Environmental Assessment Scoping Report for

Street Creation on Portion F of the Remainder of the Farm Rundu Townlands No. 1329, Kavango East Region.

July 2025

APP- 006089

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PROJECT DETAILS

Title	Environmental Scoping Report for the: ▪ Street Creation on Portion F of the Remainder of the Farm Rundu Townlands No. 1329, Kavango East Region		
Report Status	Final		
SPC Reference	RUN/067		
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Report date	July 2025		
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EXECUTIVE SUMMARY

Introduction

The Rundu Town Council hereinafter referred to as the proponent intends to undertake the following activities:

- **Subdivision of the Remainder of the Farm Rundu Townlands No. 1329 into Portions A – F and the Remainder;**
- **Reservation of Portion F as a "Street".**

The above development triggers listed activities in terms of the Environmental Management Act (No. 7 of 2007) and Environmental Impact Assessment Regulations (Government Notice No. 30 of 2012).

As such the proponent appointed Stubenrauch Planning Consultants (SPC) to undertake an independent Environmental Assessment (EA) in order to obtain an Environmental Clearance Certificate (ECC) for the above activities. The competent authority is the Ministry of Environment and Tourism: Department of Environmental Affairs (MET: DEA).

Project Description

Since gaining independence in 1990, Namibia has prioritized housing development as a key strategy for driving economic growth, alleviating poverty, and fostering sustainable communities nationwide. Housing also features prominently in the global Sustainable Development Goals (SDGs), which aim to promote sustainable livelihoods and well-being for all. Specifically, SDG 11 advocates for inclusive, safe, resilient, and sustainable cities and settlements by ensuring universal access to adequate, safe, and affordable housing and essential services.

Rundu, the capital of the Kavango East Region, has a population of 118,632 and covers an area of 164.1 square kilometres, according to the 2023 Namibia Population and Housing Census. A 2018 economic profile report by First Capital Namibia highlighted a significant shortfall in affordable housing in Rundu, with an estimated demand of approximately 12,460 units.

The town's notable economic growth has triggered rapid urbanisation, increasing the demand for housing as more people migrate from rural areas in search of opportunities. Without proper planning and intervention, this urban influx could result in the expansion of informal settlements, which often become entrenched poverty zones. Such areas are typically associated with a range of social, economic, environmental, health, and governance challenges, ultimately diminishing the town's liveability.

In response, the Rundu Town Council is proactively identifying and reserving land for future urban expansion. These land parcels have been strategically selected to help address the housing backlog and attract investment in new township developments. By doing so, the Council aims to accommodate continued population growth and promote orderly urban development in Rundu.

Public Participation

Communication with Interested and Affected Parties (I&APs) about the proposed development was facilitated through the following means and in this order:

- A Background Information Document (BID) containing descriptive information about the proposed activities was compiled and sent out to all identified and registered I&APs via email on **24 April 2025**;
- Notices were placed in the New Era newspapers dated **24 April 2025 and 30 April 2025**, briefly explaining the activity and its locality, inviting members of the public to register as I&APs (**Appendix B**); and
- A notice was fixed at the project site (see **Appendix A**);

Public consultation was carried out according to the Environmental Management Act's EIA Regulations. After the initial notification, the I&APs were given two weeks to submit their comments on the project (until **27 May 2025**). The comment period remained open until the final scoping report was submitted to MET.

The Draft Scoping Report was circulated from the **25 June 2025 until the 09 July 2025** so that the public could review and comment on it. The overall commentary received from the public on the draft report was documented in the comments and responses report document of this report.

Conclusions and Recommendations

With reference to **Table 9**, none of the negative construction phase impacts were deemed to have a high significant impact on the environment. The construction impacts were assessed to a ***Medium to Low (negative)*** significance, without mitigation measures. With the implementation of the recommended mitigation measures in Chapter 7 as well as in the EMP**,** the significance of the construction phase impacts is likely to be reduced to a ***Low (negative)***.

With reference to **Table 9**, none of the negative operational phase impacts were deemed to have a high significance impact on the environment. The operational impacts were assessed to a ***Medium (negative)*** significance, without mitigation measures. With the implementation of the recommended mitigation measures in Chapter 7 as well as in the EMP**,** the significance of the construction phase impacts is likely to be reduced to a ***Low (negative)***.

