ENVIRONMENTAL & SOCIAL IMPACT ASSESSMENT FOR THE PROPOSED SUBDIVISION OF ERF 1249 KLEINE KUPPE WINDHOEK, KHOMAS REGION, NAMIBIA

ENVIRONMENTAL SCOPING REPORT (ESR)

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PLAN AFRICA CONSULTING CC
TOWN AND REGIONAL PLANNERS

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PROJECT NAME	**ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED SUBDIVISION OF ERF 1249 KLEINE KUPPE, KHOMAS REGION, NAMIBIA**
REPORT TITLE	**ENVIRONMENTAL SCOPING REPORT: (ESR)**
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Definitions

TERMS	DEFINITION
BID	Background Information Document
DEFRA	The Department for Environment, Food and Rural Affairs
EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
EIA	Environmental Impact Assessment
ESA	Environmental Scoping Assessment
ESIA	Environmental and Social Impact Assessment
EMP	Environmental Management Plan
FLTS	Flexible Land Tenure System
I&APs	Interested and Affected Parties
MAWLR	Ministry of Agriculture, Water and Land Reform
MEFT: DEAF	Ministry of Environment, Forestry and Tourism's Department of Environmental Affairs and Forestry
NHC	National Heritage Council
N(EMA)	Namibia Environmental Management Act
PRP	Pit Rehabilitation Plan
ToR	Terms of Reference
UNFCCC	United Nations Framework Convention on Climate Change

1 CHAPTER ONE: BACKGROUND

1.1 Introduction

The Proponent, Demushuwa Property Developers (Pty) Ltd intends to subdivide Erf 1249 Kleine Kuppe, into 6 sizeable individual portions. The project is initiated in a bid to contribute to effective and efficient use of land and to stimulate development of the area through intensification and other urban mechanisms.

In this respect, the proponent has appointed Plan Africa Consulting cc to undertake an Environmental Impact Assessment (EIA) and develop an Environmental Management Plan (EMP) for the proposed subdivision and also apply for an Environmental Clearance Certificate (ECC) to the Ministry of Environment, Forestry and Tourism (MEFT): Directorate of Environmental Affairs (DEA).

In Namibia, town planning activities are one of the listed activities under the 2012 (EIA) Regulations of the Environmental Management Act (EMA) No. 7 of 2007 that cannot be undertaken without an EIA or Environmental Scoping Assessment (ESA) study done and Environmental Clearance Certificate (ECC) issued by the Environmental Commissioner. The EIA Study is aimed at assessing the proposed project potential, socio-economic aspects, infrastructure, and services, environmental, and geohydrology (hydrogeology) aspects of the site.

The EIA and EMP is focused on Erf 1249 Kleine Kuppe which is to be subdivided into 6 portions and the remainder reserved as street. As such, this document forms part of the application to be made to the DEA's office for an ECC for the proposed subdivision according to the guidelines and statutes of the Environmental Management Act No.7 of 2007 and the environmental impacts regulations (Government Notice 30 in Government Gazette 4878 of 6 February 2012).

1.2 Project Localities and Descriptions

Erf 1249 is located in Kleine Kuppe, at the intersection of Chasie Street and Frankie Fredericks Drive. Furthermore, the Erf is located adjacent to Metro Hyper. The erf measures approximately ±3 5622ha in extent and is zoned 'Office' with a bulk of 1.0. The Erf is currently occupied by a small mobile Police Station and a large part of it is still vacant.

Erf 1249 Kleine Kuppe, is to be subdivided into 6 Portions and the Remainder is to be reserved as street. Council previously approved the rezoning of the Erf to business with a bulk of 1.0. The owner and developer intents to expand the existing business node in Kleine Kuppe, while improving service delivery within the area.

Portions A, B, C, D, E and F will measure from 7940.85m^2, 4660.57 m^2, 3771.80 m^2, 8755.25 m^2, 4214.83 m^2, 4247m^2 respectively in extent and the Remainder (to be created as Street) will be approximately 15m wide, and a 28m wide turning circle.

Figure 1: Aerial View of Erf 1249 Kleine Kuppe

PLAN AFRICA CONSULTING CC TOWN AND REGIONAL PLANNERS	LOCALITY OF ERF 1249 KLEINE KUPPE C/O OF FRANKIE FREDERICKS AVENUE AND CHASIE STREET	CO -ORDINATES: (Lat -22.624477° | Long 17.091258 °) KKLEINE KUPPE,KHOMAS REGION NAMIBIA

