# Environmental and Social Impact Assessment Study for the Proposed Development of Portion "K" of Okahandja Town and Townlands No. 57 – Otjozondjupa Region

Report No: 10052019

Revised on 10 May 2019


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# Document Status

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|---|---|
| **Proponent** | Ebony Properties Investment CC |
| **Title of the proposed Activity** | Environmental and Social Impact Assessment Study for the Proposed Development of Portion "K" of Okahandja Town and Townlands No. 57 – Otjozondjupa Region |
| **Activity Type** | Environmental and Social Impact Assessment Study |
| **Location of the Activity** | Okahandja Town and Townlands No. 57<br>GPS Coordinates at the Mine: 21°59'53.28" S and 16°55'37.39" E |
| **Competent Authority** | Environmental Commission (Ministry of Environment and Tourism) |
| **EIA Consultant** | KPM Environmental Consulting<br>Contact person: Mr. Festus Kapembe<br>Tel. +264 81 147 3344<br>E-mail: kpm.consulting@iway.na |

## PURPOSE OF THIS DOCUMENT

This document, Environmental and Social Impact Assessment (ESIA) Report and Environmental and Social Management Plan (ESMP) for the Proposed Development of Portion "K" of Okahandja Town and Townlands No. 57 in Otjozondjupa Region presents the findings of the impact assessment with respect to issues and concerns raised during the scoping phase of the ESIA. The findings are presented in the following reports:

- The Environmental and Social Impact Assessment (this report), with several appendices, including the Issues and Response Report (indicating to stakeholders where their issues have been captured)
- Environmental and Social Management Plan (also part of this report).

*Appreciation for participation by stakeholders*

Stakeholders were invited to partake in the consultation process. Various media platforms were used to engage the public on the proposed activities as per the Background Information Document (BID) attached in the annexures. Newspaper advertisements were placed in two local daily English newspapers (Republikein Newspaper dated 28 March 2019 and New Era Newspaper dated 28 March 2019). In addition, radio announcements were made via the local languages (NBC Oshiwambo, National Radio and NBC Afrikaans Radio Stations) inviting community members to a Public Consultation meeting. Social Media (Facebook) was also used to engage the stakeholders. Project Background Information Documents were availed at the Okahandja Municipality Offices as well as available through request via e-mail to stakeholders who could not make it to the Okahandja Municipality. The BID was also available from the KPM Offices (the consultant) on request via e-mail.

## PUBLIC REVIEW OF THE ENVIRONMENTAL AND SOCIAL SCOPING REPORT

A period of three weeks (from 25th of April 2019 to 9th May 2019) was dedicated to receiving comments and inputs from the public on the proposed development of Portion "K" of Okahandja Town and Townlands No. 57. Copies of the BID were couriered to all registered Interested and or Affected Parties (I&APs) especially the Okahandja residents who were out of town due to work and other reasons. In addition, the availability of the ESIA Report was announced in the media as well as by way of letters addressed to registered key stakeholders.

## OPPORTUNITIES FOR PUBLIC REVIEW

The following methods of public review of the Environmental and Social Impact Assessment Report were available:

- Completing the comment sheet enclosed with the reports;
- Additional written submissions;
- Comment by email or telephone;
- Comment during the public participation meeting at the proposed site in Okahandja (meeting held on Wednesday, 10th April 2019 at 15h00 at Okahandja Town Hall.

## FINAL ENVIRONMENTAL AND SOCIAL IMPACT REPORT (ESIR)

Comments received from stakeholders on the draft findings during the review period were assessed and are now included in this Final ESIA Report.

## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| BID | Background Information Document |
| ECO | Environmental Control Officer |
| ESIA | Environmental and Social Impact Assessment |
| ESMP | Environmental and Social Management Plan |
| ESMS | Environmental and Social Management System |
| I&AP | Interested and Affected Party |
| KPM | KPM Environmental Consulting |
| MET | Ministry of Environment and Tourism |
| NGO | Non-Governmental Organization |

## GLOSSARY OF TERMS

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

**Competent authority** - means a body or person empowered under the local authority's actor a delegation made under the Pollution Prevention and Waste Management Bill to enforce the rule of law.

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

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

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

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

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

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

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

**Proponent (Applicant)** - Any person who has submitted or intends to apply for an authorization, as legislated by the National Environmental Assessment Policy, to undertake an activity or activities identified as a listed activity or listed activities; or in any other notice published by the Minister or Ministry of Environment & Tourism.

**Public** - Citizens who have diverse cultural, educational, political and socio-economic characteristics. The public is not a homogeneous and unified group of people with a set of agreed common interests and aims. There is no single public. There are a number of public, some of whom may emerge at any time during the process depending on their particular concerns and the issues involved.

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

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

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

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

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# Executive Summary

## 1. Introduction

This ESIA study seeks to identify environmental and social issues associated with the construction activities and the development of Portion "K" of Okahandja Town and Townhall No. 57 and associated infrastructures. Issues identified through site visits and public participation are put forward in this report. These are further assessed and evaluated through a process developed as detailed in the ESIA report.

This Environmental Impact Assessment (EIA) document puts forward the identified environmental impacts associated with the proposed township extensions. The Okahandja Municipality in its efforts to create much needed serviced land and provide housing for the growing population identified the proposed extensions as part of its mandate of providing affordable housing to its residents.

KPM Environmental Consulting has been appointed by Ebony Properties Investments CC as the independent environmental consultant to undertake the EIA study required as per the Environmental Management Act (7 of 2007). The process will investigate if there are any potential significant environmental and social negative impacts associated with the proposed township developments. It will also provide an opportunity for public and key role players to give inputs and participate in the process, as well as for specialist inputs on specific aspects (where needed).

The environmental impacts of the proposed development were identified through various processes such as public announcements, residents and key stakeholder engagements and invitations, site visits, and engagements with the Okahandja residents.

The Impacts identified were assessed making use of the following criteria:

- Magnitude of impact
- Direction of impact
- Extent of impact

- Duration of impact
- Frequency of impact manifestation
- Reversibility of impact
- Likelihood of impact occurring

Based on the assessment criteria, waste, effluent generation/management, health hazards and water were amongst the highest rated environmental impacts identified. For all the environmental impacts identified, an associated mitigation plan has been developed and these are captured in the Environmental Management Plan (EMP).

## 2. Activity Description and natural environment

Ebony Properties Investment CC propose to develop and create a first of its kind 235 two bed room residential units, a modern Private Health centre with a pharmacy, a Private Pre-primary school and a mini-business centre for public and sales of basic commodities. Furthermore, the company intends to expand to other regions in order to be able to provide its services nationally. To set-up strategic business units (SBUs) and move rapidly towards integrating them as well as setting an exemplary growth strategy for Small to Medium Scale Enterprises (SMEs).

With the rapid growth of the population in Okahandja and continuous lack of own house, one cannot help, but to establish the desired mixed infrastructure to be able to establish a better and affordable houses and supplying of basic services.

The proposed activity will include the construction of the stand-alone houses, flats, small school and business centres for the residents. Road networks, powerlines and sewerage facilities will also form part of this development and further assessment may be required once the exact details of those amenities are finalized.

In addition to the main accommodation buildings are completed, the proponent also intends to bring more amenities to the area such as shopping centres, and automatic

teller machine (ATM). These facilities will be beneficial to the larger community of Villa Jardin residents community as they will no longer have to travel long distances to do their shopping for basic necessities.

The proposed site is located on the south-east of Okahandja townlands and it is currently used for agricultural purpose as a garden. The area is covered by thick vegetation largely populated by shrubs and bush encroachment in some areas. Below are some photos of the area depicting a virgin land which has not been altered by construction or related activities before.

*Figure 1: Shows part of the proposed site which is largely covered by small grass and shrubs*

## 3. Conclusions and Recommendations

The proposed activity has medium to low environmental impacts as per the assessment and identified impacts can be mitigated as per the proposed mitigation measures indicated on the EMP accompanying this Report. It is recommended that the proposed activity be granted Environmental Clearance as the envisaged impacted can be mitigated through the proposed measures. It is also known that the positive impact of establishing and constructing a low cost mixed accommodation facility far outweighs the negative impacts.