It is recommended that this project be authorised because should the development not proceed the area will remain in its current state, and the existing housing backlog in Rundu will persist. No serviced land will be made available, and the town will lose out on potential revenue and investment opportunities. The local community will also miss out on job creation during construction and the long-term benefits of formal housing and infrastructure. Therefore, this alternative is not considered favourable. The significance of the social impact was therefore deemed to be Medium (positive).

The "no go" alternative was thus deemed to have a High (negative) impact, as all the benefits resulting from the development would not be realised.

The significance of negative impacts can be reduced with effective and appropriate mitigation provided in this report and the EMP. If authorised, the implementation of the EMP should be included as a condition of approval.

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LIST OF ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
CRR	Comments and response report
dB	Decibels
DESR	Draft Environmental Scoping Report
EA	Environmental Assessment
EAP	Environmental Assessment Practitioner
EAR	Environmental Assessment Report
ECC	Environmental Clearance Certificate
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
FESR	Final Environmental Scoping Report
GTZ	Gesellschaft für Technische Zusammenarbeit
HIV	Human Immunodeficiency Virus
I&AP	Interested and Affected Party
IUCN	International Union for Conservation of Nature
MET	Ministry of Environment and Tourism
MET: DEA	Ministry of Environment and Tourism: Department of Environmental Affairs
MURD	Ministry of Urban and Rural Development
MWTC	Ministry of Works Transport and Communication
NAMPAB	Namibia Planning Advisory Board
NPC	Namibia Planning Commission
POS	Public Open Space
PPP	Public Participation Process
SADC	Southern African Development Community
SME	Small Medium Enterprise
SPC	Stubenrauch Planning Consultants
USAID	United States Agency for International Development
VMMC	Voluntary Medical Male Circumcision

1 INTRODUCTION

1.1 PROJECT BACKGROUND

The Rundu Town Council hereinafter referred to as the proponent intends to undertake the following activities:

- Subdivision of the Remainder of the Farm Rundu Townlands No. 1329 into Portions A – F and the Remainder;
- Reservation of Portion F as a "Street"

The above are listed activities in terms of the Environmental Management Act (No. 7 of 2007) and Environmental Impact Assessment Regulations (Government Notice No. 30 of 2012).

In terms of the Environmental Management Act (No. 7 of 2007) and Environmental Impact Assessment Regulations (Government Notice No. 30 of 2012), the following listed activities in **Table 1** were triggered by the proposed project:

Table 1: List of triggered activities identified in the EIA Regulations which apply to the proposed project.

Activity description and No(s):	**Description of relevant Activity**	**The portion of the development as per the project description that relates to the applicable listed activity**
10.1 (b) Infrastructure	The construction of Public roads.	The proposed project includes the construction of roads
10.2 (a) Infrastructure	The route determination of roads and design of associated physical infrastructure where – it is a public road.	The proposed project includes the route determination of road

The above activities will be discussed in more detail in Chapter 4. The proponent appointed Stubenrauch Planning Consultants (SPC) to undertake an independent Environmental Assessment (EA) in order to obtain an Environmental Clearance Certificate (ECC) for the above activities. The competent authority is the Ministry of Environment and Tourism: Department of Environmental Affairs (MET: DEA).

The process will be undertaken in terms of the gazetted Namibian Government Notice No. 30 Environmental Impact Assessment Regulations (herein referred to as EIA Regulations) and the Environmental Management Act (No 7 of 2007) (herein referred to as the EMA). The EIA process will

investigate if there are any potential significant bio-physical and socio-economic impacts associated with the intended activities. The EIA process would also serve to provide an opportunity for the public and key stakeholders to provide comments and participate in the process.

1.2 PROJECT LOCATION

As depicted **Figure 1** below, Portion A – F are bordered by the C45 (M0110) road leading to Nkurenkuru and the Ngwangwa River. The proposed portions are also to the north of the B8 (T0804) road leading to Grootfontein and on the eastern side of Rundu Extension 31.

1.3 LAND USE

Portions A – F are vacant and undeveloped. The site is relatively flat, with a very gentle downward slope in the southwestern direction towards the Ngwangwa River.

1.4 OWNERSHIP

According to the Certificate of Registered State Deed (T4396/1993), the Remainder of the Rundu Townlands No. 1329 vests with the Rundu Town Council.

