

**ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR THE  
PROPOSED SAND MINING IN THE TRIBUTARIES OF  
OMARURU RIVER IN THE OMARURU AREA, ERONGO REGION**

**ENVIRONMENTAL SCOPING REPORT**

**PREPARED FOR:**

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## DOCUMENT DESCRIPTION

<b>Project Name</b>	Environmental Impact Assessment (EIA) for the proposed Sand Mining in the Tributaries of Omaruru River in the Omaruru area, Erongo Region.
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## LIST OF ACRONYMS

EAP:	Environmental Assessment Policy
EAPAN:	Environmental Assessment Professionals Association of Namibia
ECC:	Environmental Clearance Certificate
ECO:	Environmental Compliance Officer
EIA:	Environmental Impact Assessment
EMA:	Environmental Management Act
EMP:	Environmental Management Plan
ESR:	Environmental Scoping Report
FEL	Front End Loader
I&APs:	Interested and Affected Parties
GN:	Government Notice
MEFT:	Ministry of Environment, Forestry and Tourism
NSA:	Namibia Statistic Agency
PPE:	Personal Protection Equipment
ToR:	Terms of Reference

## EXECUTIVE SUMMARY

The Municipality has noted with concerns, an increased number of illegal sand mining activities within the Omaruru River and catchment areas. The illegal sand mining activity is notably done by both small and large contractors who are awarded construction works and those operating brick making projects in town. It is believed that most of these sand mining operators do not have the required Environmental Clearance Certificate (ECC). If this activity is not accurately regulated, sand mining can be one of the obvious and direct causes of environmental degradation. The increase in demand for sand and gravel for construction purposes has put immense pressure on these resources. It is expected that these sand mining activities will rapidly increase and if it remains uncontrolled, it will pose serious environmental consequences such as haphazard pits and trenches as well as diversion and pollution of the surface runoffs and decline in groundwater quality.

Hence this study, the Municipality of Omaruru appointed Green Gain Consultants cc to undertake the Environmental Impact Assessment (EIA) process. The EIA study conducted conformed to the requirements of the Environmental Management Act No.07 of 2007 and its Regulations (GN No. 30 of February 2012). The study was conducted in a multidisciplinary approach where potential Interested and Affected Parties (I&APs) and relevant stakeholders were invited to raise issues of concern; to make suggestions for enhanced benefits, and to comment on the findings of the EIA as part of the decision making process. Information regarding the biophysical environment, visual Impact assessment of the site, the hydrological conditions and socio-economic profile were collected and formed the basis of the assessment.

Once the ECC has been granted, all future sand mining activities within the Omaruru Town and Townlands will be regulated by the Municipality and all operators/miners will be required to obtain sand mining permits from the Municipality. Environmental Management Plan (EMP) for sand mining activities will be prepared and regular monitoring will be conducted by the Municipality to ensure compliance and that remedial measures are taken when necessary.

# 1. INTRODUCTION

## 1.1 Background

The Municipality has noted with concerns, an increased number of illegal sand mining activities within the Omaruru River and catchment areas. The increase in demand of building sand in the town has resulted in indiscriminate mining of sand from the main streams and catchment areas. To reduce and control these illegal activities, the Municipality has identified specific sand mining spots within its Townlands, where future sand mining activities will take place. Pre-consultations with some sand mining operators in Omaruru were done and a meeting was held in 2019.

Green Gain Environmental Consultants cc has been appointed as an Independent Environmental Assessment Practitioner to conduct the EIA and apply for the ECC with the Ministry of Environment, Forestry and Tourism (MEFT) on behalf of the proponent.

The study conducted conformed to the requirements of the Environmental Management Act No.07 of 2007 and its Regulations (GN No. 30 of February 2012). It is intended to identify potential environmental and social impacts associated with a project of this nature. This is essential to ensure that mitigation measures, if required, are incorporated into the current operations.

This scoping report covers the outcome of the impacts and aspects relating to the sand mining activities. These were identified through site visits, assessment of the operation at the site as well as background information available for the area. The objective is to identify and document the impacts associated with the current sand mining activities and to provide mitigation measures. This will ensure that impacts to the environment are managed effectively.

## 1.2 Scope of the Study

The environmental scoping study was conducted in line with the Namibia's Environmental Management Act (EMA, No.07 of 2007) and the Environmental Impact Assessment Regulations (GN No. 30 of 2012). It indicates a description of the affected environment and the way the sand mining activities may affect the environment. Information pertaining to the receiving environment and its social surroundings has been sourced through site visits, review of relevant legislation, assessment of the operation on-site as well as background information available for the area and Google Earth maps.

### **1.3 Terms of Reference**

The Terms of Reference for the proposed sand mining activities are based on the requirements set out by the Environmental Management Act (No. 7 of 2007) and its EIA Regulations (GN No. 30 of 2012). The process covered the following steps:

- Provide a detailed description of the proposed activity;
- Identify all policies, legislation and guidelines that are relevant to the proposed activity;
- Assess the environment (in conjunction with the proposed mining activity) and describes how the environment may be effected by the activity and the manner in which the physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity;
- Identify the possible environmental and socio-economic impacts of the proposed project activities and identify any gaps of information that require specialist studies.
- Notify and consult all I&APs and relevant stakeholders regarding the proposed development and provide them with reasonable opportunity to participate during the process;
- Prepare a detailed EMP that can be used as guide to monitor compliance to the recommendation made in the EIA and to assist in managing and monitoring activities of the proposed during the execution of the project particularly during the sand mining and rehabilitation. Thus, the EMP must clearly clarify the roles and responsibilities of the proponent, beneficiary, and that of the contractors; and
- Above all, comply with the EMA requirements.

This scoping report will be submitted to the Environmental Commissioner, as required by Section 27(3) of the Environment Management Act (No. 7 of 2007).

### **1.4 Environmental Assessment Practitioner**

Green Gain Consultants cc is a Namibian based professional environmental and natural resources consulting firm established and driven through belief, passion and dedication to sustainable development. Established in 2012, Green Gain has grown into a substantial team of environmental practitioner in Namibia providing innovative and cost-effective solutions to environmental challenges and helping our clients meet regulatory and stakeholder expectations for environmental performances.



## 2. PROJECT DESCRIPTION

### 2.1 Site Locality

Currently sand mining activities are taking place within the main Omaruru River and its tributaries. However, it is the intention of the Municipality of Omaruru to discontinue sand mining activities in the main river. All future sand mining activities are to take place in the identified tributaries as depicted in the Figure below.