# Background to the Activity

## 1. Introduction

Okahandja with approximately 25 100 inhabitants, is in Otjozondjupa Region, central Namibia, and the district capital of the Okahandja electoral constituency. It is known as the "Garden Town" of Namibia. The town has been called garden town due to its lash green irrigated crop production that used to take place at the banks of the Okahandja River as you enter the town from Windhoek.

The Council's mandate in terms of the Local Authorities Act (23 of 1993) as amended subject to part VI up to part XII of 2000, which include among others; provision of portable water, sewerage systems and drainage, streets and public places, develop the town, uplift and maintain the community's living standards by providing the best municipal services and to continually strive to promote the Town by attracting all potential investors henceforth to empower the economy of Okahandja.

As part of its mandate, the OTC is to service land and provide affordable housing to its residents. The proposed development came as a results of the central government's commitment to provide affordable but decent houses for all Namibians as part of its strategy in alleviating poverty and providing housing for the growing low and middle class across the country.

The construction activities are listed as some of the activities that cannot be undertaken without Environmental Clearance Certificate from the Environmental Commission in line with the Regulation No. 29 of 2012 (List of activities that may not be undertaken without Environmental Clearance Certificate) as well as per the Environmental Management Act NO. 7 of 2007.

The development of the proposed housing facility does not pose a direct threat to the natural environment but the activities associated the proposed developement such as availability of water, electricity powerlines as wells as the construction of a sewerage

pond. Operating or handling a Waste Management facility as well as the construction of a power plant are some of the main activities that cannot be conducted without authorization from the Environmental Commission. Therefore, the proposed development cannot be undertaken without environmental clearance from the Environmental Commission as per the EIA Regulations and Environmental Management Act No. 7 of 2007.

## 2. The Environmental Assessment Practitioner

The proponent has contracted KPM Environmental Consulting as the Environmental Assessment Practitioner (EAP) to manage the assessment process. KPM Environmental Consulting is a Namibian company based in Windhoek with a broadly skilled and educated researcher, social scientist, mapping and environmental specialist as Managing Director, Festus Kapembe. Annexure F contains the EAP's Curriculum Vitae and other supporting documents.

The entire consulting team, whose overall services have been utilized for this assignment, comprised of the following members:

***Table 1: List of Consultant's Key Team Members***

| ***Role*** | ***Organisation*** | ***Individual*** | ***Contact No.*** | ***Email*** |
|---|---|---|---|---|
| *Project Manager & Lead EA Practitioner* | KPM Environmental Consulting | Mr. F. Kapembe | +26461222408 | kpm.consulting@iway.na |
| *Project Technical Advisor & EIA Specialist* | KPM Environmental Consulting | Ms. V. Nashindengo | +26461222408 | Kpm.consulting@iway.na |
| *Social Science Specialist* | Independent Consultant | Ms. M. T. Hangula | +26461222408 | kpm.consulting@yahoo.com |

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| *Admin/Secretariat & Stakeholders' Liaison Person* | KPM Environmental Consulting | Ms. L. Ekandjo | +26461222408 | kpm.consulting@yahoo.com |

All the above KPM Environmental Consulting team members' CVs are contained in Annexure F and meet the general requirement for EAPs as indicated in section 4 (a) of the Environmental Impact Assessment Regulations. The team consists of project management skills; a range of technical skills and experience, and qualified environmental assessment practitioners.

KPM Environmental Consulting consultancy team as the EAP designated:

a. Have knowledge of and experience in conducting assessments, including knowledge of the Environmental Management Act, the Environmental Impact Assessment Regulations and guidelines that have relevance to this proposed activity;
b. Have performed the work relating to the application in an objective manner, even if this results in view and findings that may not favourable to the Proponent;

c. Have complied with the Environmental Management Act, the Environmental Impact Assessment Regulations, guidelines and other applicable laws, and

d. Have disclosed to the proponent, competent authority and the Environmental Commissioner all material information in its possession that reasonably has or may have the potential of influencing –

    i. Any decision to be taken with respect to the application in terms of the Environmental Management

ii. Act, the Environmental Impact Assessment Regulations; or The objectivity of any report, plan or document prepared by the EAP in terms of the Act and its regulations.

## 3. Purpose and Scope of EIA and EMP

The aim of this EIA is to identify and assess the significance of impacts, and where appropriate to make recommendations that may then be used by the relevant authorities as conditions of approval and be incorporated into the Environmental Management System (EMS). The ultimate aim is to minimize the number of residual negative impacts of HIGH significance during the construction of the proposed developement.

## 4. Summary of the Proposed Activities

The Proponent intends to establish a state-of-the-art accommodation facility which offers free standing houses to those who wants their own houses and also bachelor, two and three bedroom flats for small families who may be staying in Okahandja or Windhoek for a short period of time i.e. for employment purposes.

In addition to the housing plan, the proponent also plans to introduce a small school and a small convenience shopping centre officering all basic necessities. The proposed development will bring a lot of benefits to the area, and is likely to attract a lot of residents from as far as Windhoek who will be commuting between Windhoek and Okahandja for work on a daily basis.

Other essential services that will be introduced to the area are such an automatic teller machines (ATM), shopping centre and other relevant infrastructures.

The final design drawings are currently in the process of being finalized and thus could not be availed of this report. However, these could be availed as soon as they are finalized.

The proposed activity will involve the construction of the following buildings at the proposed site:

- Accommodation facilities
- Sickbays
- Parking lots
- Waste area
- Sewerage area

The entire area for the proposed development will be secured through a security fence and thus there will be no possibility of any outsider entering without permission. Other control measures will also be put in place such us surveillance cameras to curb the possibility of such behaviours such as stealing etc.

## 5. Alternatives

In terms of the Environmental Management Act (7 of 2007), alternatives in relation to the proposed activity, means different means of meeting the general purposes and requirements of the activity, which may include alternatives to:

- The property on which, or location where, it is proposed to undertake the activity;
- The type of activity to be undertaken;
- The design or layout of the activity;
- The technology to be used in the activity;
- The operational aspects of the activity; and
- The option of not implementing the activity.

From the above, no other feasible and reasonable alternatives have been identified at this stage for the proposed development of Portion "K" of Okahandja Town and Townlands No. 57, except for those relating to the proposed housing development.

The 'do nothing' alternative is the option not to construct the proposed development of Portion K of Okahandja Town and Townlands No. 57. This alternative is counterproductive

as currently the proposed area is underutilised and there is not much happening except for some dilapidated old garden that was operated by the previous owner. The 'do nothing' option will not have a dent in the economy of the town as things will remain the same for years to come.

In addition, the 'do nothing' alternative is not consistent with the Vision 2030 and Namibian government's commitment of employment creation, poverty reduction and economic growth as highlighted in the fifth National Development Plan (NDP 5).

# Regulatory Framework

## 1. Introduction

Namibia has a number of legislation dealing with environmental issues. Environmental legislation determines the objectives guiding, and the strategies to be used in order to

strengthen the respect for environmental values, considering the existing social, cultural and economic situation. The foundation for the Namibian environmental policy framework is Article 95 (l) of the Constitution. It stipulates that the state shall actively promote and maintain the welfare of the people by adopting policies which include the "maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefits of all Namibians (The Namibia Constitution).

The State is further committed to actively promote and maintain the environmental welfare of all Namibians by entrenching the principles of sound environmental management practice in the Namibian Constitution and formulating and institutionalizing policies that can realize the sustainable development objectives (Ruppel, 2013).

## 2. Environmental Legislation

To give effect to articles 91(c) and 95(l) of the Constitution of Namibia, general principles for sound management of the environment and natural resources in an integrated manner were formulated in Namibia's Environmental Assessment Policy of 1994. The Environmental Assessment and Management Act was approved in 2007 to give statutory effect to the Policy and gazetted on 27 December 2007 as the Environmental Management Act (Act No. 7 of 2007), Government Gazette No. 3966. Regulations for Environmental Impact Assessment, in terms of the Act, were published in January 2012. The Act defines "the environment" as including "the human environment that is the landscape and natural, cultural, historical, aesthetic and social heritage and values."

These policies and Acts, both promulgated and in draft form, were identified in this EIA and the proposed developement has been developed in compliance with these requirements. Table 1 provides a summary of the Namibian policies and laws and indicates how the requirements have been applied, or are still to be applied.

The process followed for this EIA study is outlined in Figure 1 below.