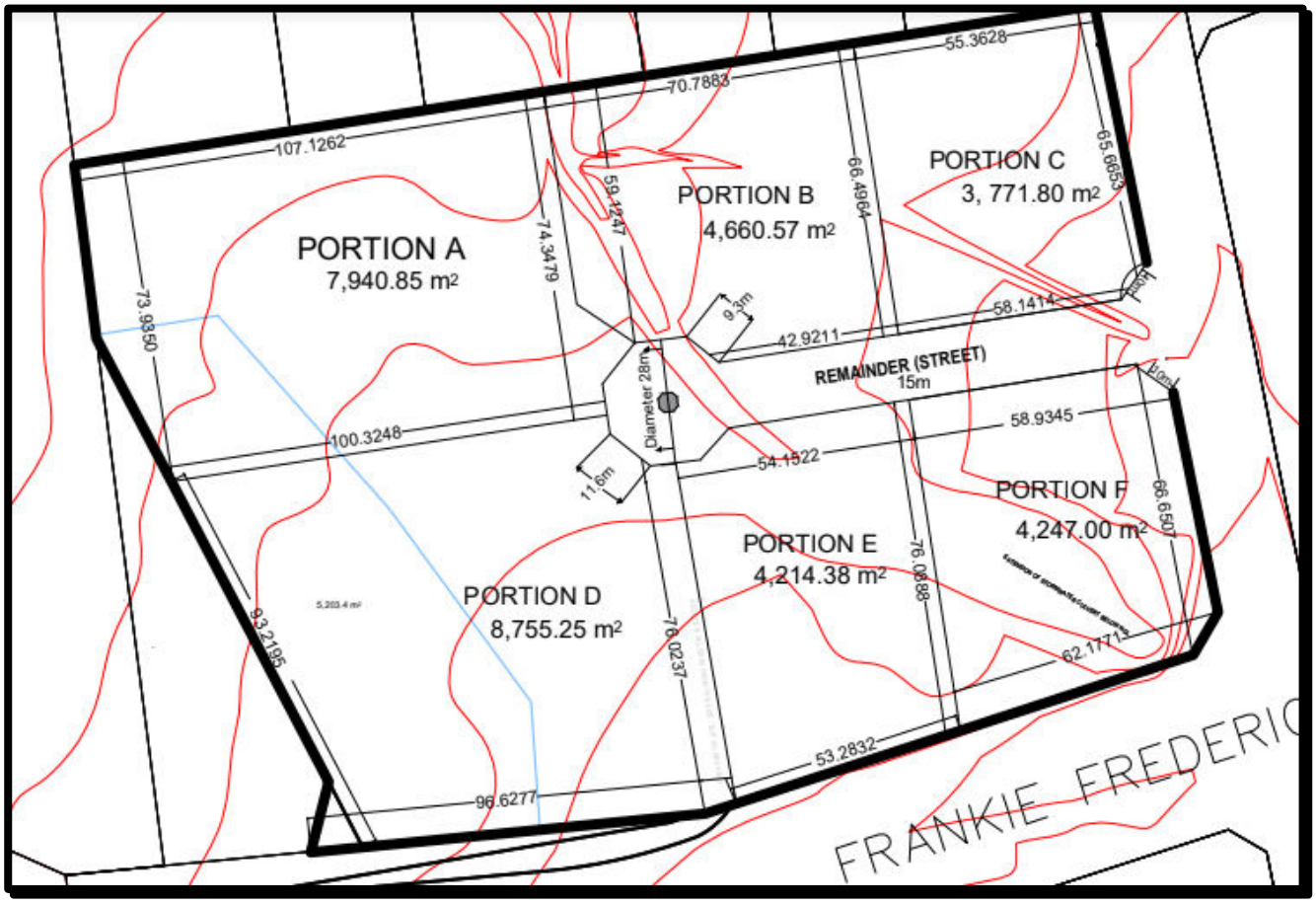

Figure 2: Proposed Subdivision of Erf 1249 Kleine Kuppe

1.2.1 Infrastructure and services

Erf 1249 is located in an area that has existing services such as roads, water and electricity. In this regard, no major work will be conducted to connect the erf with bulk. Services. The developer will be responsible for the internal services and access at own cost. Access to the area is available via Chasie Street, and further via the proposed internal street which will be 15m wide with a 28m wide turning circle.

1.2.2 Proposed Development

Erf 1249 Kleine Kuppe is to be subdivided into 6 Portions and the Remainder is to be reserved as street. The existing zoning and density of the erf allows for the subdivision of the erf as it is in line with the Windhoek Zoning Scheme. City Council has previously approved the rezoning of the Remainder of Erf 1249, Kleine Kuppe, Chasie Street, from “office” with a bulk of 1.0 to “business” with a bulk of 1.0 as per council Resolution No. 198/ 09/ 2019. The erf in question is 3, 5622ha in extent. The newly created portions will measure from 7940.85m^2, 4660.57 m^2, 3771.80 m^2, 8755.25

m^2, 4214.83 m^2, 4247m^2 respectively in extent and the Remainder (to be created as Street) will be approximately 15m wide, and a 28m wide turning circle.

1.3 Need and Desirability

The owner wishes to subdivide the respective erf into 6 portions with the intention of increasing the existing the existing business node in Kleine Kuppe and improving service delivery within the area. The proposed subdivision will also provide an opportunity to establish a variety (diversity) of business activities on the erven which will simultaneously create employment opportunities for the community. This will also increase the development potential of the area without deterring from the character of the town. The new portions would be served by a single 15m wide street from Chasie Street.

Due to the high demand for properties in desirable locations, subdividing a property can result in large financial gains for the owner through the sale of individual portions of land, as well as advantages for the municipality in terms of rates and taxes. Additionally, business owners gain from subdividing a property since it helps to increase security due to denser living and it will further improve cost savings due to having a smaller yard to maintain. Furthermore, it enables a larger population to reside close to services like social centres and employment centres. This lessens the need for long distance travel, which in turn lowers citizens' personal carbon footprints.

The proposal supports the spatial principles as it contributes to the functional land use pattern within the surrounding area. Additionally, it also facilitates development within the urban area and therefore increasing mixed-use development, increasing accessibility, decreasing urban sprawl and encouraging the optimal use of existing urban land and services. The application site is located in a well-established area and the proposal will therefore not have a negative impact on the neighbourhood and town overall.

In summary, the proposed subdivision is beneficial to the urban area as it enhances the character of Kleine Kuppe and Windhoek as a whole and will contribute to the economic growth of the country.

1.4 Objectives of this Study

This Environmental Impact Assessment is being undertaken in compliance with the Environmental Management Act No.7 of 2007 and the EIA Regulations (GN 30 in GG 4878 of 6 February 2012). It is a prerequisite by the law to have an Environmental Impact Assessment carried out before the implementation of the prescribed projects as elaborated in the EIA Regulations (GN 30 in GG 4878 of 6 February 2012). The main objectives of this study are to:

- identify and provide mitigation measures of the expected impacts of the proposed project to protect the environment,
- brief the Project Proponent of the legal and policy framework governing the proposed activity,
- identify the possible changes in bio-diversity index that might be because of Project implementation in the area,
- reflect on the various public concerns which will help the National Environmental Action Planners, economist and concerned stakeholders to make decisions,
- develop preventive and precautionary measures for the expected physical and biological environmental negative impacts associated with the proposed project activities, and
- structure an effective environmental management plan for the sub division and servicing of the land to minimise and prevent negative impacts while maximising the positive impacts.

1.5 Terms of Reference

The Environmental Impact Assessment conducted by Plan Africa Consulting provides a comprehensive evaluation of the proposed project producing both EIA and EMP report documenting the following:

- A complete description of the project site,
- Significant environmental issues of concern that were based on the baseline data compiled by the EIA Team, which took into consideration biophysical, social, cultural and heritage information,
- An assessment of the public perception on the proposed development,
- Identification of Policies, Legislation and Regulations relevant to the project,

- Prediction of the likely short, medium and long-term impact of the project on the environment, including direct, indirect and cumulative impacts, and their relative importance to the design of the project activities/facilities,
- Identification of any mitigation action to be taken to minimize predicted adverse impacts and provide associated costs where applicable and practical;
- Development of an environmental monitoring plan which will ensure that the mitigation measures are adhered to during the implementation phase;
- A conclusion and recommendations remarks for the project Proponent on an advisory note.

2 CHAPTER TWO: POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

2.1 Introduction

This EIA is identifying and reviewing the administrative, policy and legislative situation concerning the proposed activity, to inform the proponent about the requirements to be fulfilled in undertaking the subdividing and servicing activities. The section is a presentation of the legislative framework within which the proposed development related activities will be established and operate under.