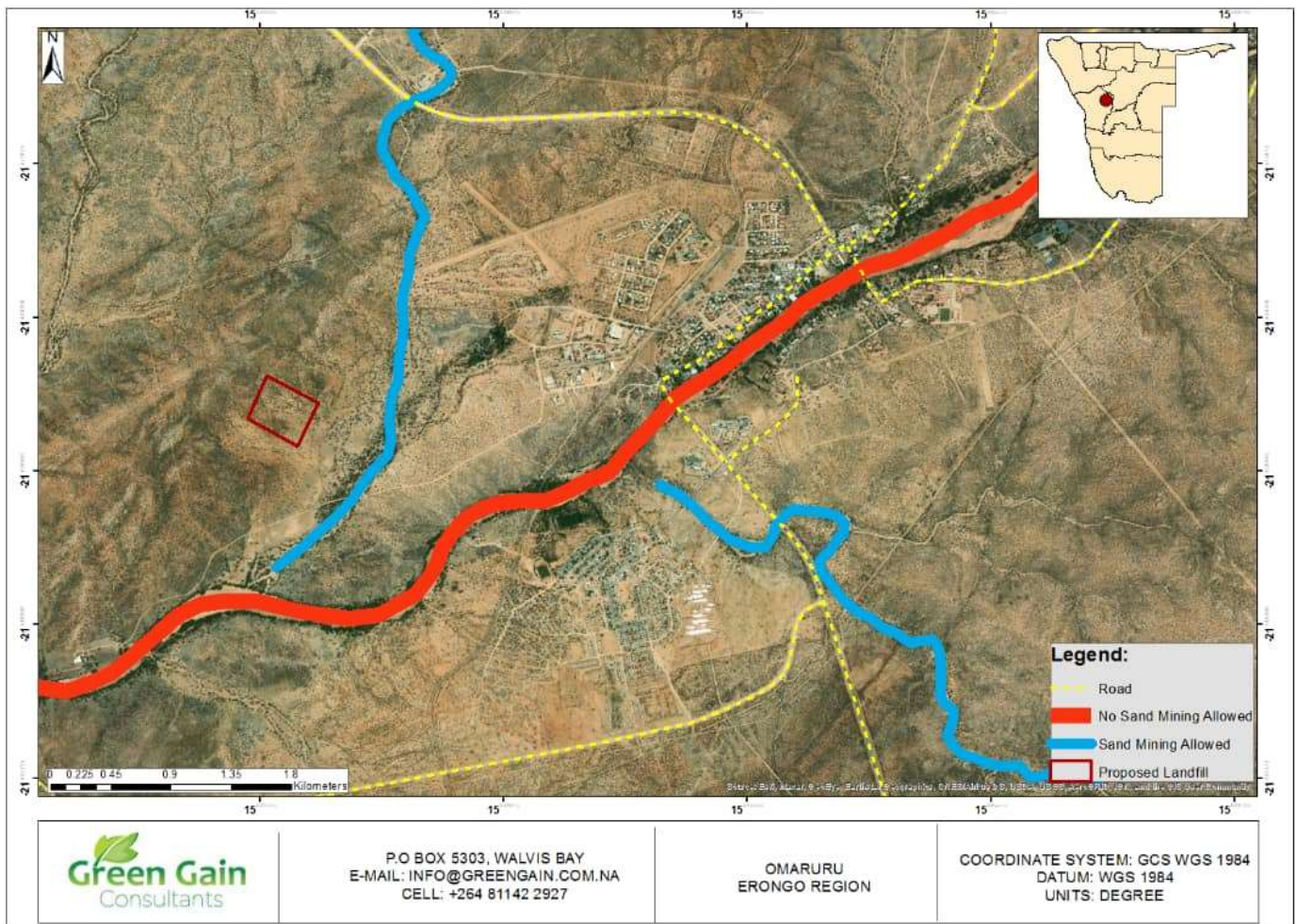


Figure 1: Proposed Sand mining sites (in blue) and No-go zone (in red)

## 2.2 Existing Sand Mining Activities

The main Omaruru River has significantly been disturbed by the historical and current sand mining excavation and stockpiling activities. This has resulted in the disturbance of soils and alterations of topography and the natural riverine vegetation. The existing sand mining operations has created deep and wide haphazard pits in the Omaruru riverbed channel. These pits alter the channel morphology directly resulting in erosion of the riverbanks, channel incision, channel instability and infrastructural damages. These pits may affect the natural flow of water into the river.

Apart from the physical abstraction of river flow, the degree of corrosion on the infrastructure poses a pollution risk to the water resource. Current uncontrolled stockpiling activities in riverbed and the construction related activities taking place onsite, as shown in the pictures below.



Figure 2: Existing sand mining activities



Majority of the sand mining operators owns and run bricks making factories within the town. There three of these factories located at the light industrial park. However, none of these operators have got Environmental Clearance Certificates for their factories a required by the Environmental Management Act (EMA, 07 of 2007).



**Figure 3: Existing Brick making factories**

Environmental issues observed at the bricks factories are such as poor waste management, occupational health and safety of the employees, poor dust control measures just to mention a few. Hence, it has been recommended from this study that the Municipality of Omaruru request all sand mining operators that operates bricks making factories to prepare Environmental Management Plans and obtain Environmental Clearance Certificate for their factories.

### **a) Future Sand Mining Operations**

In order to promote sustainable sand mining operations and maintain the integrity of the river hydrology, it is proposed that sand excavations be carried out up to a depth of **3m or 1m** above the ground water table or whichever is less. This should be achieved by using light weight excavators. Steeper gradients promote more erosion whereas gentle gradients will promote more deposition. The material will be regularly replenished during rainy seasons through floods by river water. All sand mining activities require a permit from Municipality of Omaruru.

The proposed sand mining operations should adopt the following important sand mining guidelines:

- The sand mining operations should be allowed only during the dry seasons.
- The sand mining EMP with eco-restoration must be implemented.
- Inactive stream channels and floodplains within the riverbed should be preferred rather than active channels.
- Sand mining activities should be concentrated or localized to an area rather than spread out over many areas. This localization of sand extraction will minimize the areas of disturbance.
- Mining should be conducted systematically from one side along the length of the mining area.
- Sand may be extracted across the entire channel during the dry seasons; however the stream must not be diverted to form inactive channel.
- Abandoned stream channels on terrace and inactive floodplains must be preferred rather than active channels.
- Sand shall not be allowed to be extracted where erosion may occur.
- Sand shall not be extracted within 200 to 500m from any crucial hydraulic structure such as pumping station and/or water intakes.
- Demarcation of sand mining areas with pillars and geo-referencing should be done prior to start of mining.
- Sand mining below subterranean water level should be avoided as a safe guard against environmental contamination and over exploitation of resources.
- Monitoring of changes in bed elevation and channel morphology, and aquatic and riparian habitat upstream and downstream of the extraction must be conducted regularly, in order to identify any impacts of sand mining to biologic resources.

- Flood capacity in the river should be maintained in areas where there are significant flood hazards to existing structures or infrastructure.
- Sand mining should be restricted to areas within the river itself and exclude the banks of the river.
- Prior to mining, short awareness programs must be conducted for the sand mining contractor and workforce to make them aware of the environmental requirements.
- No unwarranted disturbance to fauna and flora. No tree cutting, chopping, lumbering, uprooting of shrubs and herbs will be allowed.
- Care must be taken that noise produced during vehicles movement for carrying sand are within the permissible noise level.
- Roads in the project area for the movement of loaded tippers / trucks must have acceptable and safe slopes.
- Roads must be properly maintained and dust suppressed, when necessary.
- Every sand mining site will have its own approach roads, which already exists and is well connected to main access routes. No other new tracks will be allowed.
- Light weight excavators will be used for loading of sand in tippers / trucks.
- The sand mining depth should be restricted to 3m and distance from the bank should be 20m or 10 percent of the river width whichever less.
- A safe distance between the sand mining sites must be maintained and shall depend on the replenishment rate of the river.
- Permit holder shall identify the coordinates with recognisable markers, shall maintain the beacons in position and shall remove the beacons on closure of the pit and they should only mine on the approved allocated site.
- A visible sign board must be place at the area where the removal of sand is taking place.

## 2.3 Project alternatives

The EIA Regulations stipulates that the Scoping process should investigate alternative development options to any proposed developments. The following alternative was analyzed;

- **No-Go Alternative:** The no-development alternative is the option of not going ahead with the sand mining operations at the town. This alternative is undesirable in terms of the current lack of sand aggregate required by the construction industry at the town. Ensuring their availability is vital for the development of the infrastructure at the town and region at large. Should the proposed sand mining operations not take place, the town and region at large could be deprived of development through the lack of construction materials. As the

requirement of these construction materials is on rise, they also are very vital for the health, physical character of the river and the different important functions of the river. The No-go option will not be a viable alternative at this stage.

- **Project location alternatives:** The current operations are taking place within the main Omaruru River unregulated. The uncontrolled sand mining activities taking place in the Omaruru River endangers the wellbeing of the river and the environment in general. It is also worth mentioning that Omaruru River is the main source of replenishing Omaruru Aquifer which is the main supply of freshwater in the town and surrounding areas. The alternative site being suggested is mining in the Omaruru river tributary with the issuing of sand mining permits by the Municipality of Omaruru. All future sand mining activities within the Omaruru Town and Townlands will be regulated by the Municipality and all operators/miners will be required to obtain sand mining permits from the Municipality.

## **2.4 The “need” and “desirability” of the proposed activities**

The need and desirability of the above-mentioned projects are explained as follows:

- All sand mining activities taking place within the Omaruru Townlands are not in accordance with EMA and do not have the required ECCs.
- If these activities remain uncontrolled, it could result in serious environmental damages in the Omaruru River and its catchment areas.
- Illegal mining is on the rise, including contractors who are awarded construction work. The need for shelter has increased tremendously which has raised the demand of building houses, businesses and industrial activities.
- In the interest of both natural and socio-economic environment of the industry, it is extremely important and necessary that sustainable sand mining practices are applied and monitored by the Local Authorities.