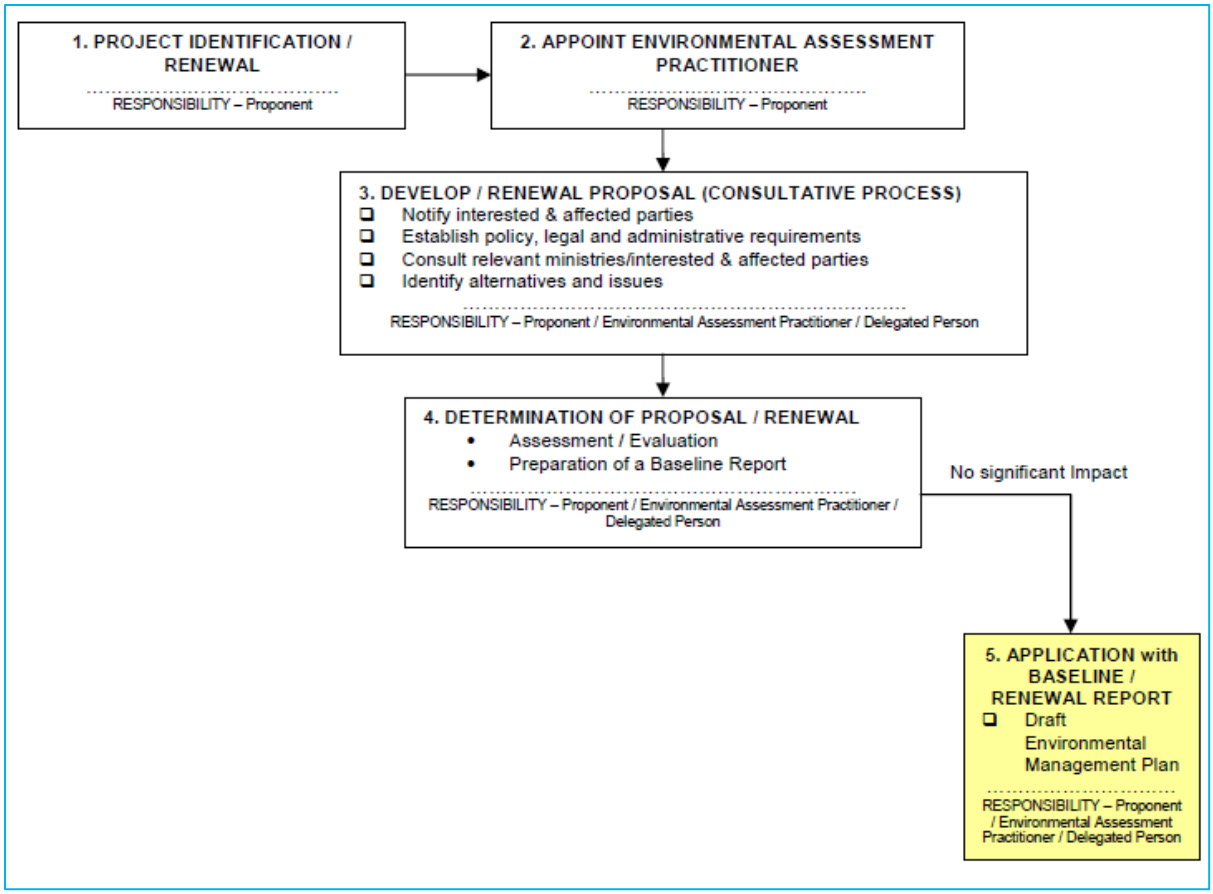



*Figure 2: EIA scoping process as per the Environmental Management Act (7 of 2007)*

As the organ of state responsible for the management and protection of its natural resources, MET is committed to pursuing these principles of environmental management.

The Act also provides for ensuring that there are opportunities for timeous participation of Interested and Affected Parties (I&APs) throughout the assessment process in matters affecting their lives.

## 3. Environmental Impact Assessment Policy

Namibia's Environmental Assessment Policy recognizes that EIAs seek to ensure that the environmental consequences of development projects and policies are considered, understood and incorporated into the planning process. The term 'environment' is broadly interpreted to include biophysical, social, economic, cultural, historical and political

components. The Policy defines the required steps for an EIA, the required contents of an EIA report, the need for post-implementation monitoring, and the system of appeals. All these aspects have since been taken up in the subsequent Environmental Management Act (EMA) and the accompanying Regulations, which were drafted in response to the Environmental Assessment Policy.

## 4. Local Authorities Act

The Local Authority Act (23 of 1992) makes provisions for municipalities, towns and villages to make regulations and rules regarding the activities that may be conducted within the municipal, town or village jurisdiction. Incidents such as pollution, spillages or contamination may be investigated by the Health and Safety Officer at the Municipality, Town or Village Council and the offender may be fined an amount as per the rules and regulations of that Local Authority.

The Local Authorities at Okahandja, have been informed about the proposed developement and are ready to accommodate some of the needs for the developement such waste management etc during the early stage of the operational stage.

## 5. Soil Conservation Act

To consolidate and amend the law relating to the combating and prevention of soil erosion, the conservation, improvement and manner of use of the soil and vegetation and the protection of the water sources in the Republic and the territory of Namibia. Considering the proposed activity, care should be exercised to ensure that no contamination or pollution of soil through leakage or wind blowing of any materials that might not be good for the natural environment. Specific measures regarding these possible impacts will be proposed further in EMP.

## 6. Hazardous Substance Ordinance (Ordinance No. 14 of 1974)

A substance is considered hazardous if it has one or more of the following hazardous properties i.e. explosive, flammable, oxidizes, corrosive or toxic to people. The proponent has not indicated what explosive materials that will be used for the academic purpose of for the veterinary clinic. However, it is important to ensure that all activities that may involve hazardous substances are handled with care and in line with the provisions of this Ordinance.

## 7. Atmospheric Pollution Prevention Ordinance of 1976

The Atmospheric Pollution Ordinance makes provision for the prevention of any activity that contributes to the pollution of the atmosphere. Provisions will be made in the EMP to direct staff responsible for waste management to ensure that all activities do not cause atmospheric pollution.

## 8. Water Resources Management Act, 2004 (Act No. 24 of 2004)

The Water Resources Management Act provides for the management, development, protection, conservation and use of water resources throughout Namibia. Provisions have been made in the EMP to ensure that sea water is not contaminated with throughout the lifespan of the developement.

# Baseline Description of the Environment and Project Setting

## 1. Ownership of the land

The proposed land was previously used for gardening purpose and Ebony Properties Investments CC is currently in the process of acquiring the property with intention to develop it for housing purpose. The properties lays across the B1 road network between Okahandja and Windhoek which is currently being upgraded to a dual carriageway. Portion "K" is surrounded by the Central Business District on the northern side while on the south-western is the informal location called Five Rand Extension 2 and 3.

Currently, the proposed area is dominated by some small vegetation and has no noticeable development. Across the area is also part of the river which runs across the area.

## 6. Socio-economic Environment

As previously stated, Okahandja is small town north of Windhoek, also known as "the garden town". Okahandja has approximate population of 25 000 inhabitants. Okahandja is also known for its arts and crafts market (which is one of the biggest markets in Namibia), as well as a number of hospitality businesses such as restaurants, lodges, and guesthouses (Swaney, 2002; Anesta, Caceda, & Michalka, 2004). The town is also known because of the Von Bach Dam, Von Bach Recreation Resort, Gross Barmen Recreation Resort, and Omba Ostrich Farm, which make it a popular destination for travellers in Namibia. Okahandja's convenient location at the intersection of roads to Swakopmund and Walvis Bay on the west coast, Otjiwarongo to the north, and Windhoek to the south, makes it a popular stopping place for travellers in Namibia. Many transport companies have based their businesses in the town because of its geographic position which is close to the capital city and in the centre of Namibia.

The town of Okahandja, is a small town with the potential for economic improvement; however, with the growth of the town has come an alarming increase in the population of its informal settlements. Within the last few years the population of the most recent settlements, Oshetu and 5 Rand, increased so greatly that the settlement require formalisation. The proposed extension and township developments are geared towards addressing the need for more housing at the town.

Some residents in Oshetu and 5 Rand Camp have gained amenities, such as limited electricity and access to clean drinking water; however, a lack of a sewage system and other infrastructure (e.g. waste removal) results in poor living conditions. The residents now use prepaid water cards that are inserted into communal water taps to obtain a measured amount of water. The proposed formalisation process by the town council is geared towards installing much needed service infrastructure for the community.