The focus is on compliance with the legislation during the planning, construction and operational phases. All relevant legislation, policies and international statutes applying to the project are highlighted in Table 1. below as specified in the Environmental Management Act, 2007 (Act No.7 of 2007) and the regulations for Environmental Impact Assessment as set out in the Schedule of Government Notice No. 30 (2012).

Table 1: Applying Policies, legal and administrative regulations governing the subdivision and related activities

Legislation / Policy / Guiding document	Provision	Project implication
The Constitution of the Republic of Namibia (1990)	The articles 91(c) and 95(i) 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: - Guarding against overutilization of biological natural resources, - Limiting over-exploitation of non-renewable resources, - Ensuring ecosystem functionality, - Maintain biological diversity.	Through implementation of the environmental management plan the proposed development will be in conformant to the constitution in terms of environmental management and sustainability.
Vision 2030 and National Development Plans	Namibia's overall Development ambitions are articulated in the Nations Vision 2030. At the operational level, five-yearly national development plans (NDP's) are prepared in extensive consultations led by the National Planning Commission in the Office of the President. Currently the Government has so far launched a 5th NDP that pursues three overarching goals for the Namibian nation: high and sustained economic growth; increased income equality; and employment creation.	The proposed project will increase availability of accommodation in Windhoek as well as creating employment in construction, which will be in fulfilment to the NDP and Vision 2030.
Environmental Assessment Policy of Namibia 1994	The Environmental Assessment Policy of Namibia requires that all projects, policies, Programmes, and plans that have detrimental effect on the environment must be accompanied by an EIA. The policy provides a definition to the term "Environment" broadly interpreted to include	The development establishment will only commence after being awarded an environmental clearance certificate, thus by abiding to the requirements of the Environmental Assessment Policy of

Legislation / Policy / Guiding document	Provision	Project implication
	biophysical, social, economic, cultural, historical and political components and provides reference to the inclusion of alternatives in all projects, policies, programmes and plans.	Namibia. The EIA and EMP will cater for the sustainable management of bio-physical environment.
Environmental Management Act No. 7 of 2007	The Act aims at ✓ Promoting 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; ✓ 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.	This document is compiled in a nature that project implementation is in line with the objectives of the EMA Act. Guiding procedures were also drawn from the act to facilitate for the carrying out of the EIA and drafting the EMP for the proposed development.

Legislation / Policy / Guiding document	Provision	Project implication
The National Solid Waste Management Strategy, 2018	Having identified solid waste as a hazard, the Ministry of Environment, Forestry and Tourism developed the Solid Waste Management Strategy (SWMS) to guide future directions, develop regulations. The SWMS has also been aimed at funding strategy and action plans to improve solid waste management and ensure these are properly coordinated and are consistent with national policy to facilitate cooperation among stakeholders. The objectives of this Strategy are: (a) to strengthen the institutional, organisational and legal framework for solid waste management, including capacity development; (b) to instil a culture of waste minimisation and expand recycling systems; (c) to implement formalised waste collection and management systems in all populated areas; (d) to enforce improvements in the municipal waste disposal standards; and	In terms of the subdivision the SWMS would be enforced to ensure that the risks to the environment and public health emanating from waste disposal sites and illegal dumping in Namibia. This will include complete improvement of waste collection at all local authorities, in particular in the informal housing settlements, etc.

Legislation / Policy / Guiding document	Provision	Project implication
	(e) to plan and implement feasible options for hazardous waste management.	
Local Authorities Act No. 23 of 1992	To provide for the determination, for purposes of local government, of local authority councils; the establishment of such local authority councils; and to define the powers, duties and functions of local authority councils; and to provide for incidental matters.	The Proponent should ensure that the subdivision and related activities are in compliance with the relevant requirements the local authority by-laws.
Public and Environmental Health Act No. 1 of 2015	The Act serves to protect the public from nuisance and states that no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health.	The Proponent and their contractors should ensure that the project infrastructure, vehicles, equipment, and machinery are designed and operated in a way that is safe, or not injurious or dangerous to public health and that the noise which could be considered a nuisance remain at acceptable levels. The Proponent should ensure that the public as well as the environmental health is preserved and remain uncompromised.
Public Health Act No. 36 of 1919	Under this act, in section 119: "No person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health."	The project Proponent will ensure that all legal requirements of the project in relation to protection of the health of their employees and surrounding residents is protected. -Personal protective equipment shall be provided for employees in construction.

Legislation / Policy / Guiding document	Provision	Project implication
		-The development shall follow requirements and specification in relation to water supply and sewerage handling so as not to threaten public health of future residents on this land portion.
Soil Conservation Act No. 76 of 1969	The objectives of this Act are to: ✓ Make provisions for the combating and prevention of soil erosion, ✓ Promote the conservation, protection and improvement of the soil, vegetation, sources and resources of the Republic.	The project will have a rather localized impact on soils and on the soil through construction and access roads construction hence soil protection measures will be employed and preservation of trees as much as possible.
Nature Conservation Ordinance 1996	To consolidate and amend the laws relating to the conservation of nature; the establishment of game Parks and nature reserves; the control of problem animals; and to provide for matters incidental thereto.	The proposed project implementation is not located in any known or demarcated conservation area, national park or unique environments. The project site was selected with this ordinance in mind to ensure that Namibian nature is conserved.
Protected Areas and Wildlife Management Bill	This bill, when it comes into force, will replace the Nature Conservation Ordinance 4 of 1975. The bill recognizes that biological diversity must be maintained, and where necessary, rehabilitated and that essential ecological processes and life support systems be maintained. It protects all indigenous species and control the exploitation of all plants and wildlife.	The project has ensured that their activities do not fall within the boundaries of any protected area and that the project will not affect heavily endangered vegetation and animals on its site.
Forest Act No. 12 of 2001	The Act gives provision for the protection of various plant species through the Ministry of Agriculture, Water and Forestry (MAWF), Directorate of Forestry).	- The Proponent will also have to ensure that there is no indiscriminate cutting down of trees.

