transported directly from site to Okongo Town where it is needed for brick making and cement production. Sand will be excavated by an excavator and will be loaded into trucks using the front loader.

Depending on availability, water for dust suppression will be taken from nearby open water sources such open dam (*Etale*). The scope of activities for the site will entail:

- Mining / extraction of sand on weekdays only, between 08h00 to 17h00. However, operations will only be undertaken on certain days of the week, if there is a demand for sand for the bricks production.
- Extraction and transportation of sand to the manufacturing site in Okongo, depending on the customers' demands.
- Sand extraction duration, if granted is approximately 10 years, depending on demand and availability of sand within the site boundaries, and
- Rehabilitation of the affected environment/land by the Proponent.

Maintenance of the site will be undertaken as deemed necessary by KKKK Enterprise cc. About ten (10) local people will be employed during the operational stage. No onsite

accommodation or project area accommodation will be required by employees because they will be coming from their homes on a daily basis or as required. Truck drivers will not require accommodation on site too as these will only be coming to site to collect the mined sand on days they need to come to the site. Personal Protective Equipment (PPE) will be provided to all on site employees in both phases of the proposed sand mine. The continuing mining, operations, rehabilitation and decommissioning of the sand mining activities will be done in an environmentally sustainable manner.

1.2. Waste Management: Waste generated during operational and maintenance phases will be kept on-site, sorted accordingly and transported to the nearest Okongo Town's solid waste management facility.

1.3. Decommissioning Phase: The Proponent indicated that mining activities will only last depending on the amount of sand available on site over the ten (10) years period. After this period, all mining activities will cease, and equipment removed from site. It is within this phase that the full rehabilitation of the site will need to be undertaken by KKKK Enterprises to restore the site.

1.4. Roads: The project area is connected to the C45 road that link Eenhana to Okongo. From the C45 road the sand mining site is accessed by a 290 m sandy single-track road from the western side of Okongo Town (12km away). The single gravel track has been constructed from main road to the site by the KKKK Enterprise cc into a well-graded gravel road to improve the site access.

1.5. Power Supply: No electricity will be required for the sand mining project.

1.6. Landscape: Kalahari Sandveld - Palaeo Dunes and pans.

1.7. Forest: The closest forest is the Okongo Community Forest approximately 80km from Okongo Town.

1.8. Water Resources: Area falls within the productivity of aquifer, under groundwater basins and Borehole yields. There is currently a functional community borehole approximately 150m North-West from the Site.

1.9. Water: There will be no use of water for the project (from construction to operational phases). Drinking water will be sourced from Okongo Town were the brick making site is located.

1.20. Guard room: A corrugated iron room has been constructed on the site to accommodate the security officer to guard the site and allow authorized personnels only for security purposes.

3. ROLES AND RESPONSIBILITIES CONCERNING THE IMPLEMENTATION OF THE EMP: MANAGEMENT RESPONSIBILITY

A number of parties have responsibilities in the implementation of the Environmental Management Plan (EMP) at KKKK Sand Mine:

1. The Manager:

- Implementation and monitoring of the EMP;
- Provide all supervisory and management staff with an awareness and understanding of their responsibilities under the EMP;
- Provide appropriate and adequate resources to allow for the effective implementation and maintenances of the ESMP; report major environmental and social incidents that may have a significant impact on the surrounding environment, staff and community; and
- Provide employees with training and understanding of their obligations and duties in relation to EMP.

2. The Site Supervisor:

- Being aware and understand the contents of, and the reason for, implementing the elements of the EMP; and
- Maintain a record of activities relevant to environmental management.

3. The Employees:

- Exercise environmental, health and safety due diligence and achieve compliance with the EMP; and
- Report all incidents to the manager as soon as practicable, but within 24 hours of then occurring.

4. ENVIRONMENTAL MONITORING AND REPORTING

This section provides a large-scale overview of all the major environmental management themes pertaining to site-specific sand mining mitigation details. The management plan for proposed impacts, level of impact and proposed mitigation measures for the efficient monitoring and reporting on the environmental parameters as detailed in Table 2. The continuously monitoring is done by the assigned responsible officials and for each aspect of the environment, indicators are determined, and compliance is measured against those indicators.

Table 2: Environment and social elements and their monitoring plans

Elements	Monitoring and reporting	Performance indicator	Responsible personnel
<p>1. Habitats and biodiversity (fauna and flora)</p>	<ul style="list-style-type: none"> • Monitor operational areas and all access tracks and roads. Record all negligent fauna (such as birds, reptiles etc.) and flora destruction, and should be reported to the site manager, immediately. Apply the penalty system to all guilty parties. • Constant monitoring and record keeping of progress must be made until all rehabilitation is done, approved and signed off by the Environmental Coordinator at the decommissioning of sand mining. 	<ul style="list-style-type: none"> • Invertebrates, reptiles and birds can freely move around in or outside the site. 	<p>Manager and Site Supervisor</p>
<p>2. Rehabilitation</p>	<ul style="list-style-type: none"> • Communicated to all staff: the burrow site closure rehabilitation objectives • All access roads to burrow sites shall be rehabilitated and closed off to prevent entry upon end of the contract term. • Fill the burrow site with the saved topsoil (overburden), stabilize and contour to blend in with the surrounding natural landscape. The burrow site shall be finished off in a suitable approach to facilitate natural re-establishment of vegetation. 	<ul style="list-style-type: none"> • Erosion and sedimentation may result from incorrect shaping of the site and maintenance. Implement measures such as contours (no steep slopes) upon mining conclusion to limit erosion and sedimentation if and when it rains in the area. 	<p>Manager and Site Supervisor</p>