There are currently no organized sewage systems, some areas of Oshetu and Ekunde, forcing citizens to urinate in homemade pits behind their individual dwellings and to defecate in nonspecific areas out in the bush. This lack of sanitation results in bacterial growth that leads to sickness, especially in children. Residents themselves do not make sanitation a high priority. This lack of waste management is dangerous because the excrement which contains bacteria can be transferred to humans, especially children whose immune systems are highly susceptible to disease.

## 7. Public Participation Process

A key to a successful development and application of the EIA has been the liaison with the stakeholders during the entire project. The EIA regulations call for an open consultation with all interested and affected parties (I&APs) at defined stages of the EIA process. This entails participatory consultation with members of the public by providing an opportunity to review and comment on the proposed project. Public Participation has thus been undertaken to fulfil the requirements of Namibia's legislation, but also takes

account of other acceptable best and practical approaches used in other areas in Southern Africa.

During this study, more public and key stakeholders consultations were carried out with main objectives to present the intended activity as known to the consultants to all stakeholders and IAP; and to provide stakeholders and I&APs the opportunity to raise their concerns regarding the proposed activity.

A summary of the I&AP groups, consisting of authorities and interest groups at national, regional and local level, are presented in Table 3. The complete list of I&APs can be viewed in Appendix D.

Section 21 of the EIA Regulations (RN: MET, 2012) details steps to be taken during a given public consultation process and these have been used in guiding this process. Communication with I&APs about these proposed developments was facilitated through the following means:

- A Background Information Document (BID) was compiled that contained essential information about the proposed developments (Appendix E). The BID was sent to all registered I&APs;
- Notices were placed in the press, briefly explaining the development and its locality, inviting the public to register as I&APs (Appendix C); and
- All I&APs invited to attend a public meeting held in the Okahandja Community Hall at 15h00 on Wednesday, 10th April 2019. Meeting Minutes and question are available as Appendix B.
- The project was registered with the Office of Environmental Commissioner in MET.
- The planned public consultation approach was discussed with MET and their principle approval of the approach was obtained
- All the key stakeholders, both public and private were identified

- Notices advertising the proposed project and inviting the public to register as I&APs as well as to provide and register their concerns appeared in the Rebublikein and New Era Newspaper during March 2019 (Annexure C)

- A written notification including the Background Information Document (BID) was hand-delivered and emailed to all relevant government offices at national, regional and local levels, including Police and other places in Okahandja are, commercial farmers in the area and community members and to relevant traditional authorities and private offices.

- A list of stakeholders was established for the study (Annexure E). Key stakeholders include people and developement at the national, regional and local levels. At National and regional levels, the consultation focused mainly at government institutions such as Ministries, regional and local governments. At a local level, the consultation targeted institutions, communities and people in close proximity to the Okahandja Town and Townlands was conducted. As indicated in this report most of the sites are more than a kilometre from any residential areas or institutions, in that case, the Local Authorities and other government institutions that represent the interest of the people were registered as a key stakeholder and forwarded all relevant documentation regarding the project.

- A Background Information Document (BID) (Annexure B), which contained concise background information about the proposed activity was compiled and widely circulated to all key stakeholders at the specific study sites. Copies of the BID were also left at government offices at national, regional and local levels as well as at public facilities such as municipal offices, Police offices, shops, post offices, regional councillors' offices, schools, etc. for further distribution to Interested & Affected Parties (IAP). An electronic copy of the BID was forwarded to regional and local authorities and other institutions for further dissemination.

- Notices were placed in the local daily newspapers (Republikein and New Era Newspaper). The notice provided a brief description of the project and the project sites and invited Interested and Affected Parties to register as such (Annexure E).
- Where applicable, people living within the vicinity of the Okahandja area were directly contacted and provided with a brief explanation about the proposed initiative in the language of their preference and were also provided with copies of the BID.
- The BID was accompanied by a stakeholder registration form which made provision for a stakeholder to raise their issues of concern and return the form to the project office through the contact details provided on the form.

The consultant also provided the opportunities to the public and private stakeholders to contribute and or comment on this project by completing and returning a registration form, sending an email, or registering via telephonic communication with the consultants or by sending a cell phone text message to the number provided on the advert.

Targeted briefing and consultation meetings with key stakeholders were undertaken with all interested and affected parties.

## 8. Biophysical Environment

The area is generally dominated by flat areas with a few shrubs and grassland. There are widely dispersed indigenous trees which are locally known for various uses. It is recommended that the designing team should integrate indigenous trees with the design so that the proposed development of the housing scheme does not have to completely start from scratch when it comes to biophysical designing of the area.

## 9. Climate

The prevailing climate in Okahandja is known as a local steppe climate. In Okahandja, there is little rainfall throughout the year. The Köppen-Geiger climate classification is BSh. The temperature here averages 20.2 °C. The rainfall here averages 372 mm. The average rainfall of Okahandja area is estimated at between 300 mm/annum and 400 mm/annum, with most of the rainfall events occurring during December to March.

Variations ranging from 52 mm to 978 mm have been recorded. Some severe thunder storms during this period can cause intense flash floods down the river systems. The mean potential evaporation is estimated at between 3 000 mm/annum and 3 200 mm/annum.

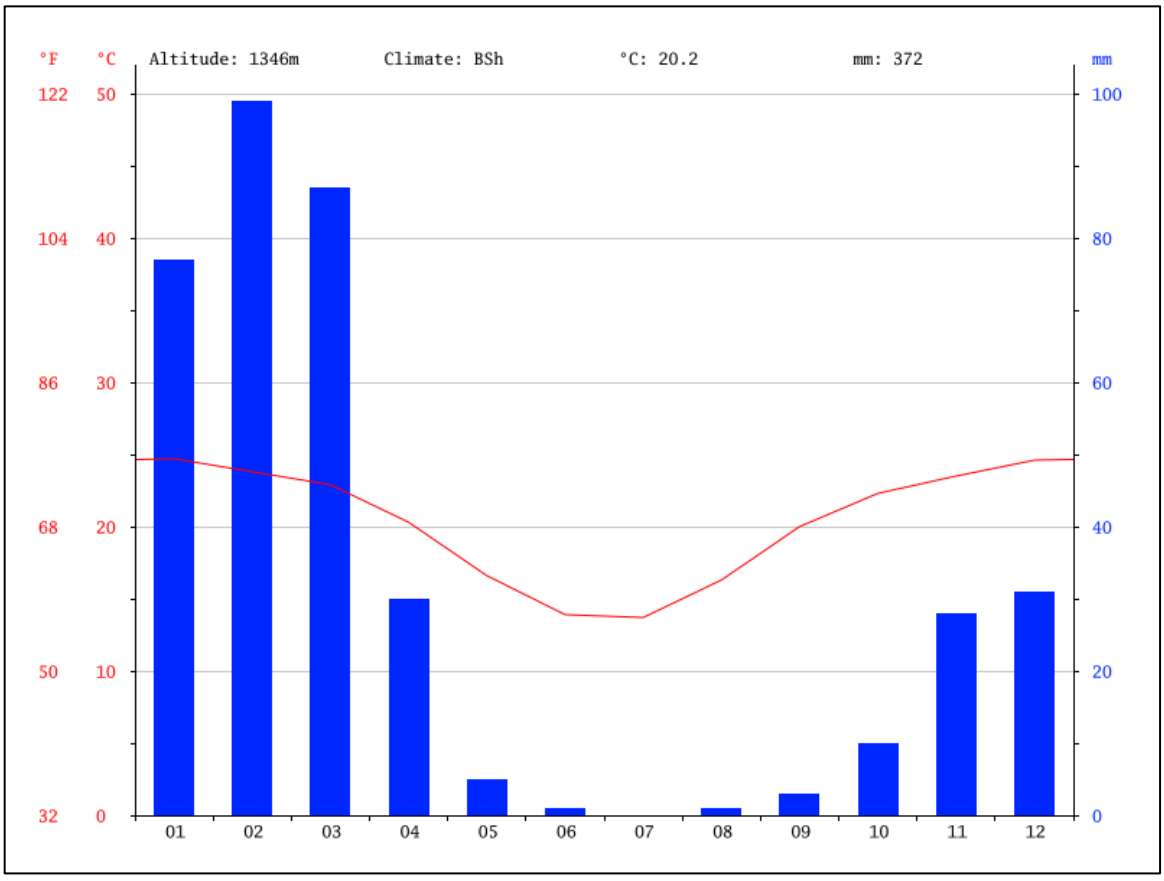



*Figure 3: Climate graph of Okahandja (Source: https://en.climate-data.org/location/2186/)*

## 10. Geology of the area

The soils of the study area are mainly well formed, mature savanna soils as a result of the typical subtropical savanna climate and moderate rainfall. The soils in the region are generally suitable for irrigation and domestic agriculture (figure 23). Okahandja know as the garden town of the country used to produce fruits and vegetables due to its proximity to good rivers systems and rich fertile soils.