Legislation / Policy / Guiding document	Provision	Project implication
		-The proposed site is sparsely vegetated with white thorn tree species, which are not threatened or protected.
National Biodiversity Strategy and Action Plan (NBSAP2)	The action plan was operationalised in a bid to make aware the critical importance of biodiversity conservation in Namibia putting together management of matters to do with ecosystems protection, biosafety, biosystematics protection on both terrestrial and aquatic systems.	The proponent has been advised by the EIA Team and recognises the need for ecosystems protection to manage the changing climatic environment. -Through this project, there will be reforestation and fostering of green development, which will be promoting the protection and conservation of the biophysical environment, and with this EIA, it will be ensured that almost 40% of grown tree species on site will not be removed but rather will be part of the development, to promote Greed development.
National Policy on Climate Change for Namibia, 2010	In harmony with the findings of the IPCC over time and the Earth Summits being held annually the policy seeks to outline a coherent, transparent and inclusive framework on climate risk management in accordance with Namibia's national development agenda, legal framework, and in recognition of environmental constraints and vulnerability. Furthermore, the policy pursues the strengthening of national capacities to reduce climate change risk and build resilience for any climate change shocks.	The proposed project will ensure that there will be limited release of greenhouse gasses such as methane, carbon dioxide, nitrous oxides. Methods such as wet surface operations to reduce dust emissions will be utilised to remove aerosols emitted into the near-surface atmosphere.

Legislation / Policy / Guiding document	Provision	Project implication
The National Land Policy, 1998	The National Land Policy provides for a unitary land system for Namibia in which all citizens have equal rights, opportunities and security across a range of tenure and management systems. The policy has specific gender provisions consistent with the Namibian Constitution. Women are accorded the same status as men with regards to all forms of land rights, either as individuals or as members of family land ownership trusts. The Policy also provides for multiple forms of land rights, including customary, leaseholds, freeholds, licences, certificates or permits and state ownership. It has provisions on the urban poor, providing that informal settlements need to be given attention through appropriate planning, land delivery, tenure, registration and finance in an environmentally sustainable manner.	The subdivision project will need to adhere to the requirements of this Policy by ensuring that the: -establishment and proclamation of urban areas as townships and municipalities to promote decentralisation and the close involvement of communities in their own administration. -need to pay attention to the establishment of a transparent, flexible and consultative local authority planning system and development regulations.
Wetland Policy, 2004	The policy provides a platform for the conservation and wise use of wetlands, thus promoting inter-generational equity regarding wetland resource utilization. Furthermore, it facilitates the Nation's efforts to meet its commitments as a signatory to the International Convention on Wetlands (Ramsar) and other Multinational Environmental Agreements (MEA's).	In compliance to this policy the development will ensure a standard environmental planning such that it does not affect any wetlands within its locale through recognition of wetlands to promote the conservation and wise utilization of wetlands resources.

Legislation / Policy / Guiding document	Provision	Project implication
Water Resources Management Act No. 11 of 2013	This Act provides for the management, protection, development, use and conservation of water resources and the regulation and monitoring of water services and to provide for incidental matters. (Department of Water Affairs).	The protection (both quality and quantity/abstraction) of water resources should be a priority. Water usage during construction will be supplied by Windhoek Town Council.
National Heritage Act 27 of 2004	Heritage resources to be conserved in development. (National Heritage	During the project implementation as soon as objects of cultural and heritage interests are observed such as graves, artefacts and any other object believed to be order than 50 years, all measures will be taken protect these objects until the National Heritage Council of Namibia have been informed, and approval to proceed with the operations granted accordingly by the Council.
National Monuments Act of Namibia (No. 28 of 1969) as amended until 1979	"No person shall destroy, damage, excavate, alter, remove from its original site or export from Namibia: (a) any meteorite or fossil; or (b) any drawing or painting on stone or a petroglyph known or commonly believed to have been executed by any people who inhabited or visited Namibia before the year 1900 AD; or	The proposed site of development is not within any known monument site both movable or immovable as specified in the Act, however in such an instance that any material or sites or archeologic importance are identified, it will be the responsibility of the Proponent to take the required route and notify the relevant commission.

Legislation / Policy / Guiding document	Provision	Project implication
	(c) any implement, ornament or structure known or commonly believed to have been used as a mace, used or erected by people referred to in paragraph (b); or (d) the anthropological or archaeological contents of graves, caves, rock shelters, middens, shell mounds or other sites used by such people; or (e) any other archaeological or palaeontological finds, material or object; except under the authority of and in accordance with a permit issued under this section.	
Pollution Control and Waste Management Bill	This bill has not come into force. Amongst other the bill aims to "prevent and regulate the discharge of pollutants to the air, water and land" Of particular reference to the Project is: Section 21 "(1) Subject to sub-section (4) and section 22, no person shall cause or permit the discharge of pollutants or waste into any water or watercourse." Section 55 "(1) No person may produce, collect, transport, sort, recover, treat, store, dispose of or otherwise manage waste in a manner that results in or creates a significant risk of harm to human health or the environment."	To control air, water and land pollution as agitated by the Act the project proponent will ensure that erven will have approved drainage on site and that sanitation facilities do not threaten public health, adding on an integrated pollution management strategy following the EMP and will be operationalised on site. Adequate stormwater drainage systems will be designed for the project area.
Convection on Biological Diversity (CBD)	Namibia is a signatory of the Convention on Biological Diversity and thus is obliged to conserve its biodiversity.	The project will preserve tree species on as part of their plans for green and sustainable development.

Legislation / Policy / Guiding document	Provision	Project implication
United Nations Convection to combat Desertification	Namibia is bound to prevent excessive land degradation that may threaten livelihoods.	It will be the responsibility of the Proponent and future land title holders to conserve vegetation on and around the portions.

3 CHAPTER THREE: RECEIVING ENVIRONMENT

3.1 Climate

Namibia is generally known to be a hot and dry country, but temperatures do vary greatly. Summer is from October to April and day time temperatures can reach up to 4°C. Average summer temperatures range from 2°C to 34°C. In winter, from June to September, average night time temperatures range from 6°C to 10°C and daytime temperatures range between 18°C and 22°C. The average annual rainfall varies from less than 50 mm along the coast to 350 mm in the central interior and 700 mm in the Caprivi. The rainy season is from October till April1. Windhoek is located in a semi-desert climatic region which has a low average annual rainfall of 375 mm and a high rate of evaporation (Windhoek City Council, 2013). Rainfall peaks during summer between January and March (Namibia Meteorological Service, 2013) at an average high of 91 mm per month and is extremely unpredictable. At the peak of summer (December to February), average temperatures vary between 17 and 30°C with average mid-winter temperatures (June to July) varying between 7 and 21°C (Namibia Meteorological Service, 2013). For most of the year (70%) mean wind speeds are below 3.3 m/s and over the year average at 2.5 m/s (Namibia Weather, 2013). Winds favour no specific direction and wind speed increases during August and September which is the windiest period (Namibia Meteorological Service, 2013). Droughts are common, as are floods, and trends depict a pattern of drought approximately once every ten years (Namibia Meteorological Service, 2013).