It is also worth mentioning that Omaruru River is the main source of replenishing Omaruru Aquifer which is the main supply of freshwater in the town and surrounding areas. Sand mining activities needs to be regulated and controlled effectively to conserve the resource; permit an ordered and sustainable exploitation of the resource; and mitigate the environmental impacts associated with the activities

### **3. APPROACH TO THE ENVIRONMENTAL SCOPING STUDY**

Given the nature of the proposed activities, the scoping assessment process used the following methods:

- Site visits to collect primary data;
- Legal and policy review;
- Gleaning over existing information pertaining to similar developments and issues;
- Discussions, meetings and site visits with the Authorities;
- Incorporate opinions and concerns raised by Interested and Affected Parties; and
- Make professional judgment and recommendations.

#### **3.1 Baseline study**

##### **a) Site Visits**

Sites visit were conducted to collect biophysical data such as:

- Flora and Fauna of the area;
- Roads and traffic information;
- Land use;
- Hydrological features;
- Soil and Geology; and
- Topographic features.

##### **b) Review of Policy and Relevant Literature**

The following literature was reviewed:

- Local Authority Act No. 23 of 1992; and
- National Development Plan 4.

## **3.2 Public participation process**

The Environmental Assessment Regulations specifies that a Public Participation Process must be conducted as an integral part of the EIA study. The key objective is to allow stakeholders to raise issues of concern and suggestions for enhanced benefits and to comment on the findings of the EIA process. This was adhered to, as potential Interested and Affected Parties (I&APs) and relevant stakeholders were invited to register and forward concerns/comments to ensure an equitable and effective participation.

### **3.2.1 Notification of I&APs and Stakeholders**

The EAP gave notices to all potential interested and affected parties (I&APs) as per the public consultation process requirements by:

- a) Producing and distributing the Background Information Document (BID) to all registered I&APs (see **Appendix E**).
- b) Distribution of the Draft Scoping report to all I&AP's and a comment period of one week was awarded.
- c) Public notifications were done through newspaper advertisements that was published twice in two separated newspapers for two consecutive weeks as follow: New Era newspaper for 13 & 18 August 2020 and in the Namib Times for 14 & 21 August 2020. A comment period of 21 days was given. The advert provided brief information about the proposed project and the EIA process (see **Appendix D, Proof of Consultation**).
- d) A public notice (were also displayed at the Municipality notice board (see **Appendix B Proof of Consultation**).

### **3.2.2 Key stakeholders Consulted**

Key stakeholders were identified and invited to submit their input/comments on the proposed development. These included, officials from different Municipal departments, NGOs, government ministries, See attached list of all registered Interested and Affected Parties (**Appendix A**)



## 4. LEGAL REQUIREMENTS

### 4.1 Environmental Regulation requirements

The Environmental Management Act (EMA) No.7 of 2007 and the Environmental Assessment Policy for Sustainable Development and Environmental Conservation (1995) set the guiding legal framework for environmental management in Namibia. The proposed activity will trigger the following listed activities as per the Environmental Management Act Schedule.

#### **EMA, Section 3: Mining and Quarrying Activities**

3.1 The construction of facilities for any process or activities which requires a license, right or other form of authorization, and the renewal of a license, right or other form of authorization, in terms of the Minerals (Prospecting and Mining act), 1992.

3.2 Other forms of mining or extraction of any natural resources whether regulated by law or not

3.3 Resource extraction, manipulation, conservation and related activities.

3.5 The extraction of peat.

### 4.2 Applicable legislations

An important component of an Environmental Assessment process is the review of applicable and relevant legislation pertaining to the proposed activities. The legislative and regulatory foundation for protection and management of the environment and its natural resources is governed by the Namibian Constitution. Article 95(i) of the constitution clearly emphasizes the promotion of the welfare of the people, whereby the maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future; in particular.

Below is a table of legislations applicable to the proposed sand mining and its associated activities.

**Table 1: Namibian Legislation relevant to the project**

<b>LEGISLATION</b>	<b>PROVISION</b>	<b>PROJECT IMPLICATION</b>
<b>Constitution of the Republic of Namibia (1990)</b>	<p>The articles 91 and 95 commits the state to actively promote and sustain environmental welfare of the nation by formulating and institutionalizing policies to accomplish the sustainable objectives which include:</p> <ul style="list-style-type: none"> <li>- Guarding against overutilization of biological natural resources,</li> <li>- Limiting over-exploitation of non-renewable resources,</li> <li>- Ensuring ecosystem functionality,</li> <li>- Maintain biological diversity.</li> </ul>	<p>The proponent shall be advocating for sound environmental management as set out in the Constitution.</p>
<b>Environmental Management Act No. 07 of 2007</b>	<p>The purpose of this Act is to promote the sustainable management of the environment and the use of natural resources by establishing principles for decision-making on matters affecting the environment; to provide for a process of assessment and control of projects which may have significant effects on the environment; and to provide for incidental matters. The Act gives legislative effect to the Environmental Impact Assessment Policy. Moreover, the act also provides procedure for adequate public participation during the environmental assessment process for the interested and affected parties to voice and register their opinions and concern about the proposed project.</p>	<p>Mining and Quarrying activities is subjected to an EIA hence this study.</p>
<b>Local Authorities Act No. 23 of 1992</b>	<ul style="list-style-type: none"> <li>• This Act and all relevant municipal by-laws are applicable since the mining activities occur within the Municipality of Omaruru Townlands.</li> <li>• This Act provides for the determination of local authority councils, the establishment of such councils and defines the powers, duties, and functions of these councils. Some of the powers, duties</li> </ul>	<p>The Municipality of Omaruru is the responsible Local Authority of the area in which the proposed activity will be located.</p>

	and functions of local authority councils are to: <i>‘to establish, carry on and maintain sand, clay, stone or gravel quarries and works for the manufacture of bricks and tiles, and to dispose of sand, clay, stones, gravel, bricks and tiles exploited or manufactured from such quarries’.</i>	
<b>Water Resources Management Act 2004</b>	This Act provides provision for the control, conservation and use of water for domestic, agricultural, urban and industrial purposes. In addition, the Act clearly gives provision that pertain with license or permit that required abstracting and using water as well as for discharge of effluent.	The protection of ground and surface water resources should be a priority. Obligation not to pollute surface water bodies.
<b>Nature Conservation Ordinance (No. 4 of 1975)</b>	<ul style="list-style-type: none"> <li>• This Bill provides for and promote the maintenance of ecosystems, essential ecological processes and Namibia biodiversity and to promote the mutually beneficial co-existence of humans with wildlife as well as to give effect to Namibia’s international obligations to legal instruments such as the Convention on Biological Diversity.</li> <li>• The Bill recognizes that biodiversity must be maintained, and where necessary, rehabilitated and that essential ecological processes and life support systems must be maintained.</li> </ul>	These provisions will be used as a guideline for conservation of biodiversity if need be.
<b>Soil Conservation Act No. 76 of 1969</b>	This Act makes provision for the prevention and combating of soil erosion and the protection, improvement and conservation of soil, vegetation and water supply sources and resources.	The activities must be conducted within the framework of this act.

<p><b>Prospecting and Mining Act (33 of ), 1992</b></p>	<p>To provide for the reconnaissance, prospecting and mining for, and disposal of, and the exercise of control over, minerals in Namibia; and to provide for matters incidental thereto.</p>	<p>The materials to be mined is not considered as a “mineral” as per Part I: (1) c of the Prospecting and Mining Act and therefore excluded for the requirement of this Act.</p>
<p><b>National Heritage Act (27 of 2004)</b></p>	<p>The Act provides provisions for the protection and conservation of places and objects of national heritage significance, and to register to places and objects under that framework. The project will ensure that should any archaeological objects defined in the Act found while mining operations, it will be communicated to the custodian ministry immediately.</p>	<p>Any material of archeological, cultural or heritage importance should be reported to the National Heritage Council as per the requirements of this Act.</p>
<p><b>Pollution Control and Waste Management Bill</b></p>	<ul style="list-style-type: none"> <li>• This Bill aims to promote among others sustainable development; to prevent and regulate the discharge of pollutants to the air, water and land; to furthermore regulate noise, dust and odour pollution; to make provision for the establishment of an appropriate framework for integrated pollution prevention and control; to establish a system of waste planning and management and to enable Namibia to comply with its international law obligations.</li> </ul>	<p>All activities shall be conducted in an environmental sustainably manner.</p>
<p><b>Atmospheric Pollution Prevention Ordinance No. 11 of 1976</b></p>	<ul style="list-style-type: none"> <li>• Provides for pollution prevention of the atmosphere and controls noxious or offensive gas and smoke as well as gases emitted by normal or construction vehicles.</li> <li>• The Ordinance is clear in requiring that any person carrying out an industrial process which is liable to cause a nuisance to persons residing in the vicinity or to cause dust pollution to the atmosphere, shall take the prescribed steps or, where no steps have been prescribed, to adopt</li> </ul>	<p>Dust generating activities should be scaled down during strong windy conditions.</p>