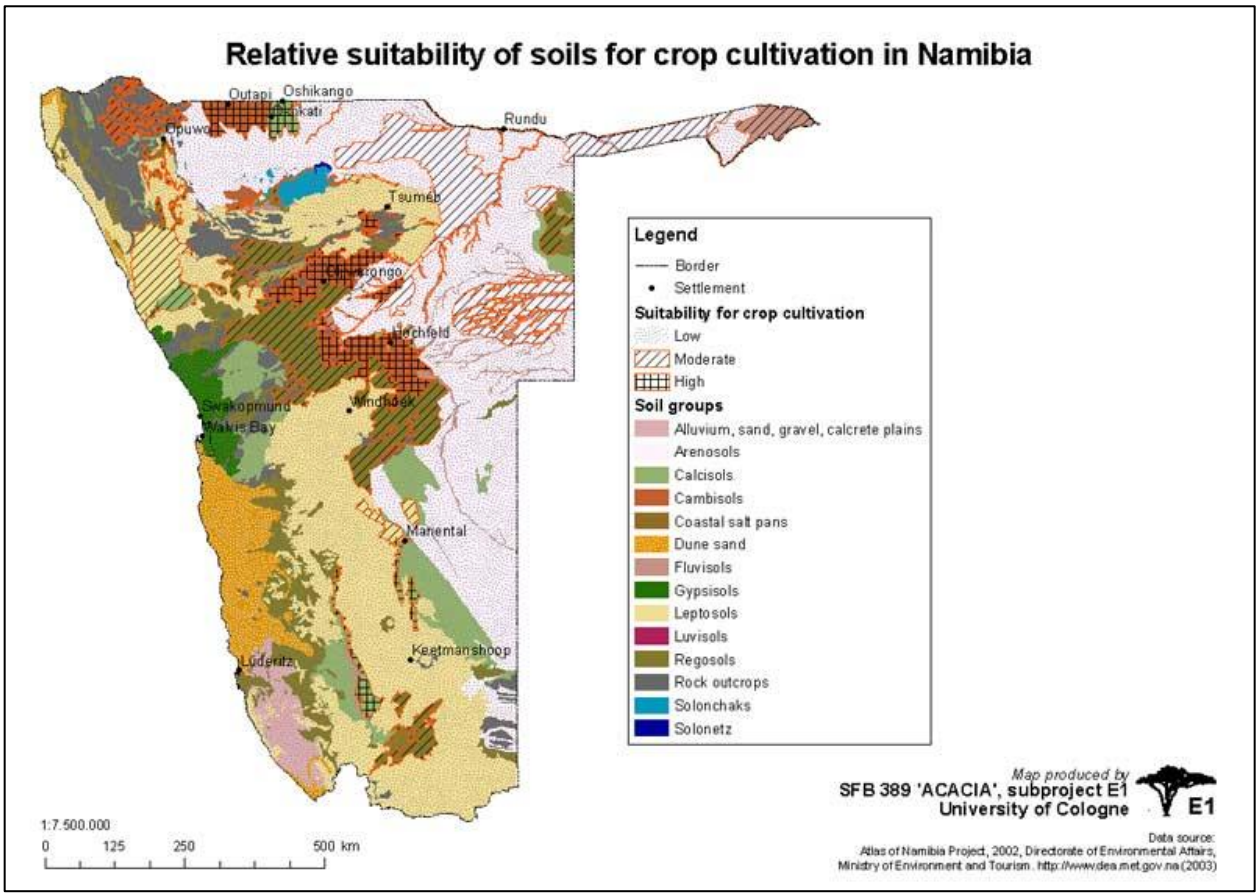



*Figure 4: Suitability soils for crop production Namibia*

## 11. Terrain forms and habitats

The terrain forms vary from one area to another. There are hilltops on some areas with others that are flat and dominated by grassland and some plantations. Savanna and shrubs have also been observed during the visits.

## 12. The soil of the area

The type of soil found in the Okahandja area varies from soil with high clay content in the middle to a sandy silty clay towards the road. From visual inspection, the possibility of underground water seems promising. This, however, needs to be confirmed by a hydrological assessment to ascertain the availability of groundwater in the area.

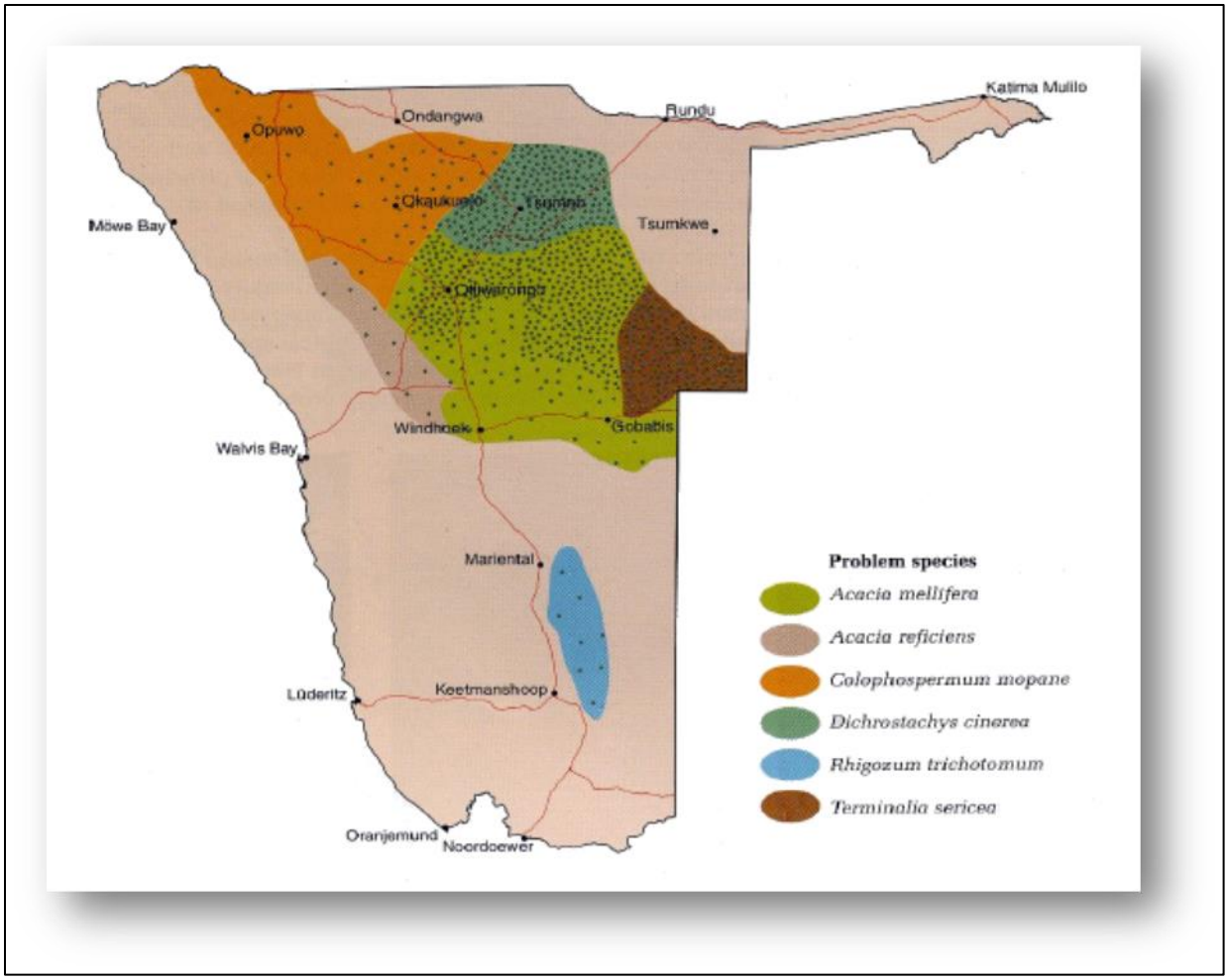
## 13. Fauna & Flora

Okahandja Town is located in the thornbush (so called Acacia tree and shrub) Savanna biome. The area is characterized by large, open areas of grassland with various Acacia trees dotted across the landscape. Although the Thornbush Savannah is not classified as an area of special ecological importance, certain features such as mountains, inselbergs (granite domes) and ephemeral drainage lines throughout this vegetation type are important. The Swakop River is viewed as a site of special ecological importance due to its high value for human subsistence and tourism.