3.2 Fauna

The general Windhoek area is commonly referred to as the Highland Savannah and has a vegetation structure that is classified as shrubs and low trees (Mendelsohn et al. 2002). The area is also regarded as “average to high” in overall species diversity while the overall terrestrial endemism is “high” (Mendelsohn et al. 2002). According to Simmons (1998a) central Namibia has between 161-200 endemic vertebrates (all vertebrates included). The Savannah Biome, of which the Windhoek

area forms part, is underrepresented in the 37 % of the protected area network in Namibia. Only 7.5 % of the Savannah biome is covered within the protected area network, while the Highland Savannah only has 0.2% of the area having formal protection. The closest nationally protected area to Windhoek is the Daan Viljoen Game Park that is located approximately 25 km to the west. No conservancies are within the immediate area of Kleine Kuppe and cimbebasia but freehold conservancies do surround Windhoek i.e. Khomas Hochland (west); Oanob (southwest); Namatanga and Seeis (east) (Mendelsohn et al. 2002). The mountains around Windhoek have over 500 species of which 7% of these are considered to be endemic (Burke, 2007). The Auas Mountains are considered to be an area of special ecological importance with highly restricted range plants, butterflies and lizards (Burke & Wittneben 2008, Curtis & Barnard 1998)

3.2.1 Reptiles, Amphibians and Invertebrates

The overall reptile diversity and endemism in the general Windhoek area is estimated to be between 71-80 species and 13-16 species, respectively (Mendelsohn et al. 2002). 35 snake species with 10 species being “endemic” and 18 lizard species (with 6 species being “endemic”) are the most important groups of reptiles expected from the general Windhoek area followed by geckos (10 species with 8 species being “endemic”).

Geckos expected and/or known to occur in the general Windhoek area have the highest occurrence of endemics (80%) of all the reptiles in this area. Tortoises are viewed as the group of reptiles most under threat in Namibia as they are either consumed as food; indiscriminately killed when encountered or even used by traditional healers (Griffin 1998a). Four reptile species expected to occur in the area of which two are tortoises (Stigmochelys pardalis, Psammobates oculiferus, Python natalensis & Varanus albigularis) are classified as “vulnerable” and “protected game”. One species – Python anchietae – is classified as “protected game”, but not as vulnerable. Nineteen reptile species have some form of international conservation status (10 CITES Appendix II & III species and 6 SARDB species; Python natalensis has both a CITES & SARDB status) with Python natalensis classified as “vulnerable” and Naya nigricincta as “rare” although N. nigricincta is however more common in Namibia than South Africa. Only 8 species (all “least concern”) are classified by the IUCN (2014) although most reptiles have not yet been assessed for the IUCN Red List for endangered species. Of importance to note are the restricted range of the Herero Girdled Lizard (Cordylus pustulatus) which only occurs within Namibia with specimens only known from the higher regions of the Auas Mountains; the mountains east of Windhoek and the mountainous areas of the Von Bach Recreational Area (Griffin 2003). C. putulatus is furthermore classified as “insufficiently known” and considering its restricted range and understudied ecology, makes this species one of

the most important occurring in Namibia. This species is however not expected to occur at lower lying elevations such as the proposed development area. Owing to the fact that reptiles are an understudied group especially in Namibia, it is expected that more species may be located in the general Windhoek area including the proposed development site in Kleine Kuppe. The proposed development site is however not pristine and is bordered by urban infrastructure and it is therefore not expected to have a severe impact on unique reptiles

3.2.2 Mammals

Namibia is well endowed with mammal diversity including the well-known big and hairy as well as a legion of smaller and lesser-known species. Currently 14 mammal species are considered endemic to Namibia are mainly associated with the Namib and escarpment with 60% of them rock-dwelling (Griffin 1998c). Overall terrestrial diversity and endemism amongst mammal species is classified as “high” in the central part of Namibia (Mendelsohn et al. 2002). The overall diversity (7-8 species) and abundance of large herbivorous mammals is “high” in the general Windhoek area with kudu and Oryx having the highest density of the larger species (Mendelsohn et al. 2002). The overall mammal diversity in the general Windhoek area is estimated at between 61-75 species with 5-6 species being endemic to the area (Mendelsohn et al. 2002). These species are mainly located in Daan Viljoen Game Park which has 65 species of mammals. 31.3% of the mammalian species that occur or are expected to occur in the general Windhoek area are represented by rodents, of which 16% are classified as “endemic”. This is followed by bat species at 22.5% and 1 species being “endemic” and “rare” (i.e. Cistugo seabrae) and carnivores at 21.3% of which 1 species is “endemic”. Of most importance is the House Mouse (Mus musculus) that is considered to be an invasive alien in the area is generally regarded as casual pests and are known to be carriers of “plaque”. None of the important mammal species are exclusively associated with the proposed development area and are not expected to be adversely affected by the proposed convention centre development.

3.2.3 Avian Diversity

Windhoek area is not classified as an Important Birding Area (IBA) although bird diversity in the area is viewed as high. At least 209 species of terrestrial (“breeding residents”) birds occur and/or could occur in the general Windhoek area at any time (Hockey et al. 2006, Maclean 1985, Tarboton 2001). The most important species known or expected to occur in the area are the endemics especially Rűppel’s parrot and the rockrunner that have unique habitat requirements; species classified as endangered (i.e. Ludwig’s bustard and white-backed vulture); near threatened (kori bustard) and vulnerable (martial eagle and secretary bird) by the IUCN (2014) and those classified as endangered (tawny, booted and martial eagles), near threatened (whitebacked vulture, Verreaux’s eagle,

peregrine falcon & marabou stork) and vulnerable (lappetfaced vulture) by Simmons & Brown (In press). However, not all the important birds are expected to occur in the Kleine Kuppe area due to its close proximity to an existing urban environment as well as other anthropogenic influences. None of the important bird species are exclusively associated with the proposed development area and are not expected to be adversely affected by the proposed new development, however several bird colonies were identified on site.

3.3 Flora

Trees / Shrubs and Grasses

Trees / Shrubs and Grasses The Highland Savannah, although varied is characterised by Combretum apiculatum subsp apiculatum, various Acacia species and climax grasses on undisturbed area. The best palatable grass species have often been denuded in the general area over time due to over and selective grazing (Giess, 1971). Simmons (1998a) classified the plant endemism in the general Windhoek area to be between 61 and 70 species depending on the locality. The overall plant diversity (all species “higher” plants) in the general area is “high” and estimated at 400-499 species (Mendelsohn et al. 2002). Plant endemism is also “high” with >35 species expected from the general area while the actual Auas Mountains south of the Auasblick area have >500 species (Mendelsohn et al. 2002). The vegetation of the surrounding areas are unique and have species reminiscent of the highland plateau grasslands in central South Africa and the Drakensberg (e.g. Themeda triandra) and the fynbos (e.g. Passerina montana) as well as succulents from the Northern Cape and South-western Namibia (e.g. Crassula & Ebracteola species) (Burke, 2007).