<p>3. Air Pollution Management</p>	<ul style="list-style-type: none"> ● Visual observation of dust and smoke at the site and surrounding area. ● Enforcing speed limits on untreated roads. ● Physical verification and routine monitoring, record of non-compliance. ● Communication with those that complained should be continued to determine whether the problem has been resolved e.g. community members. 	<ul style="list-style-type: none"> ● Complaints about dust or smoke are to be responded to within 12 hours. ● Record sand transportation loads and shifts. ● Investigation report. 	<p>The Site Manager and The Employees</p>
<p>4. Protection of water resources (Surface and Ground water Quality and water use)</p>	<ul style="list-style-type: none"> ● Daily inspections of diesel tanks and any other mechanical instruments on site and surrounding area. 	<ul style="list-style-type: none"> ● No visible diesel contamination on the ground. ● Hazardous/chemical disposal plan in place. 	<p>The Site Manager and Employees</p>
<p>5. Health and safety</p>	<p>Inspect employees to ensure wearing of protective gear at all times.</p>	<ul style="list-style-type: none"> ● Environment, Safety and Health Policy displayed in the factory. ● Employees putting on full protective wear. ● No smoking inside the factory 	<p>The Employees</p>

6. Littering and Wastewater (sanitary & process) and hazardous / chemical waste	<ul style="list-style-type: none"> • Monitor the management and disposal of all wastes including hazardous waste. • All plant and equipment shall be kept in good working order and serviced regularly 	<ul style="list-style-type: none"> • All waste materials are handled, stored and disposed in a safe and appropriate manner; • Waste facility are labeled clearly and readily visible to all • No visible litter inside and outside factory area • No diesel or any chemical spill nor leakages on the ground 	The Site Manager and Employees
7. Noise	Regular inspection and maintenance of equipment	<ul style="list-style-type: none"> • No equipment malfunctioning 	Site Supervisor
8. Air Quality Management	<ul style="list-style-type: none"> • Visual observation of dust and smoke at the site. • Complaints register of these issues should be maintained. 	<ul style="list-style-type: none"> • Complaints about dust or smoke are to be responded to within 12 hours. • Record transportation loads. 	The Site Manager and Site Supervisor
9. Management & Staff Responsibilities	Report forms should be available on-site at all times.	<ul style="list-style-type: none"> • Incidents reported as soon as they occur, report / record available. 	All Employees
10. Staff Environmental Training	Personnel have been given adequate training in the areas outlined above and are familiar with the ESMP and their environmental responsibilities.	<ul style="list-style-type: none"> • All staff performing their duties as per ESMP 	The Site Manager and Site Supervisor

5. REHABILITATION AND DECOMMISSIONING

This phase contains elements that should be considered when sand mining activities have been completed by KKKK Enterprise cc (Table 3). These management requirements are important to ensure that rehabilitation of the environment is optimized.

It is important to note that ongoing rehabilitation initiatives have been captured and detailed in the various themes.

Table 3: Management requirements for Rehabilitation and Decommissioning

Aspect	Management Requirement
EMP Implementation Record	<ol style="list-style-type: none"> 1. Filing and dating of all reports (including photographic documentation of successful rehabilitation initiatives). 2. A final site inspection to be conducted and documented 3 months after all activities associated with the sand mining initiative has been completed for each sand mine.
Financial Provisions	<ol style="list-style-type: none"> 1. Allocate appropriate budgetary allowances for all possible rehabilitation activities and initiatives (including such requirements for a communication strategy).
Landowner and Interested & Affected Parties	<ol style="list-style-type: none"> 1. Develop a communication strategy which will clearly indicate future operations (i.e. will further mining activities be conducted).

6. CONCLUSION AND RECOMMENDATIONS

The KKKK Enterprise intent to continue with the sand mining activities within the recommended mitigation and rehabilitation parameters in accordance to the Environmental Management Act and EIA as prescribed in the Environmental Social Management Plan (ESMP). The continuation of sand mining activities is vital as it will be a source of sand to meet the development requirements for cement production, brick making and building materials in Okongo Town and neighboring villages in Ohangwena Region.

Currently, actual sand mining activities i.e. execution of the sand pit have not commenced as initially proposed due to various reasons; 1) challenges brought by the COVID-19 pandemic (2019-2021) and 2) limited financial capital funds to commence the open cast sand mining operations.

The aim of the EMP is also to ensure proper site closure that is considered legally compliant and environmentally acceptable. The negative impacts associated with the excavation of borrow pits can be suitably managed and mitigated should the recommended measures be implemented. It is recommended that:

- a. The Site Manager and Supervisor read, understand and comply to the EMP.

- b. The Site Manager should have an Environmental Compliance Officer (ECO) role to monitor the preparation, operational and closure / rehabilitation of the sand mining site so as to ensure that the mitigation and rehabilitation measures described in this report are adhered to. The ECO should conduct periodic and unannounced EMP audits.
- c. For the Proponent to communicate defaults / challenges to the ECO or relevant authority (i.e., Environmental Assessment Practitioner (EAP)) as soon as possible.
- d. For the Proponent ensure the implementation of the recommended mitigation measures.

7. ANNEXURE



Figure 3: Reference letter from the Eshakeno Village Office



Figure 4: Gravel Road construction works in 2021



Figure 5: Guard room at the sand mine site