	the best practicable means for preventing such dust from becoming dispersed and causing a nuisance.	
<b>Labour Act (No 11 of 2007)</b>	Chapter 4 of the Act deals with health, safety and welfare in detail. Article 39.(1) stipulates that every employer or person in charge of a premises where employees are employed, must without charge to the employees; a) provide for a working environment that; i) is safe, ii) is without risk to health of employees and, iii) has adequate arrangements and facilities for the welfare of employees. Further provisions deal with the use of equipment and machinery that are safe and pose no health risk to employees, the use of protective gear and equipment, awareness and training about safety on the job, etc.	Permit holders shall be guided by this Act when recruiting or handling employment related issues.
<b>Noise Control Regulations (Labour Act)</b>	It is essential to ensure that before any development project is approved and undertaken, an assessment or evaluation of expected noise level is done.	Noise generation during construction/development/rehabilitation should be minimized to the satisfactory of neighboring residents and the local authority.
<b>Public and Environmental Health Act, Act No 1 of 2015</b>	Provide a framework for a structured uniform public and environmental health system in Namibia; and to provide for incidental matters. Part 9 prescribes procedures for Integrated Waste Management, while Part 10 calls for the prevention of creating Health Nuisances.	The Municipality of Omaruru and the permit holders should ensure compliance with the provisions of these legal instrument.

## **5. DESCRIPTION OF THE AFFECTED ENVIRONMENT**

This chapter provides an overview of the baseline biophysical and social environmental conditions, with which the proposed project will interact. This information has been sourced from observations made and photographs taken during site visits, the team's experience and existing literature from previous research conducted in the area. It also presents a background against which the positive and negative impacts of the proposed options can be assessed.

### **5.1 Biophysical Profile**

#### **a) Climate**

The climate is mostly semi-arid to arid, analogous to a desert climate where annual rainfall rarely exceeds 300 mm. The greatest amount of precipitation occurs in February, whereas the least amount of rainfall occurs in July. The area is subject and generally buffeted by strong winds from the Atlantic Ocean. Wind direction in the area is predominantly southerly, easterly, westerly and southwesterly. The area is characterized by hot dry summers with daytime temperature more than 30°C and an average of 28°C whereas the nighttime temperatures can go as low as 10°C, due to the desert climate. The heat becomes oppressive only in the months of October and November before the rainy season sets in. The entire area, particularly the west, is rather wind-swept. From May to September a strong and cold east wind may blow uninterruptedly for days or even weeks.

#### **b) Topography and Landscape**

The topography of the area surrounding the town consists of hilltops, flat areas and drainage or catchment areas which drain toward the main Omaruru river (an ephemeral river draining west into the Atlantic Ocean). The landscape is classified as an area of dissection and erosional cutback. Local drainage is well developed, and runoff takes place toward the ocean. The area is drained by the Omaruru River and its tributaries. The rivers are not perennial streams and flow only after a substantial rainfall. For the rest of the year the rivers are dry sandy water courses.

### c) Hydrogeology and Geology

The area is covered by thick desert sand of Quaternary age. Underlying the Quaternary sediments is the Damara Sequence rocks of the Swakop Group. The Swakop Group is made up of the Khomas and Ugab subgroups. The Khomas subgroup comprises of the Kuiseb, Karibib and Chuos formations. The Ugab subgroup is characterised by the Rossing formation. All the underlying formations are classified as hard rock formations. Groundwater flow would be mostly along fractures, faults (secondary porosity) and other geological structures present within the formations.

The town is located within the Water Control Area called the Omaruru Aquifer. The geohydrology of the area comprises of rock bodies which generally have low groundwater potential. The underlain geology comprises of granites, limestones, and sandstones. Geological faults occur in some rocky types at areas of weaknesses and can be conduits for any seepage contamination. The Omaruru River Aquifer is a Water Controlled Area which stretches upstream from the road bridge at the town Center for a distance of about 30 km.

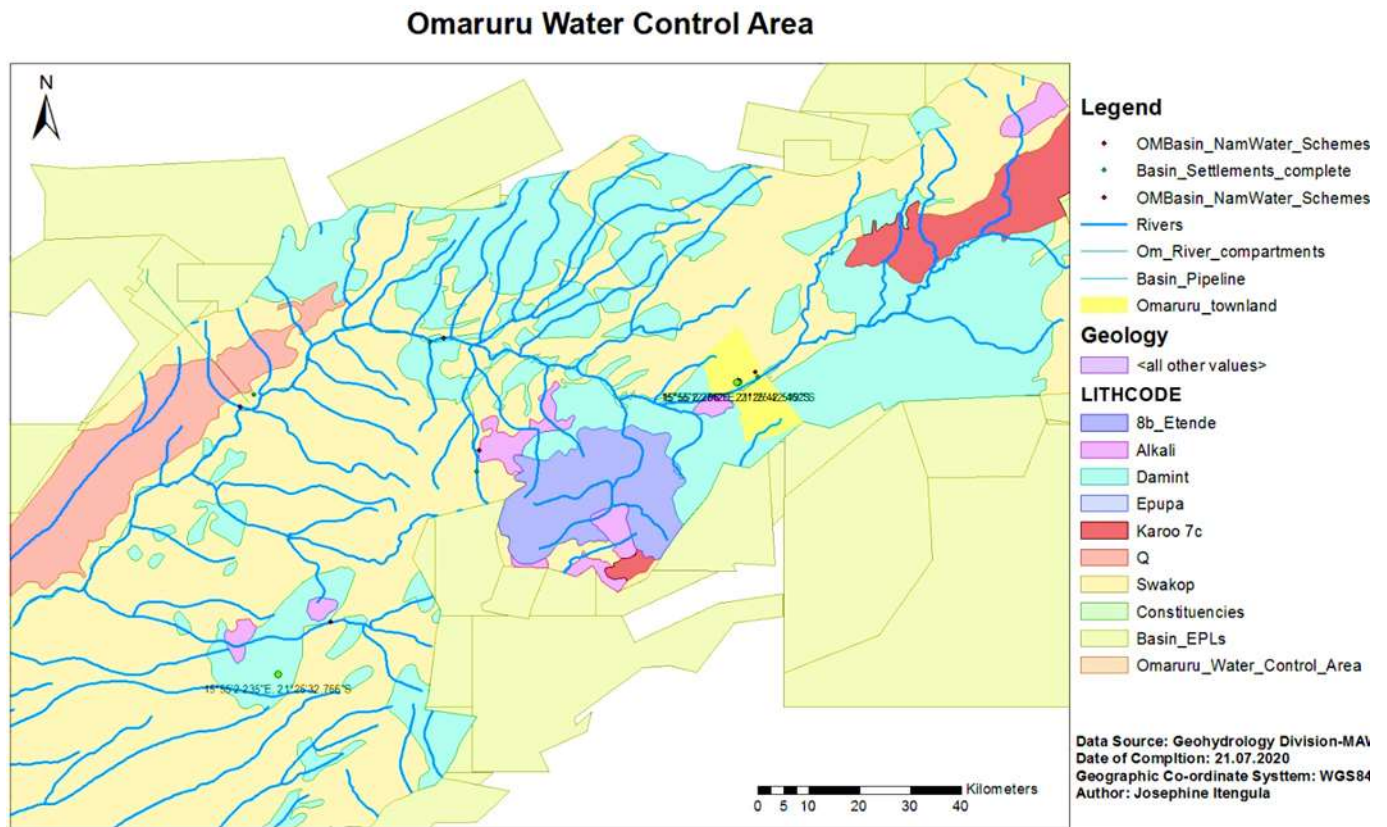
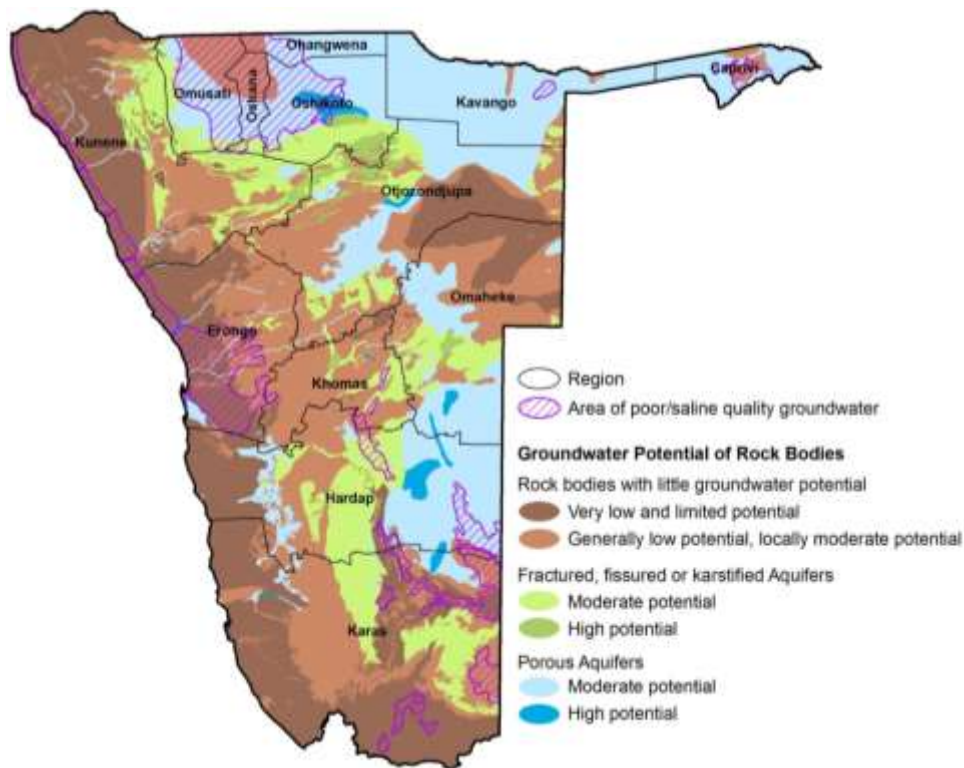