3.4 Geology and Soils

Windhoek, is located in the Central Highlands of Namibia approximately 1 540 m above mean sea level and approximately 300 km inland of the ocean (Lahnsteiner and Lempert, 2007). Windhoek is located in a valley surrounded by the Auas, Eros and Otjihavera mountains. The geology is characterised by historical episodes of folding, faulting, thrusting and rifting and this is evidenced by the numerous faults in the north-western region (Gold and Muller, 2001). The biotite schist of the Kuiseb Formation is characteristic of the wider Windhoek area including the proposed site. Biotite schist is a moderately course-grained foliated crystalline rock with monoclinic biotite minerals and is known for its weathering property (Africon, 2004). The area of Properita (the proposed development site) is moderately hilly with a well-developed drainage pattern and covered by sparse highland savannah vegetation (cf Geiss 1971). On the northwestern side the area is

bounded by a prominent ridge of Wasserberg quartzite (Kleine Kuppe Fmn) and on the southeast by semi-parallel outcrops of mica schist and amphibolite (Matchless Suite), striking in a roughly north-easterly direction (Geological Survey 1998). Faulting in a direction perpendicular to the strike is visible in many places, some of the faults showing ferrous calcrete encrustation resulting from artesian groundwater

3.5 Hydrology

A reconnaissance level field assessment was conducted to confirm the current hydrologic conditions at the proposed area and to identify potential hydrologic risks associated with establishment of the proposed project. The site is relatively flat however, due to its gradient the site can have minor drainage issues but this will be compensated by adequate and proper drainage systems. The alterations will result in an increase of surface water runoff due to the change in permeability characteristics. However, all services will be constructed as per the general municipal standards, with paved roads, gravel sidewalks, full-bore gravity sewer reticulation, water reticulation, underground electrical and Telecom networks and stormwater drainage where needed.

3.6 Traffic Impact

The proposed street will be constructed on Erf 1249 which is further connected to Chasie Street and Further connects to Frankie Fredericks Drive. During the construction there will be no diversion or closure of the road expected, however a slow nuisance might be experienced by the motorists using the specific road, this is likely to arise from the slow-moving construction vehicles.

4 CHAPTER FOUR: PUBLIC CONSULTATION

Public Consultation forms an important component of the Environmental Assessment process. It is agitated for in the EIA Regulations (2012), Section 21 of the Regulations details steps to be taken during a given public consultation process and these have been used in guiding the EIA process.

Formal public involvement has taken place via newspaper adverts, site notice, registering I&APs and door to door consultation. The public consultation process has been guided by the requirements of Environmental Management Act (EMA) No. 7 of 2007 and the process has been conducted in terms of regulation 7(1) as well as in terms of the EMA Regulations of GN 30 of 6 February 2012.

4.1 Public consultation activities

The following tasks have been undertaken during public consultation process which started on the 08th of March 2024.

Identification of Interested and Affected Parties (I&APs)

After the scoping process, the EIA team identified I&APs and key stakeholders of the proposed project. The public participation activities to be undertaken for this EIA process were incorporated into the overall approach of the EIA background information. Among key stakeholders identified were Windhoek Town council and neighbours. Other I&APs could register to the EIA team and a special database created capturing all their names and correspondence details.

Distribution of BID

A Background Information Document (BID) was distributed on request by I&A Parties and it was distributed to key stakeholders identified during the scoping process. The BID provided a description summary of the proposed project, the project proponent and the whole procedure of the EIA to be followed.

Public Announcement.

A public announcement was done to make sure the public is aware of proposed development by Plan Africa Consulting. The EIA study was announced publicly through the following means presented in Table 2.

Table 2: Details on the modes employed for public notifications of the EIA study

Method / Mode	Area of Distribution	Language	Placement Date
Republikein	Country Wide	English	08 March 2024 15th March 2024
Namibian Sun	Country Wide	English	08 March 2024 15th March 2024
Site notices	Windhoek City Council	English	08 March 2024
	Project Site	English	

4.2 Key Stakeholder and public Engagement (consultation) Meeting

4.2.1 Identification of Interested and Affected Parties (I&APs)

The EIA team identified and consulted the following I&APs & key stakeholders for the proposed project:

- Community members,
- Windhoek City Council.

Other I&APs were allowed to register to the EIA team and compiled a database containing their names and correspondence details. The registration was accomplished over a period of 14 days. The public did not show up for the arranged consultation meeting, therefore, a door to door consultation was done.

5 CHAPTER FIVE: ENVIRONMENTAL AND SOCIO-ECONOMIC IMPACTS

5.1 Overview

The project Proponent is committed to sustainability and environmental compliance through coming up with a corrective action plan for all the anticipated environmental impacts associated with the project. This is also in line with the Namibian Environmental Management legislation and International best practices on township establishment and associated activities.

The Proponent shall implement the hereto attached Environmental Management Plan (EMP) in order to prevent, minimise and mitigate negative impacts. The EMP developed by Plan Africa Consulting cc to address all the identified expected impacts, the plan will be monitored and updated on a continuous basis, with aim for continuous improvement to addressing impacts.

5.2 Key Potential Positive and Adverse (negative) impacts and issues

The subdivision and associated activities are associated with certain potential (positive and negative) biophysical and social impacts The key ones and that are relevant to and identified for the subdivision establishment in Windhoek are as follows:

Positive impacts

The project is set to improve the socio-economic environment of the Windhoek Town through the:

- Temporary employment creation during the development.
- Permanent employment once the business buildings are constructed
- Expansion and improved services needed by people

Negative (adverse) impacts

- Vegetation removal (Deforestation), i.e., loss of Biodiversity,
- Pollution (Solid waste, hazardous and wastewater),
- Soil Erosion and Disturbance,

- Health and Safety Risks, and
- Social Grievance due to property relocation/realignment of structures into surveyed ervens.

5.3 Impact Assessment Methodology

An impact assessment matrix was used to assess all possible impacts of the project on the environment. In line with NEMA No. 7 of 2007 and the Environmental Impacts Regulations (GN 30 in GG 4878 of 6 February 2012) with the direction on impacts analysis the following impact assessment criteria was identified by the team and deemed suitable.