Apart from the protected Acacia trees, the area depicts a high density of bush encroachment figure 10. Bush encroachment is the increase in the cover and biomass of woody plants over time, often relatively rapid (over a few decades), and apparently irreversibly at a timescale of several decades. Commercial cattle husbandry often leads to a reduction of grass fuel load through intensive grazing of cattle, and the natural effect of fire is reduced. In addition, numbers of most wildlife browsers, which also kept a check on tree growth, were dramatically reduced over the last century in order to lessen

competition with domestic livestock. Eventually the grass production has become too low, and the tree density too high, to practice economically-viable cattle production. In bush, encroached areas the grass production is low, often to the point where the ground is almost bare beneath the trees. Bush encroachment is more common on loamy and clayey soils than on sandy soils, since sandy soils often have a higher tree cover to start with. Bush encroachment is thus also regarded as part of the desertification process since the increase in the extent and density of woody vegetation occurs at the expense of other desirable grasses and forbs, resulting in an alarming reduction in agricultural productivity.

Site visits to the proposed areas indicates high level of environmental stress to the areas. Environmental stress here refers to high level of pollution (litter), soil erosion and bush/grass clearing. The land is currently being used for both residential (informal structures) and farming. Livestock (cattle, goats and sheep) can be seen roaming the proposed area.




1.
2. *Figure 5: High density areas of bush encroachment in Namibia (Mendelson, J, 2002. Atlas of Namibia).*

## 14. Surrounding land uses

The area proposed for the development of Portion K of Okahandja town and townlands 57 is mainly a flat area comprised of woodlands and shrubs. According to the proponent, the area has not been used for any development before but was mainly used as a grazing area. Walking around the area, one notice that the entire area is dominated by bush encroachment. There is hardly any significant plant species as most of them are small trees and shrubs.

Land uses around the proposed site is mostly agricultural whereby the farm owner used it for farming crops. There is no wildlife noticed during the assessment process. Below is the example of the natural environment around the proposed site:

*Figure 6: Shows how the area at the proposed site looks like*

## 15. Historical, archaeological or cultural sites

The Okahandja town is dominated by the different people with different ethenic background, in addition to some white farmers who own most of the commercial farmers. There are no notable archaeological sites nearby the proposed site. However, due to the historical presence of the San people, care should be exercised during excavations to ensure that where archaeological artefacts are found, that they are reported to the relevant authorities for further archaeological assessment.

## 16. Geology Soils

The geological formation of the Otjozondjupa Region varies from one area to another. The region is well known as having abundance groundwater and often receive good

rainfall on a yearly basis and vast natural resources and contribute a large chunk to the country's revenue.

## 17. Bio-physical Environment

Otjozondjupa Region is well known for its ever-green climatic condition and green forest throughout the year. There are plenty of types of vegetation mainly because of annual good rainfall. Livestock and small stock are some of the livestock observed in the study area. Partial shrubs have been observed mostly along the B8 national road and throughout the Region.

*Figure 7: Partial shrubs observed along to the B8 National Road nearby the proposed site*

## 18. Social Environment

Otjozondjupa Region is one of the vast regions in Namibia with a multi-ethnic background. Okahandja area is inhabitant by different people. There are also Oshiwambo, OtjiHerero and San speaking people around Five Rand location which almost 100 m away. Commercial farmers who are mainly whites are also noted and in the area. Most people, especially the Oshiwambo speaking people migrated to Okahandja area because of work mostly Five Rand at the nearby farmers as well as civil servants who are working for the Police Force as well as for Nature Conservation.

## 19. Current Infrastructure in the area

The proposed area has hardly any visible infrastructures, except the B8 national road network that connects Windhoek to Okahandja. In addition, the is a combined school, camping site and small stores for basic necessities. The proposed development is expected to boost the economy of the area as well as reducing the dire needed for accommodation.

# Description of the proposed activity

## 1. Introduction

In this section, a short description of the approach and methodology that has been followed in this study is provided and is described in the following subsections.

## 20. Project Management

KPM Environmental Consulting has been contracted by Ebony Properties Investments CC to carry out the required EIA study in order for the project to receive the Environmental Clearance from the Environmental Commissioner and in fulfilment of the Environmental Management Act No. 7 of 2007. As lead consultant, KPM coordinated and managed a project team of several specialist consultants to produce a well-integrated EIA process and report. The project team and specialists who participated in this study are listed in section table 1 above.

## 21. Inception phase

Key documents and data relevant to this project were collected during the Project Inception Phase in April 2019, which is also the period when the consultant's methodology and work plan for this project was reviewed and updated. Other important activities that took place during this phase were: a review of all relevant previous studies and other available resources to validate and update the baseline conditions at each of the targeted sites; carry out initial consultations with Ebony Properties Investments CC and other key stakeholders on the assignment and recommend any necessary additions to the Scope of Work. It was also during the inception phase when Background Information Document on the project was developed; shared with all identified key stakeholders and invited to register their concerns about the proposed activity. Inception phase also allowed the consultant to formally register the project and launch an Environmental Clearance Certificate application with the Environmental Commission.

In addition to the project management and inception phase outlined above, the methodology utilised for this activity has been divided into four components which are later discussed in details in specific sections of this report. These are:

- Scoping
- Specialist investigation
- Impact assessment
- Public and stakeholders consultation

## 22. Scoping

The scoping process consisted of two phases, the desktop review of the project to identify all potential environmental impacts, and the field work to all project sites to verify baseline information and collect additional information. Although key data about the activity, particularly all the background information, technical data on the proposed site were provided for by the client, some information could be collected through reconnaissance field trips undertaken by the EIA team to the proposed area. The following activities and objectives were carried out and realised during those reconnaissance field trips.

- Verification of baseline data reviewed during the desktop review
- Collect additional and missing baseline information to fill the gaps in historical data
- Analyse potential changes in available and assessed baseline information to establish the current baseline biophysical environmental state
- Collect additional socio-economic information and data to verify socio-economic assessments carried out by the client
- Conduct targeted consultations with key stakeholders living in proximity to those sites

The construction of major infrastructures i.e. may have some direct impact on the natural environment or the community in which these operations will be undertaken. Therefore, it is for that reasons that construction activities cannot be undertaken without

Environmental Clearance Certificate as per the EIA Regulations and Environmental Management Act No. 7 of 2007.

## 23. Environmental Management

This study has identified potential environmental and social impacts. An Environmental Management Plan for construction of the proposed residential development has been developed to ensure that all activities during construction are in line with the Environmental Management Act No. 7 of 2007. Therefore, mitigation measures are proposed where issues have been identified and where positive impacts are identified; measures to enhance those have also been identified.

# IMPACT ASSESSMENT

This Chapter provides details of the potential impacts that will emanate from construction activities. It should be noted that the proposed construction will be done in an area that has never been developed before. The only activity that has taken place at the proposed site is farming activities mostly grazing with cattle and small stock. The site is currently fenced off with the normal 1 m fence.

During the construction stage, the first step would be to clear the area of the vegetation and trees that are currently occupying the area. Then excavation and actual construction would commence. Therefore, the impact assessment will also be confined to this operation. This Chapter also provides baseline information for the sites covered in this study in terms of their location, infrastructure and the receiving environment. The overall impacts of the activity are also discussed and potential mitigation measures recommended. Key findings of specialist studies are also summarized in this Chapter.

The environmental impacts associated with the proposed development were identified through the following avenues:

- Desktop literature research on aspects related to EIA study;
- Public Consultation and Participation Process;
- Comments from Interested and Affected Parties; and
- Site visits to the proposed area.