Figure 4: Omaruru Water Control Area

The Kalahari Super Group sediments are mainly confined to the alluvium of the Omaruru River and its tributaries flowing from the east to the west into the Atlantic Ocean and form very thin surficial cover throughout the basin. Within the river and tributaries, the sands and gravel deposits vary in thickness and thicken mainly in the Omaruru Delta.



**Figure 5: Hydrogeological map of Namibia (Christelis & Struckmeier 2001 (2011))**

The Omaruru Delta (Omdel) is a porous aquifer with high ground water potential. It generally has good quality water and recharges occurs through leakages from rivers and by artificial recharge. The alluvial aquifer is formed of 4 palaeochannels: the Main Channel; Northern Channel; Northern Elevated Channel and Southern Elevated Channel. The Main Channel is the only channel with potable water. Sand layers are, on average, about 40, 65 and 20 m thick in the downstream, middle and upstream sections of the aquifer, respectively. Local lithological variations produce local aquitards. Transmissivity ranges from 290 to 700 m<sup>2</sup>/day, and storage coefficient ranges from 0.01 to 0.06 (Nawrowski 1990). The water table ranges from 19 to 55m depth and the aquifer layers are typically unconfined. Boreholes are between 12 and 124 m deep.



#### d) Water supply

Despite the absence of surface water, except for short periods, the beds of the Omaruru River and its tributaries are wide and filled with sand and gravel of considerable thickness. Because of the porous nature of the sand and gravels they contain large quantities of underground water at shallow depths even during times of drought. Numerous springs occur at intervals in the bed of the Omaruru River. Open water is in variably connected with the presence of natural barriers such as diabase and pegmatite intrusions in the riverbed as at Omaruru, Okombahe, and Aubinhonis.

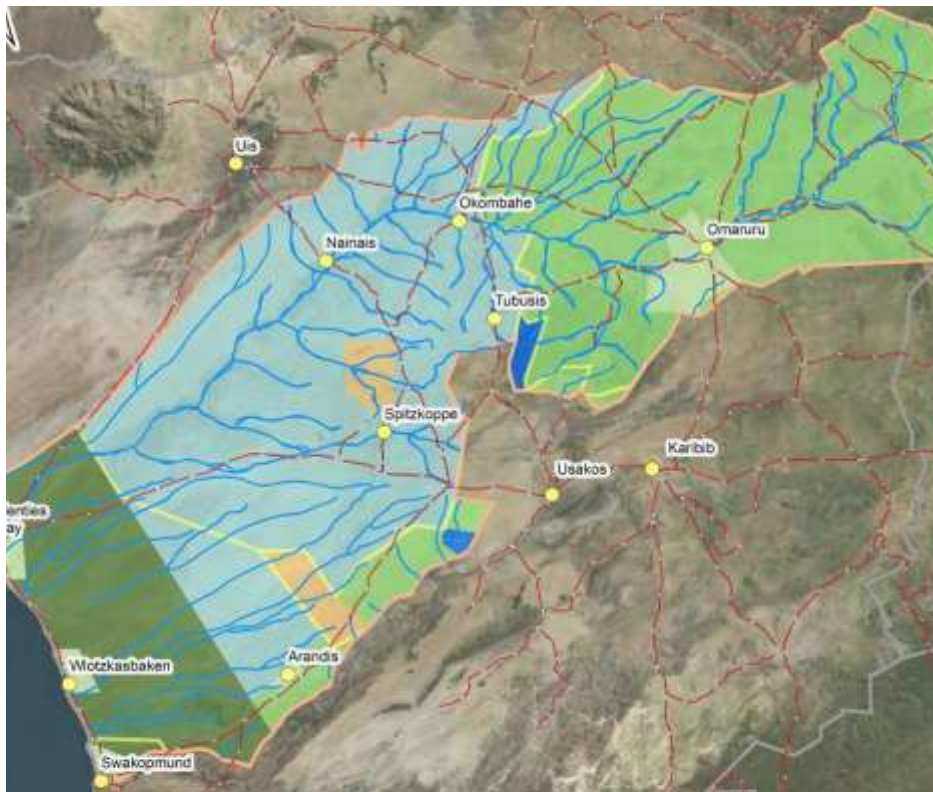


Figure 6: Omaruru River Basin

Omaruru River is one of the major ephemeral drainage systems that carry seasonal runoff across landscapes of the central region of Namibia. Although water flows on the surface in this river for only a few days each year, its aquifers provide large amounts of freshwater for human, animal, mining and industrial use. The system is highly productive and communities, farmers and conservancies along the river take full advantage of this resource by grazing their livestock, game watering, irrigations watering and other activities after the wet season. It is also worth mentioning that Omaruru River is the main source of replenishing Omaruru Aquifer which is the main supply of freshwater in the town and surrounding areas.

### e) Flora and Fauna

Omaruru falls within the Nama Karoo biome and is arid to semi-arid characterized by thick grassland savannah. The riparian vegetation of the area consists of trees and shrub strata such as *Combretum imberbe* (Leadwood), *Acacia erioloba*, *Faidherbia albida* (Ana tree) and *Prosopis*. Due to collection of firewood by inhabitants of the adjacent settlements, grazing and trampling of domestic animals and frequent veld fires.



Figure 7: Typical riparian vegetation of the Omaruru River and Tributaries

Due to the high disturbance of area, the local fauna is limited to domestic animals as well as some birds, reptiles, amphibians, and small mammals. The area has also been disturbed with various uncoordinated vehicular and human tracks observed within the riverbed and surrounding plains. Large wild animals are mostly found in private farms and the adjacent game farms.

## 5.2 Socio-economic Profile

The town of Omaruru, which is situated in the Erongo Region has a population of 8 577 in 2011 (NSA, 2011). The town lies next to the Omaruru River, 50 km North of Karibib along the C33 Road. Although the river is dry most of the times the town is relatively green, due to large ground water reserves and the fertile soil of the surrounding area. The town extends over approximately 352 km<sup>2</sup> of land. The name in the local Otjiherero language means 'bitter milk', as the cattle used to browse on a local bush that turned their milk bitter.