Table 3: Impact Screening Criteria

Aspect	Description
Nature	Focuses on the type of effect that the proposed project will have on environmental components. Addresses questions related to "what will be affected and how?"
Extent	Spatial extend of the project and anticipated spatial extend of impacts indicating whether the impact will be within a limited area (on site where construction is to take place); local (limited to within 15km of the area); regional (limited to ~100km radius); national (extending beyond Namibia's boarders).
Duration	This looks at the temporal issues pertaining to time frames e.g. whether the impact will be temporary (during construction only), short term (1-5 years), medium term (5-10 years), long term (longer than 10 years, but will cease after operation) or permanent.
Intensity	Establishes whether the magnitude of the impact is destructive or innocuous and whether it exceeds set standards, and is described as none (no impact); low (where natural/ social environmental functions and processes are negligibly affected); medium (where the environment continues to function but in a noticeably modified manner); or high (where environmental functions and processes are altered such that they temporarily or permanently cease and/or exceed legal standards/requirements).

Aspect	Description
Probability	Considers the likelihood of the impact occurring and is described as uncertain, improbable (low likelihood), probable (distinct possibility), highly probable (most likely) or definite (impact will occur regardless of prevention measures).
Significance	Significance is given before and after mitigation. Low if the impact will not have an influence on the decision or require to be significantly accommodated in the project design, Medium if the impact could have an influence on the environment which will require modification of the project design or alternative mitigation (the route can be used, but with deviations or mitigation) High where it could have a "no-go" implication regardless of any possible mitigation (an alternative route should be used).

The application of the above criteria will be used to determine the significance of potential impacts using a combination of duration, extent, and intensity/magnitude, augmented by probability, cumulative effects, and confidence. Significance is described as follows:

Table 4: Impact Rating Criteria

Significance Rating	Criteria
Low	Where the impact will have a negligible influence on the environment and no modifications or mitigations are necessary for the given development description. This would be allocated to impacts of any severity/ magnitude, if at a local scale/ extent and of temporary duration/time.
Medium	Where the impact could have an influence on the environment, which will require modification of the development design and/or alternative mitigation. This would be allocated to impacts of

	moderate severity/magnitude, locally to regionally, and in the short term.
High	Where the impact could have a significant influence on the environment and, in the event of a negative impact the activity(ies) causing it, should not be permitted (i.e. there could be a 'no-go' implication for the development, regardless of any possible mitigation). This would be allocated to impacts of high magnitude, locally for longer than a month, and/or of high magnitude regionally and beyond.

5.4 Impact Assessment

By subjecting each of the potential impacts to the matrix above, the EIA team established the significance of each impact prior to implementing mitigation measures and then after mitigation measures have been implemented. Some of the mitigation measures are mentioned but detailed descriptions of management actions are contained in the accompanying EMP.

Table 5: Environmental impact Assessment Matrix

Impact	Status/nature	Extent	Duration	Intensity	Probability	Significance		
						Before Mitigation	Mitigation applied	Post Mitigation
Servicing and Construction Phase								
-Soil physical disturbance during servicing of the land and construction activities	-Erosion -Proliferation of tracks -Negative excavation methods such as blasting.	Local	Short	Medium	Definite	High	-Restrict construction activities on defined areas. -Proper management of stockpiles. Excavated material must be covered in stockpiles until reuse and backfilling. -Restrict movement to defined areas. Use existing roads until access require limited new roads. -Use surface anchored foundations with very limited rock breaking.	Low

Impact	Status/nature	Extent	Duration	Intensity	Probability	Significance		
						Before Mitigation	Mitigation applied	Post Mitigation
Urbanization/ urban growth	Physical expansion of the Town	Regional	Long	Medium	Definite	Low	-All built structures should be constructed according to the local Authority bylaws to guarantee strength and longevity of structures built.	Low
Noise from land servicing activities and construction vehicles and equipment	-Nuisance and disturbance. -Noise and vibrations will also have an impact on animals such as birds and reptiles. -Birds are known to abandon their nests if subjected to continuous noise. Noise to the nearby locals and to	Local	Short	Medium	Definite	High	-All workers on site must be equipped with ear plugs to be used when the noise becomes unbearable. -Switch off machines that are not used. -All locals must be notified about the noise construction activities on time during excavations and ground preparation, servicing of the land and any constructions beyond. - All noisy construction activities must not be carried during night time, early morning and evenings, they must be done during daytime to ensure	Low

Impact	Status/nature	Extent	Duration	Intensity	Probability	Significance		
						Before Mitigation	**Mitigation applied**	**Post Mitigation**
	construction workers.						minimum disturbance of the nearby residents.	
Physical destruction of vegetation through land servicing, construction activities and the upgrading and opening of new roads	-These activities may result in the removal and destruction of few trees species on site.	Local	Long Term	High	Definite	High	-Limit activity footprint and limit movement to designated areas only. -Implement and monitor the Vegetation Management Plan if there is a significant destruction of the on-site and surrounding areas. -Protected trees must be marked (e.g. with hazard tape) and planning and pegging personnel must know that marked trees are out of bounds (to be left untouched for continued preservation). -No destruction or disturbance to the protected species such as Baobab trees found within the project sites.	Medium/ Low

Impact	Status/nature	Extent	Duration	Intensity	Probability	Significance		
						Before Mitigation	Mitigation applied	Post Mitigation
Disturbance and killing of both reptiles, and small animals' activities	-reptiles and small animals in the locality are bound and likely to be affected.	Local	Temporary term	Low	probable	Medium	-The discriminate killing of animals and reptiles is prohibited.	Low
Disturbance through noise, movement and temporary occupation of an otherwise less disturbed habitat	-Negatively affect local animals and birds if any	Regional	Temporary	Medium	Highly probable	High	-Minimum disturbance of local environment by ensuring operations do not produce extreme noise that negatively affect nearby animals and birds. -Switch off machines that are not used.	Medium
Archaeological Landscape	-Visual degradation	Local	Long term	Medium	Improbable	Medium	-Demarcate, protect and avoid development near heritage sites. If removal is inevitable, a Consent Letter should be applied for from the Heritage Council via an Archaeologist.	Low

Impact	Status/nature	Extent	Duration	Intensity	Probability	Significance		
						Before Mitigation	Mitigation applied	Post Mitigation
Change in topography/ landscape character	-Use of caterpillars for servicing (roads construction and paving of the site)	Local	Long term	Medium	Probable	High	-Refill all the excavated pits and trenches to ensure that there are no pits left open on site and creating a new paved landscape (use of cement interlocks)	Low
Environmental contamination by hydrocarbons release into the environment (grease, oils, fuel spills and leakages from machinery and fugitive wastes.)	There will be no storage of oils and fuel on site according to the engaged contractors, however there is risk of spillage of hydrocarbons from vehicles and machinery operations, maintenance through leakages and spillages which may result in: -Washing away of contaminated soils by	local	Short Term	Medium	Probable	Medium	-Implement a maintenance programme to ensure all vehicles, machinery and equipment are and remain in proper working order -Vehicle maintenance should be Conducted in designated areas only, preferably off-site. If maintenance is to be conducted on site, these areas should be designed to contain spillages i.e. maintenance site must be bundled and paved and the use of chemicals must be controlled. -Waste oil, fuels and other chemicals from drip trays on stationery vehicles	-Low