Some of the envisaged environmental impacts associated with construction activities are such as:

- Aesthetic issues (change of landscape);
- Employment creation;
- Noise & Vibration (installation phase);

- Dust (installation phase);
- Traffic (installation phase);

The table below depicts that criteria used for to assess the various description of the area:

| Assessment Criteria | Description of criteria |
|---|---|
| **Magnitude (MA)** | The absolute or relative change in the size or value of the environmental feature.<br>0 – None<br>2 – Minor<br>4 – Low<br>6 – Moderate<br>8 – High<br>10 – Very high/don't know |
| **Direction (DI)** | Will the impact represent beneficial or adverse change? Positive (P) versus negative (N) impacts. Negative impacts are a cause for concern.<br>0 – Positive Impact<br>1 – Negative Impact |
| **Extent (EX)** | The extent of environmental impacts associated with the proposed activity.<br>1 - Immediate (the site and immediate surrounds)<br>2 - Local (Okahandja)<br>3 - Regional (Otjozondjupa Region)<br>4 - National (Namibia)<br>5 - International |
| **Duration (DU)** | The time period over which the impact will be felt.<br>1 – Immediate<br>2 – Short-term (0-5 years)<br>3 – Medium Term (5-15 years)<br>4 – Long-term (impact ceases after the operation)<br>5 - Permanent |
| **Frequency (FR)** | Refers to the return period for impacts which will recur over and over again.<br>0 - Annually or less<br>1 - 1 to 10 years<br>2 - 10 to 100 years |

| Assessment Criteria | Description of criteria |
|---|---|
| **Reversibility (RE)** | Refers to the permanence of the impact.<br>0 -Temporary<br>1 - Permanent |
| **Likelihood (LI) of occurrence** | Refers to the possibility of the particular impact occurring as forecast.<br>0 - None<br>1 - Improbable<br>2 – Low probability (possibility of the impact occurring is low)<br>3 – Medium Probability<br>4 - Highly probable (where the impact is most likely to occur)<br>5 - Definite (where the impact will occur) |

Once the above factors have been ranked for each impact, the overall risk (environmental significance) of each impact was assessed using the following formula:

**SP = (magnitude + direction + extent + duration + frequency + reversibility) X Likelihood**

The maximum value is 120 significance points (SP). Environmental impacts were rated as either **High**, **Moderate** or **Low** significance on the following basis:

| |
|---|
| SP ≥ 60: indicates high environmental significance: **HIGH** |
| SP 40 ≥ 59: indicates moderate environmental significance: **MEDIUM** |
| SP <40: indicates low environmental significance: **LOW** |

| | | ENVIRONMENTAL SIGNIFICANCE<br>BEFORE MITIGATION | | | | | | | | | | ENVIRONMENTAL SIGNIFICANCE<br>AFTER MITIGATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POTENTIAL ENVIRONMENTAL IMPACT** | **ACTIVITY** | **MA** | **DI** | **EX** | **DU** | **FR** | **RE** | **TOTAL** | **LI** | **SP** | **RECOMMENDED MITIGATION MEASURES** | **MA** | **DI** | **EX** | **DU** | **FR** | **RE** | **TOTAL** | **LI** | **SP** |
| **Aesthetic issues, clearing of land (change of landscape)** | The proposed construction will result in a change of landscape due to earthworks associated with clearing of the access road. | 4 | 1 | 2 | 2 | 2 | 1 | 12 | 2 | **24** | The bulk of the area has been disturbed already due to farming activities. However, much clearing of vegetation is expected. | 4 | 1 | 2 | 1 | 1 | 1 | 10 | 2 | **20** |

| | | ENVIRONMENTAL SIGNIFICANCE<br>BEFORE MITIGATION | | | | | | | | | | ENVIRONMENTAL SIGNIFICANCE<br>AFTER MITIGATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POTENTIAL ENVIRONMENTAL IMPACT** | **ACTIVITY** | **MA** | **DI** | **EX** | **DU** | **FR** | **DE** | **TOTAL** | **LI** | **SP** | **RECOMMENDED MITIGATION MEASURES** | **MA** | **DI** | **EX** | **DU** | **FR** | **DE** | **TOTAL** | **LI** | **SP** |
| | | | | | | | | | | | | | | | | | | | | |
| **Employment creation** | Clearing of the proposed site is likely to create employment opportunities for local residents through | 8 | 0 | 1 | 1 | 1 | 0 | 11 | 3 | **33** | This is deemed to be a positive impact for the residents of Okahandja area. Adhere to the legal provisions in the Labour Act (see Table 1) for the recruitment of labour (target percentages for gender balance, optimal use of local labour and SME's, etc.) in the Contract. | 8 | 0 | 1 | 1 | 1 | 0 | 11 | 3 | **33** |

| | | ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION | | | | | | | | | | ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POTENTIAL ENVIRONMENTAL IMPACT** | **ACTIVITY** | MA | DI | EX | DU | FR | PE | TOTAL | LI | SP | **RECOMMENDED MITIGATION MEASURES** | MA | DI | EX | DU | FR | PE | TOTAL | LI | SP |
| | appointed contractors. | | | | | | | | | | | | | | | | | | | |
| **Health and Safety Related impacts (Construction phase)** | Employees contracted by the various servicing contractors may be exposed to health and safety related | 8 | 1 | 2 | 2 | 1 | 1 | 15 | 4 | **60** | Enforcement of the Health & Safety procedures and training of the Health and Safety personnel. | 8 | 1 | 1 | 2 | 1 | 1 | 14 | 3 | **42** |

| | | ENVIRONMENTAL SIGNIFICANCE<br><br>BEFORE MITIGATION | | | | | | | | | | ENVIRONMENTAL SIGNIFICANCE<br><br>AFTER MITIGATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POTENTIAL ENVIRONMENTAL IMPACT** | **ACTIVITY** | **MA** | **DI** | **EX** | **DU** | **FR** | **PE** | **TOTAL** | **LI** | **SP** | **RECOMMENDED MITIGATION MEASURES** | **MA** | **DI** | **EX** | **DU** | **FR** | **PE** | **TOTAL** | **LI** | **SP** |
| | hazards. E.g Dust from earthworks and some from the burning of waste. | | | | | | | | | | | | | | | | | | | |
| **Noise & Vibration (construction phase)** | Machinery used during construction will cause a noise-related | 8 | 1 | 2 | 2 | 1 | 0 | 14 | 4 | **56** | Work hours should be restricted to between 08h00 and 17h00 where installation involving the use of heavy equipment, power tools and the movement of heavy | 8 | 1 | 2 | 2 | 1 | 0 | 14 | 3 | **42** |

| | | ENVIRONMENTAL SIGNIFICANCE<br><br>BEFORE MITIGATION | | | | | | | | | | ENVIRONMENTAL SIGNIFICANCE<br><br>AFTER MITIGATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POTENTIAL ENVIRONMENTAL IMPACT** | **ACTIVITY** | **MA** | **DI** | **EX** | **DU** | **FR** | **DE** | **TOTAL** | **LI** | **SP** | **RECOMMENDED MITIGATION MEASURES** | **MA** | **DI** | **EX** | **DU** | **FR** | **DE** | **TOTAL** | **LI** | **SP** |
| | nuisance to nearby farmers. | | | | | | | | | | vehicles is less than 1 km from neighbouring farms. If an exception to this provision is required, all residents within the 500 m radius should be given 1 week's written notice. | | | | | | | | | |
| **Dust (construction and installation phase)** | Dust could be generated during the land clearing | 8 | 1 | 2 | 2 | 1 | 0 | 14 | 4 | **56** | A watering truck should be used on gravel roads with the heaviest vehicle movement, especially during delivery transportation. However, due | 8 | 1 | 2 | 2 | 1 | 0 | 14 | 2 | **28** |

| | | ENVIRONMENTAL SIGNIFICANCE<br>BEFORE MITIGATION | | | | | | | | | | ENVIRONMENTAL SIGNIFICANCE<br>AFTER MITIGATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POTENTIAL ENVIRONMENTAL IMPACT** | **ACTIVITY** | **MA** | **DI** | **EX** | **DU** | **FR** | **RE** | **TOTAL** | **LI** | **SP** | **RECOMMENDED MITIGATION MEASURES** | **MA** | **DI** | **EX** | **DU** | **FR** | **RE** | **TOTAL** | **LI** | **SP** |
| | process due to machinery and earthworks. | | | | | | | | | | consideration should be given to water restrictions during times of drought. | | | | | | | | | |
| **Traffic congestion (Construction & Operational phase)** | Increase in traffic in the area is expected due to construction | 4 | 1 | 2 | 2 | 1 | 1 | 12 | 3 | **36** | Provide traffic calming measures and speed limits along strategic routes. | 4 | 1 | 2 | 2 | 1 | 1 | 12 | 2 | **24** |