The town is governed by a Municipal Council that currently has seven seats. The town has experienced remarkable and exponential growth in various areas such as infrastructural development, roads, and expansion in the town planning scheme, business ventures and its community. The services provided in the town of Omaruru range from educational, health, financial, tourism, transport and other administrative services provided by government and related offices.

Omaruru has two major privately owned commercial farms, Wolfstal and Omaruru greens farms that produce vegetables. Both farms are situated approximately 10 km away. The location of the town, on the surfaces of abundance underground water from Omaruru River has always been an opportunity to farmers for sustainable water supply although it comes at a high cost since investments are required in form of windmills to source underground water for agriculture purposes. Omaruru is also surrounded by commercial farms which mostly farm livestock like cattle and sheep. Also common in most of these farms is wildlife animals which provides an opportunity of game farming on the wildlife animals. The town has two wine producing companies Kristall Kellerie and Erongo vineyard, which uses grapes to make wine and related products. The two companies produce their own grapes on the farms they operate, of which the harvested grapes are used to make wine products.

Electricity supply in the town of Omaruru is managed by the Erongo Regional Electricity Distributor (ErongoRED). In 2015, the country's largest solar plant, Omburu PV plant was opened in Omaruru, which up to now is highly recognized source of clean energy to the country. Omburu PV plant which has a 25 years power supply agreement with Nampower, generates 11,075 MWh of clean, reliable, responsible electricity per year that it feeds into Nampower's national grid. Omaruru is the only Namibian town that is not connected to the NamWater pipeline network. Water in Omaruru is extracted from underground water through boreholes.

## 6. IMPACT ASSESSMENT

The EIA Regulations require “a description of the significance of any significant effects, including cumulative effects, which may occur as a result of the undertaking of the activity”.

The Table below indicates a summary of identified environmental impacts. These impacts are categorized into the various relevant stages of the life cycle of the proposed development. The environmental assessment section of the Scoping Report and the consequent EMP shall also be compartmentalized into these phases.

### 6.1 Potential Environmental Impacts

The identified environmental impacts associated with the proposed sand mining activities are listed in Table 6 below and the complete list of all potential impacts will be presented in the EMP.

**Table 2: Summary of the potential Impacts**

Key Issue	Impacts
<b>Biophysical Environment</b>	<ul style="list-style-type: none"> <li>• Vegetation clearance</li> <li>• Impact on natural habitans</li> <li>• Impact local geology and soil</li> <li>• Impact on groundwater and surface drainage</li> <li>• Impact on hydrology and ecology</li> <li>• Alteration of the landscape</li> <li>• Soil erosion due to disturbance of the soil</li> <li>• Archaeological impacts</li> <li>• Rehabilitation and restoration</li> <li>• Impact on existing and adjacent properties</li> <li>• and safety</li> </ul>
<b>Pollution and Waste Management</b>	<ul style="list-style-type: none"> <li>• Waste generation</li> <li>• Impacts on ground water</li> </ul>
<b>Socio-Economic</b>	<ul style="list-style-type: none"> <li>• Noise and Dust</li> <li>• Impacts on public health &amp; safety</li> <li>• Traffic</li> <li>• Employment creation</li> <li>• Secondary business opportunities (spin-offs)</li> </ul>

### 6.2 Method of Assessment

In assessing the impact of the proposed development, four rating scales were considered. Each issue identified was evaluated in terms of the most important parameter applicable to environmental management. The potential environmental impacts associated with the proposed activity will be evaluated according to its nature, extent, duration, intensity, probability and significance of the impacts.

**Table 3: Impact Assessment criteria**

CRITERIA		DESCRIPTION			
<b>EXTENT</b>	<b>National (4)</b>	<b>Regional (3)</b>	<b>Local (2)</b>	<b>Site (1)</b>	
	The whole country	Erongo region and neighbouring regions	Within a radius of 2 km of the proposed site	Within the proposed site	
<b>DURATION</b>	<b>Permanent (4)</b>	<b>Long-term (3)</b>	<b>Medium-term (2)</b>	<b>Short-term (1)</b>	
	Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient	The impact will last for the entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter.	The impact will last for the period of the construction phase, where after it will be entirely negated	The impact will either disappear with mitigation or will be mitigated through natural process in a span shorter than the construction phase	
<b>INTENSITY</b>	<b>Very High (4)</b>	<b>High (3)</b>	<b>Moderate (2)</b>	<b>Low (1)</b>	
	Natural, cultural and social functions and processes are altered to extent that they permanently cease	Natural, cultural and social functions and processes are altered to extent that they temporarily cease	Affected environment is altered, but natural, cultural and social functions and processes continue albeit in a modified way	Impact affects the environment in such a way that natural, cultural and social functions and processes are not affected	
<b>PROBABILITY</b>	<b>Definite (4)</b>	<b>Highly Probable (3)</b>	<b>Possible (2)</b>	<b>Improbable (1)</b>	
	Impact will certainly occur	Most likely that the impact will occur	The impact may occur	Likelihood of the impact materialising is very low	
<b>SIGNIFICANCE</b>	Is determined through a synthesis of impact characteristics. Significance is also an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The total number of points scored for each impact indicates the level of significance of the impact.				

**Table 4: Criteria for significance ratings**

<b>Low impact</b>	A low impact has no permanent impact of significance. Mitigation measures are feasible and are readily instituted as part of a standing design, construction or operating procedure.
<b>Medium impact</b>	Mitigation is possible with additional design and construction inputs.
<b>High impact</b>	The design of the site may be affected. Mitigation and possible remediation are needed during the construction and/or operational phases. The effects of the impact may affect the broader environment.
<b>Very high impact</b>	Permanent and important impacts. The design of the site may be affected. Intensive remediation is needed during construction and/or operational phases. Any activity which results in a “very high impact” is likely to be a fatal flaw.
<b>Status</b>	Denotes the perceived effect of the impact on the affected area.
<b>Positive (+)</b>	Beneficial impact
<b>Negative (-)</b>	Deleterious or adverse impact.
<b>Neutral (I)</b>	Impact is neither beneficial nor adverse
It is important to note that the status of an impact is assigned based on the status quo – i.e. should the project not proceed. Therefore not all negative impacts are equally significant.	

## 7. ANTICIPATED PROJECT IMPACTS AND MITIGATION MEASURES

All impacts included in the table below fall within the scope of this project. Each of the potential impacts are screened and subjected to the criteria stipulated above in **Table 4**. The significance of each potential impact is determined based on the criteria in **Table 5**. It is expected that most of these impacts can be decreased by the proposed mitigation measures. These impacts could be positive, negative or neutral. Below is description of potential impacts that may arise because of the project based on its context, knowledge of the area, issues raised, and information provided during the Public Consultation Phase.

**Table 5: Potential Impacts during Planning and Operational phase**

ASPECT	POTENTIAL IMPACTS	SIGNIFICANCE RATING				MEASURES AND REMARKS	
		Extent	Duration	Intensity	Probability		
<b>1. BIOPHYSICAL</b>	Ecological impacts	<ul style="list-style-type: none"> <li>Vegetation clearance</li> <li>Habitat destruction and land degradation</li> </ul>	Site	Medium-term	Medium-term	Probable	<ul style="list-style-type: none"> <li>Only plants affected by the activities must be cleared.</li> <li>Ensure rehabilitation should be done on a continual basis to ensure the visual appearance of the area is improved.</li> <li>Where protected tree species must be removed, this action should be justified, and the necessary permits must be obtained.</li> </ul>
	Topography	<ul style="list-style-type: none"> <li>Change of visual and aesthetic view</li> </ul>	Local	Short-term	Low	Probable	<ul style="list-style-type: none"> <li>No dumping of waste/littering should be allowed on site.</li> <li>Ensure rehabilitation of mined out areas occur without delay to improve aesthetic appearance.</li> </ul>
	Land use	<ul style="list-style-type: none"> <li>Mining activity will cause changes to land use both present and future</li> </ul>	Local	Long-term	Medium	Probable	<ul style="list-style-type: none"> <li>Mining should be limited to the prescribed depth.</li> </ul>