Impact	Status/nature	Extent	Duration	Intensity	Probability	Significance		
						Before Mitigation	**Mitigation applied**	**Post Mitigation**
	rains into nearby rivers -Pollution of soil and affecting small living organisms habituating the soil -Result in possible groundwater pollution. -Possible fire risk on and around the site						and machinery will be disposed of as hazardous waste at a licensed facility by a specialist hazardous waste handler. -Oil residue will be treated with oil absorbent material such as Drizit or bio-remediation and removed to an approved waste disposal site -Spill kits will be easily accessible and workers will be trained in the use thereof. -Staff and contractors will be trained in the handling and storage of oils, fuels, chemicals and other hazardous substances -No bins containing organic solvents such as paint and thinners shall be cleaned on site, unless containers for	

Impact	Status/nature	Extent	Duration	Intensity	Probability	Significance		
						Before Mitigation	**Mitigation applied**	**Post Mitigation**
							liquid waste disposal are provided on site.	
Land Pollution	-Negative effect on the ecosystem when waste emanating from construction activities is not managed properly.	Local	Temporary	Medium	Probable	Medium	-Ensure that all waste from construction activities must be stored and contained in designated containers and transported to Windhoek Waste Disposal Site for proper disposal. - Adequate mobile toilets must be provided at the construction camps for the use of the workers.	Low
Dust from the general servicing of the land and construction activities	-Respiratory sicknesses can result from prolonged exposure to dust -Dust can negative affect the ecosystem in general and the nearby residents	Local	Temporary	High	Probable	Medium	-Equip all the workers exposed to dust with dust masks -Water spray all the areas that are sources of dust to minimize dust. - Minimize activities that can generate dust during windy days.	Low

Impact	Status/nature	Extent	Duration	Intensity	Probability	Significance		
						Before Mitigation	**Mitigation applied**	**Post Mitigation**
	-it also causes general pollution of the air						- Limit the speed within the whole construction area to a maximum of 10 km/h to avoid excessive generation of dust - Dust will significantly be reduced if excavation and land clearing is carried out after it has rained and the soil is wet or dust suppression can be done	
Employment opportunities during the servicing and construction phases of the development	-The general servicing and all construction activities create job opportunities both to the locals, regional and national, this will have a positive economic impact on surrounding Communities and technical companies involved	Regional	Temporary	Low	Highly probable	High	-The Project Manager should make it mandatory to contractors that all unskilled and semi-skilled work should be given to the locals.	high

Impact	Status/nature	Extent	Duration	Intensity	Probability	Significance		
						Before Mitigation	Mitigation applied	Post Mitigation
The spread of HIV/AIDS and others STDs throughout the construction phase of the project.	-The huge inflow of employees and other people into the Town can result in the spread of HIV/AIDS, other STDs	Local	Long term	Medium	Highly probable	Low	-Awareness should be raised at workplace and provision of condoms -Massive education of the employees and the general public on the importance of having protected sex	Low
Operational Phase								
Pollution from solid waste and sewerage	-Failure to manage waste properly result in general pollution of the environment and this might have a detrimental impact on the people's well-being and the quality of the environment	Local	Long term	Low	Highly probable	Medium	-The Erven must be serviced and connected to the Windhoek Town Council Sewer reticulation system. -Regular collection of solid waste by the municipal (either directly or through the appointed contractor) -Provisions of domestic solid waste collection bins to the residents	Low
Population influx	-Results in social tensions and an increase infection of	-Local	-long term	Medium	Definite	High	-Educate employees on social integration and sexual behaviour.	Medium

Impact	Status/nature	Extent	Duration	Intensity	Probability	Significance		
						Before Mitigation	**Mitigation applied**	**Post Mitigation**
	sexually transmitted diseases particularly HIV and AIDS, and other STDs.							
Social integration	Potential for conflict between people of different backgrounds and cultural beliefs.	Local	Short Term	Medium	Probable	Medium	-Public relations should adequately address the integrated societal values and morals	Low
Community development	Employment creation	Regional	Long term	High	Definite	High	-Promote local businesses and employ locals	High

5.5 Risk Analysis

Based on the impacts identified by this study during site visit, process analysis, desk study and stakeholder consultations conducted, an integrated environmental risk analysis was carried out using the DEFRA Guidelines for Environmental Risk Assessment and Management 'Green Leaves III' (latest edition) as well as the international Procedures for best practices. The risk analysis shows that the subdivision establishment and related project activities will have some negative impacts on the biophysical and socio-economic environment. However, based on the impacts' description and assessment, the impacts' significance is rated moderate and can therefore, be reduced by the effective implementation of the provided management and mitigation measures. It has also been noted that the project will bring about some positive impacts on the social and economic aspects. However, it is imperative to note that the project is being undertaken within an already disturbed locale. To prevent or mitigate negative impacts and to increase positive impacts, a coordinated project management strategy according to an Environmental Management Plan developed for the subdivision establishment in Windhoek.

Public & Stakeholders' Consultation and Engagement and Feedback

The public and stakeholders (I&APs) were consulted through the used means, i.e. newspaper adverts, public notices, and face-to-face meetings held in Windhoek. The I&APs have raised few but significant comments and these have been incorporated into the EIA documents for consideration and inform the planning & design phase of the subdivision in Windhoek.

To ensure that the significant components of the environment as well as issues raised by I&APs are considered and addressed, a Report was compiled for this EIA/ESA Study. The aim was to assess the proposed subdivision establishment and related activities and provide measures to mitigate the potential impact thereto.

No further specialist studies were necessary for the Detailed ESA, as the potential risks and impacts will be managed and mitigated by the effective implementation of measures contained in the EMP. To ensure that the EMP implementation is effective and yields the desired management results/indicators, monitoring of such implementation should be done by an Environmental Control

Officer and Competent Authority during project implementation (specifically construction or upgrading stage). Therefore, the Environmental Clearance Certificate (ECC) may be issued by the Environmental Commissioner for the establishment of the subdivision of erf 810 in Windhoek and conditions adhered to by the Proponent and their associated contractors on both sites (selected localities).

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