| | | ENVIRONMENTAL SIGNIFICANCE<br>BEFORE MITIGATION | | | | | | | | | | ENVIRONMENTAL SIGNIFICANCE<br>AFTER MITIGATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POTENTIAL ENVIRONMENTAL IMPACT** | **ACTIVITY** | **MA** | **DI** | **EX** | **DU** | **FR** | **PE** | **TOTAL** | **LI** | **SP** | **RECOMMENDED MITIGATION MEASURES** | **MA** | **DI** | **EX** | **DU** | **FR** | **PE** | **TOTAL** | **LI** | **SP** |
| | and installation activities. | | | | | | | | | | | | | | | | | | | |
| **Air Pollution** | Air pollution might occur during excavation and transportation of | 8 | 1 | 2 | 2 | 2 | 1 | 16 | 4 | **64** | The contractor should ensure that containers of construction materials are secured | 8 | 1 | 2 | 2 | 1 | 1 | 15 | 4 | **60** |

| | | ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION | | | | | | | | | | ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POTENTIAL ENVIRONMENTAL IMPACT** | **ACTIVITY** | **MA** | **DI** | **EX** | **DU** | **FR** | **RE** | **TOTAL** | **LI** | **SP** | **RECOMMENDED MITIGATION MEASURES** | **MA** | **DI** | **EX** | **DU** | **FR** | **RE** | **TOTAL** | **LI** | **SP** |
| | construction materials. | | | | | | | | | | | | | | | | | | | |
| **Potential economic opportunities for local contractors providing services and supplies** | Clearing of the land and the actual construction will result in economic opportunities for local contractors. | 10 | 1 | 1 | 3 | 1 | 1 | 17 | 3 | **51** | Deemed a positive impact. | 10 | 1 | 1 | 2 | 1 | 1 | 17 | 3 | **51** |

| | | ENVIRONMENTAL SIGNIFICANCE<br><br>BEFORE MITIGATION | | | | | | | | | | ENVIRONMENTAL SIGNIFICANCE<br><br>AFTER MITIGATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POTENTIAL ENVIRONMENTAL IMPACT** | **ACTIVITY** | **MA** | **DI** | **EX** | **DU** | **FR** | **DE** | **TOTAL** | **LI** | **SP** | **RECOMMENDED MITIGATION MEASURES** | **MA** | **DI** | **EX** | **DU** | **FR** | **DE** | **TOTAL** | **LI** | **SP** |
| **Increased soil erosion risks due to heavy trucks impact on vegetation and conservation** | Increased erosion risks due to clearance of vegetation and the associated increase in sediment loads to soil erosion | 8 | 1 | 2 | 2 | 2 | 1 | 16 | 4 | **64** | • When excavating, topsoil should be stockpiled in a demarcated area.<br><br>• Stockpiled topsoil should be used to rehabilitate the nearest borrow area (existing borrow pits), if such an area is located less than 20 km from the stockpile. | 8 | 1 | 2 | 2 | 2 | 1 | 16 | 3 | **48** |

| | | ENVIRONMENTAL SIGNIFICANCE<br><br>BEFORE MITIGATION | | | | | | | | | | ENVIRONMENTAL SIGNIFICANCE<br><br>AFTER MITIGATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POTENTIAL ENVIRONMENTAL IMPACT** | **ACTIVITY** | **MA** | **DI** | **EX** | **DU** | **FR** | **DE** | **TOTAL** | **LI** | **SP** | **RECOMMENDED MITIGATION MEASURES** | **MA** | **DI** | **EX** | **DU** | **FR** | **DE** | **TOTAL** | **LI** | **SP** |
| **Soil Contamination** | Spillages of hazardous substances on the development site could impact on water bodies and downstream users.<br><br>Soil, surface and groundwater pollution from potential disposal of domestic | **8** | **1** | **2** | **2** | **2** | **1** | **16** | **3** | **48** | • Store all hazardous waste in bunded areas on concrete slabs.<br><br>• Recycle or sell liquid wastes and by-products where possible.<br><br>• Separate oily and non-oily areas and route all oily drainage via an oil separator.<br><br>• Separated oil to be collected for recycling.<br><br>• Use environmentally friendly detergents. | **8** | **1** | **2** | **2** | **2** | **1** | **16** | **3** | **48** |

| | | ENVIRONMENTAL SIGNIFICANCE<br><br>BEFORE MITIGATION | | | | | | | | | | ENVIRONMENTAL SIGNIFICANCE<br><br>AFTER MITIGATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| POTENTIAL ENVIRONMENTAL IMPACT | ACTIVITY | MA | DI | EX | DU | FR | DE | TOTAL | LI | SP | RECOMMENDED MITIGATION MEASURES | MA | DI | EX | DU | FR | DE | TOTAL | LI | SP |
| | waste on open spaces | | | | | | | | | | | | | | | | | | | |

**Table 1: Identified Impact Assessment**

## 24. Discussion of Impacts

All potential impacts have been screened and the applicable impacts have been subjected to the criteria outlined in Table 1. All impacts outlined in Table 1 have been addressed in the EMP (Annexure A). The following should be noted regarding some of the key negative impacts associated with the proposed activity and their corresponding mitigation measures:

- **Increase investor confidence:** The proposed development will enhance the development of Okahandja town and boost business opportunities within the Otjozondjupa Region.
- **Increase international trade:** the proposed developement will improve international trade in the country as the developement may acquire some materials/equipment from outside of the country and also an exchange of students during the operational stage.
- **Emplyment opportunities:** the proposed activities will create employement opportunities for local people as the main Contractor may opt to employ and sub-contract local Small and Medium Contractors from the area.
- **Solid Waste Management:** the Proponent need to make arrangement for the disposal of solid waste from the site during contraction as well as other waste during operational stage of the proposed developement.

# CONCLUSION AND RECOMMENDATIONS

The Environmental Impact Assessment process did not identify any serious threat that the proposed developement may have on the natural and socio-economic environment. Potential impacts associated with construction have been identified and their significance determined. Impacts on the groundwater availability were identified as significant for the proposed developement as some farmers might complain that the activities during construction and operational stage are using more water. The impacts identified in this study can be mitigated through effective implementation of the Environmental Management Plan and are therefore not expected to have any detrimental impacts on the surrounding communities.

The other impacts identified in this study can be addressed through the implementation of the Environmental Management Plan and are therefore not expected to have any detrimental impacts on the surrounding communities. Mitigation measures are described in greater details in the EMP. Hence, the activity, as proposed in this report, can be undertaken with no significant impacts if executed according to the EMP.

It is, therefore, concluded that construction of the proposed developement can be undertaken without posing any serious health effects on the surrounding communities and habitats. It is considered that the benefits of establishing the proposed development at Portion "K"of Okahandja Town and Townland far outweigh the minor risks that can be avoided through EMP implementation. It is recommended that the EMP should be implemented fully in order to ensure that all potential environmental and social impacts are satisfactorily addressed.

## 1. Recommendations

The Environmental Management Plan contained in this report must be strictly implemented and must become part and parcel of the Contractor's contract for construction. Contractors should adhere to all proposed mitigation measure proposed in

the EMP. Ebony Properties Investments CC should ensure that all Contractors and staff working on site during the construction stage are inducted on how they should conduct themselves on construction site. It is therefore recommended that Environmental Clearance be granted for the proposed developement.

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# LIST OF ANNEXURES

# Annexure A: Environmental Management Plan

# Annexure B: Background Information Document

# Annexure C: Press Notice to Interested and Affected Parties

# Annexure D: Minutes of the Consultation Meetings, Attendance Register and PowerPoint Presentation

# Annexure E: List of Registered Interested & Affected Parties

# Annexure F: Curriculum Vitae of the Environmental Assessment Practitioners and Company Profile

# Annexure G:  Map of the Proposed Area

# Annexure H:  Other correspondence related to this EIA