Impact on Groundwater	Soil	<ul style="list-style-type: none"> <li>• Possibility of erosion soil erosion during site clearance &amp; rainy season due to altered drainage</li> <li>• Contamination of soil from leakage, spills, or temporary ablution facilities</li> </ul>	Local	Medium-term	Moderate	Probable	<ul style="list-style-type: none"> <li>• All open trenches must be filled, and area must be properly rehabilitated.</li> <li>• Erosion damage to existing roads and adjacent land as a result of sand mining activities should be prevented.</li> </ul>
		<ul style="list-style-type: none"> <li>• Leakages from earthmoving vehicles and accidental fuel, oil or hydraulic fluid spills.</li> <li>• Salinization of soil and ground water as a result of standing water where quarries reach the water table.</li> </ul>	Local	Long-term	Moderate	Probable	<ul style="list-style-type: none"> <li>• Do not allow direct discharge of pollutants in the surface runoff</li> <li>• All vehicles must be serviced and maintained regularly and they may not be serviced onsite, unless otherwise agreed upon with the local authority. Use drip trays or linings when evidence of leaks are observed on vehicles and equipment.</li> <li>• All hydrocarbon-based waste must be removed from site and disposed of at a recognised hazardous waste disposal facility and any polluted soil or water to be treated as a hazardous waste.</li> </ul>
	Impact on Surface Water	<ul style="list-style-type: none"> <li>• Oil Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could be impaired</li> <li>• Increased riverbed and bank erosion may also increase suspended solids during runoffs at the excavation sites.</li> </ul>	Local	Long-term	Moderate	Probable	<ul style="list-style-type: none"> <li>• Drip trays and/or plastic sheeting should be used to contain any leaks emanating from the sand mining activities.</li> <li>• Ensure the availability of adequate portable ablution facilities with suitable containment systems for use at all sand mining sites throughout the mining operations.</li> </ul>

						<ul style="list-style-type: none"> <li>Stabilise cleared areas as soon as possible to prevent and control surface erosion.</li> </ul>
Air quality	<ul style="list-style-type: none"> <li>Release of dust from mining and rehabilitation activities, equipment and construction vehicles</li> <li>Generation of fumes from vehicles and construction equipment may pollute the air</li> </ul>	Local	Short-term	Moderate	Probable	<ul style="list-style-type: none"> <li>Use dust-suppressing agents</li> <li>Limit Vehicle speed</li> <li>Avoid dust generating activities during strong wind</li> <li>It must be ensured that all vehicles entering the site and machinery used in construction activities are in good working order to prevent unnecessary emissions.</li> <li>Reduce number of vehicle onsite. Only registered implements must be operated.</li> <li>Personnel issued with dust masks and dust suppression if required.</li> </ul>
Waste management	<ul style="list-style-type: none"> <li>Generation of waste through operational and rehabilitation activities mainly domestic, commercial and waste generated from the sand sieving exercise.</li> <li>Sewage waste will be generated from temporary construction toilets on site.</li> </ul>	Site	Short-term	Low	Probable	<ul style="list-style-type: none"> <li>All solid waste generated must be gathered and disposed off at an approved waste disposal site. Consultation with the Municipality of Omaruru should be conducted in this regard.</li> <li>Portable toilet facilities with adequate containment structures should be erected at the sand mining site for use during operations. Waste should properly be contained to avoid any leakages/spillages, and should be regularly disposed off at a suitable sewage disposal site.</li> <li>Separate hazardous wastes from general waste, clearly</li> </ul>



						marked, and stored in appropriate containers.
Heritage	<ul style="list-style-type: none"> <li>There are no known heritage areas envisaged to be impacted; however should sand mining contractors might come across archaeological features or objects that possess cultural values</li> </ul>	Local	Short-term	Moderate	Probable	<ul style="list-style-type: none"> <li>If such remains or objects with cultural values (e.g. bones, weapons, ancient cutlery, graves etc.) are uncovered at the project location or surrounding, it should be barricaded off, and the relevant authorities (i.e. the local police and National Heritage Council of Namibia) should be contacted immediately.</li> </ul>
Fire & explosions	<ul style="list-style-type: none"> <li>Outbreak of an uncontrolled fire - manmade fires.</li> </ul>					<ul style="list-style-type: none"> <li>Ensure that fire-fighting devices are available at the sand mining site and in all operational vehicles and plant. Ensure that all devices are in good working order and they are serviced.</li> <li>All personnel must be trained with responsible fire protection measures and good housekeeping such as the removal of flammable materials on site.</li> <li>Regular inspections should be carried out to inspect and test fire fighting equipment by the contractor.</li> </ul>
<b>2. SOCIO-ECONOMIC</b> Traffic impacts	<ul style="list-style-type: none"> <li>Increase in traffic congestion within the area during mining and rehabilitation activities.</li> <li>Damage other to vehicles due to stones/sand falling from tipper trucks on main road.</li> </ul>	Site	Medium term	Moderate	Probable	<ul style="list-style-type: none"> <li>Identify new access road to avoid congestion.</li> <li>Appropriate road signs &amp; markings should be provided onsite.</li> <li>The main access to the sand mining area as identified and</li> </ul>

						<p>authorised by the Municipality of Omaruru must be utilised.</p> <ul style="list-style-type: none"> <li>• Make sure all loads are secure to prevent spillage during transportation of material.</li> </ul>
Noise and vibration	<ul style="list-style-type: none"> <li>• Noise impacts during rehabilitation and mining activities phase will occur from construction vehicles etc. which might be a nuisance to residents in proximity and employees' onsite.</li> </ul>	Site	Medium	Moderate	Probable	<ul style="list-style-type: none"> <li>• Work onsite should be limited to normal working days and office hours (08h00-17h00).</li> <li>• Personnel working in noisy environments must be issued with hearing protectors.</li> <li>• Make use of broadband white noise' audible warning systems on excavators instead of normal audible warning systems.</li> <li>• Follow World Health Organization (WHO) guidelines on maximum noise levels (Guidelines for Community Noise, 1999) to prevent hearing impairment and a nuisance to nearby residences.</li> <li>• All vehicles and power screens to be maintained and serviced regularly to reduce noise impacts.</li> </ul>
Impact on Employees	<ul style="list-style-type: none"> <li>• Occupational Health and Safety</li> </ul>	Site	Short-term	Low	Probable	<ul style="list-style-type: none"> <li>• Ensure that all staff members are briefed about the potential risks of injuries on site.</li> <li>• Adhere to Health and Safety Regulations pertaining to personal protective clothing, first aid kits being available on site, warning signs, etc.. All</li> </ul>

						<p>employees must be provided with appropriate PPE.</p> <ul style="list-style-type: none"> <li>• Provide training to all employees.</li> <li>• Equipment that will be locked away on site must be placed in a way that does not encourage criminal activities (e.g. theft).</li> <li>• Use signage at the site</li> </ul>
Employment opportunities	<ul style="list-style-type: none"> <li>• The mining activities will provide employment opportunities (+ve)</li> <li>• The mining operation will attract movement of people from different areas in search of new opportunities</li> </ul>	Local	Long-term	High	Definite	<ul style="list-style-type: none"> <li>• Insignificant impact, no mitigation required</li> <li>• Give preference to local people</li> <li>• No recruitment shall take place onsite.</li> </ul>
	<ul style="list-style-type: none"> <li>• Mining activities will create economic opportunities for the local businesses e.g. building materials, business prosperity etc. (+ve)</li> </ul>	Local	Short-term	Low	Highly probable	<ul style="list-style-type: none"> <li>• No mitigation required</li> </ul>
Economic Development	<ul style="list-style-type: none"> <li>• The increase in demand for sand mining for construction purposes will place immense pressure on these resources which will result in environmental degradation</li> </ul>	Local	Long-term	High	Less-probable (manageable by means of permit control)	<ul style="list-style-type: none"> <li>• Mining should only be conducted on the permitted areas by the Municipality of Omaruru.</li> </ul>

## 8. CONCLUSIONS

The sand mining operations Municipality of Omaruru plays a positive role due to job creation and decreasing unemployment. The use of the land for sand mining has a beneficial role in generating income in the region and providing sand, a raw material crucial to the construction industry. Operational related impacts must be prevented or mitigated by implementing strict monitoring and control. All permits and approvals must be obtained from relevant ministries or authorities for the operations of the sand mine. Health, safety, and security regulations should be adhered to in accordance with the regulations pertaining to relevant laws and standards.

The Environmental Management Plan should be used as an on-site reference document during all phases of the mining operations. Parties responsible for transgression of the EMP should be held responsible for any rehabilitation that may need to be undertaken.

### 8.1 Assumptions and Conclusions:

- There were no objections or critical issues have been raised by the I&AP's.
- All identified key stakeholders agree with the proposed activities.
- The findings of the Scoping Assessment are considered sufficient and no additional specialist study is required.

### 8.2 EAP Recommendations

- Based on the assessment and subsequent findings, it is environmentally acceptable and recommended that mining of sand in the tributaries of Omaruru River could proceed subject to strict adherence conditions from the Municipality and the general Safety, Health, Environmental and Quality (SHEQ) requirements.
- All Bricks Making factories be requested to obtain ECC from MEFT
- It is further recommended that the Municipality assign an environmental officer to monitor the site throughout the validity of the mining permit to ensure compliance to legislation.
- Finally, it is therefore recommended that the Environmental Commissioner considers the findings and recommendations of this Scoping process with mitigation measures as outlined in this report.
- Subsequently, consider issuing an Environmental Clearance Certificate to authorize **“Sand Mining in the tributaries of Omaruru River, Omaruru, Erongo Region.**

## 9. REFERENCES

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## 10. APPENDICES

- APPENDIX A: List of Interested and Affected Parties**
- APPENDIX B: Sand Mining Permit**
- APPENDIX C: Proof of Consultations**
- APPENDIX D: CV of the EAP**
- APPENDIX E: BID**
- APPENDIX F: EMP**

## Appendix A: Interested and Affected Parties Register

ORGANISATION	REPRESENTATIVE AND TITLE	CONTACT DETAILS
Municipality of Omaruru	Mr. Josef Haipinge <b>Manager: Technical Services</b>	<a href="mailto:jnhaiping@gmail.com">jnhaiping@gmail.com</a>
	Mr. Jesaya Andreas <b>Environmental Health and Risk Officer</b>	<a href="mailto:jesayandreas@gmail.com">jesayandreas@gmail.com</a>
	Mr. Engelhardt Ndjiharine <b>Environmental health assistant</b>	<a href="mailto:motjari@gmail.com">motjari@gmail.com</a>
Ministry of Agriculture, Water and Land Reform	Bernhardt Beatty Haraseb <b>Basin Support Officer</b>	<a href="tel:+264812938396">+264 81 293 8396</a> <a href="mailto:bbharaseb@gmail.com">bbharaseb@gmail.com</a>
	Dr. Estelle O State Veterinarian	<a href="mailto:estelle.oosthuysen@gmail.com">estelle.oosthuysen@gmail.com</a>
Ministry of Environment, Forestry and Tourism	Likius Iiyambo Directorate of Forestry	<a href="mailto:iiyambo2883@gmail.com">iiyambo2883@gmail.com</a>
	Otilie Nghinyangelwa Directorate of Forestry	<a href="mailto:onghinyangelwa@gmail.com">onghinyangelwa@gmail.com</a>
	Rose maria Amulungu	<a href="mailto:rossy.amulungu@gmail.com">rossy.amulungu@gmail.com</a>
Ministry of Health and Social Services	Ms. Ester Nyathie	<a href="mailto:nononyathie@gmail.com">nononyathie@gmail.com</a>
Erongo Red	Mr. S Araeb	<a href="mailto:saraeb@erongored.com.na">saraeb@erongored.com.na</a>
Erongo Drum	Mr. Leon Rheeder :	<b>0812420006</b>
IAPs	MULLER Sandra (ORANO)	<a href="mailto:sandra.muller@orano.group">sandra.muller@orano.group</a>
	Ignatius Kauvee	<a href="mailto:ikauvee@gmail.com">ikauvee@gmail.com</a>

**Appendix B: Sand Mining Permit (Omaruru Municipality)**

**PERMIT FOR EXCAVATING SAND FROM OMARURU RIVER BED.**

Company Name: \_\_\_\_\_

Business Address: P.O. Box \_\_\_\_\_ Telephone: \_\_\_\_\_

Email Address: \_\_\_\_\_ Fax No: \_\_\_\_\_

Physical Address: Erf No. \_\_\_\_\_ Street: \_\_\_\_\_

Photocopy of certified Namibian ID or Citizenship to be attached to this application.

VEHICLE / TRAILER REGISTRATION NUMBER(S)	
VEHICLE TYPE	REGISTRATION
1.	
2.	
3.	
4.	
5.	

**AMOUNT PAYABLE**

Vote Number 003811004

Payable amount: N\$ \_\_\_\_\_ (Permit: N\$ 70 per m<sup>3</sup>)

Total number of loads: \_\_\_\_\_

\_\_\_\_\_  
Signature of applicant

\_\_\_\_/\_\_\_\_/\_\_\_\_  
Date

**OFFICE USE ONLY**

APPROVED  DENIED

REMARKS  
\_\_\_\_\_  
\_\_\_\_\_

**PAYMENT DETAILS**



PERMIT AMOUNT PAID: N\$ \_\_\_\_\_

RECEIPT NUMBER: \_\_\_\_\_

DEPOSIT AMOUNT PAID: N\$ \_\_\_\_\_

RECEIPT NUMBER: \_\_\_\_\_

REMARKS:  
 \_\_\_\_\_  
 \_\_\_\_\_

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
 DATE HEALTH AUTHORITY

Accordingly The Permit Holder Hereby Binds Him/Herself To Comply Strictly With The Condition: Listed Below Read Together With The Letter Of Permission Issued By The Ministry Of Agriculture, Water And Forestry Addressed To The Chief Executive Officer, Municipality Of Omaruru And Dated \_\_\_\_/\_\_\_\_/\_\_\_\_:

1. THE "PERMIT HOLDER" means a person who holds a permit issued by the Municipality of Omaruru on behalf of the Ministry of Agriculture, Water and Forestry (MAWF) to excavate and remove sand from the defined area in the Omaruru river as described in 5 below.
2. "Sand mining" for the purposes of this permit means the excavation of sand from the Omaruru river.
3. The permit holder recognizes that sand mining is by its nature damaging to the environment, that it involves dangerous and heavy machinery and equipment and that this causes a nuisance to the public.
4. The driver (s) of the vehicle (s) referred to on the face hereof shall at all times, relevant to the excavation of sand from the area referred to in (6) herein below, have a certified copy of this permit in the vehicle.
5. No other vehicle(s) except for the vehicle(s) referred to in the attached Annexure hereof shall be allowed to remove sand, on behalf of the permit holder, from the area referred to in (6) herein below.
6. Sand may only be excavated at designated area as per coordinates specified by the Municipality of Omaruru.
7. No new paths may be made/built on the riverbank.
8. The permit will be valid for a period of one year from the day of issue and is renewable annually. New applications must be accompanied by the prescribed deposit.
9. Should an operator stop his sand mining activities before the expiry of the permit, the area mined must be rehabilitated to its original condition and to the satisfaction of the Municipality of Omaruru. Notice of termination must be given in advance to the Municipality of Omaruru.
10. Excavation of sand shall be permitted on condition that the activities are not endangering other developments bordering the demarcated area and not closer than 200 meters upstream or downstream from any developed river bank areas or plots.
11. The normal underground water flow in the river, as well as periodic visible run-off and floods shall under no circumstances be polluted, blocked or deflected.

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12. Excavation or mining shall be terminated two meters above the ground water table.
  13. Excavation or mining shall not expose the roots of the vegetation in any watercourse, especially native woody species.
  14. The area where the removal of sand takes place shall be left clean and in a neat condition so that the view of the river is not blemished at any time.
  15. Dumping of building rubble in excavated areas or open spaces within the demarcated area or proximity is prohibited.
  16. Excavation / transport of sand and /or other activities relating to sand herein, shall only be allowed between 07h00 to 17h00 from Monday to Friday. Therefore no vehicle transporting will be allowed on public roads from Saturday to Sunday including public holidays.
  17. The MoS may suspend or cancel a permit to remove sand from the Swakop River in whole or in part if the PERMIT holder:
    - (a). Fails to abide by any of the terms or conditions of this permit.
    - (b). Fails to commence the removal of sand within the period specified in the terms and conditions of such permit or,
    - (c). Having commenced with the sand mining, cease the mining without notifying the Municipality of Omaruru.
  18. A permit holder whose permit was/has been cancelled due to a transgression of these conditions will not be considered again for a sand mining permit, and any monies/fees paid to the Municipality of Omaruru will be forfeited immediately.
  19. The Municipality shall in the case where a permit is cancelled, invite the permit holder to make representations in respect of the proposed amendment, suspension or cancellation.