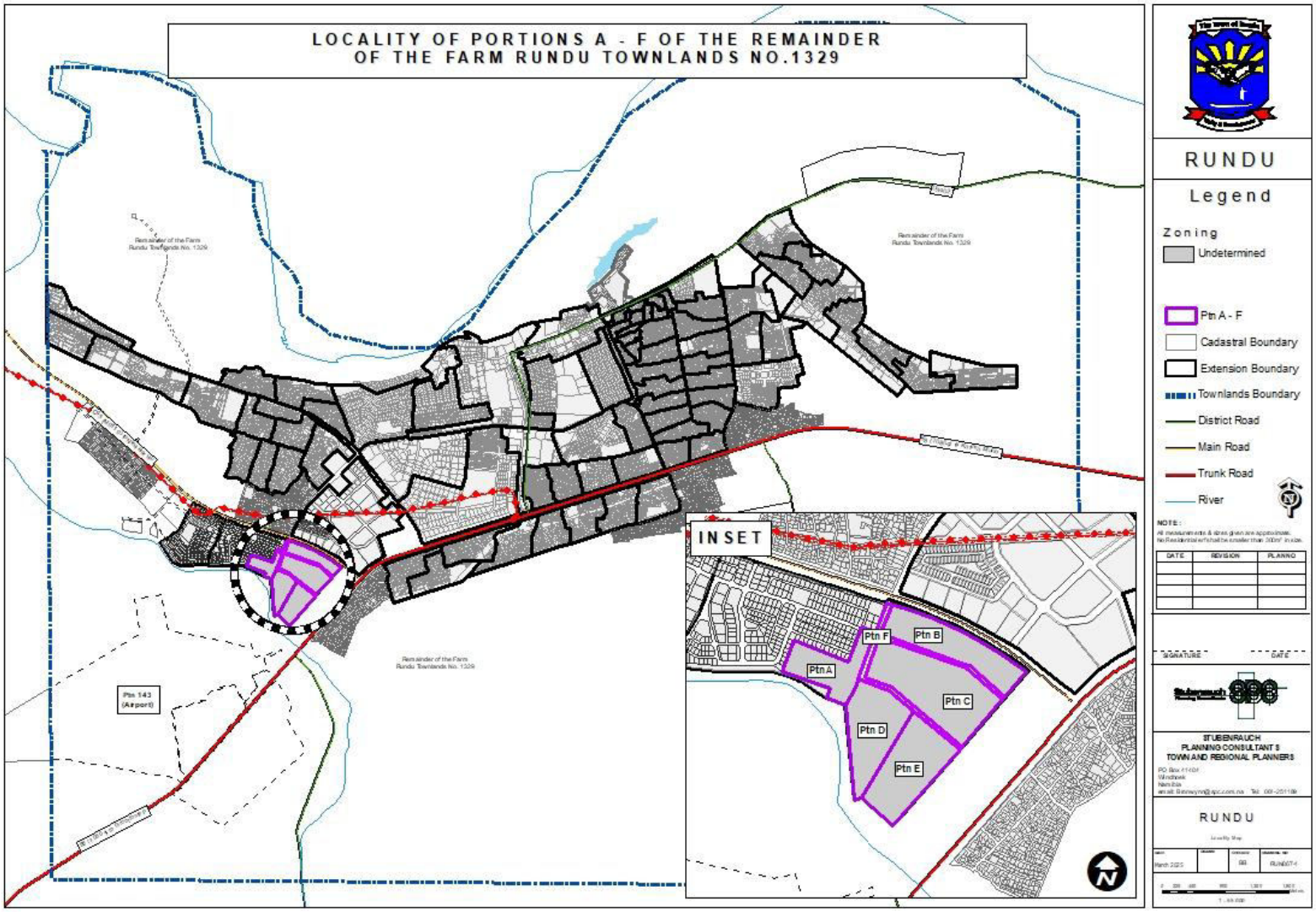


Figure 1: Locality of proposed Portions A - F

1.5 TERMS OF REFERENCE AND SCOPE OF PROJECT

The scope of this project is limited to conducting an environmental impact assessment and applying for an Environmental Clearance Certificate for the following as indicated in section 1.1 above:

- **Subdivision of the Remainder of the Farm Rundu Townlands No. 1329 into Portions A – F and the Remainder;**
- **Reservation of Portion F as a "Street".**

1.6 ASSUMPTIONS AND LIMITATIONS

In undertaking this investigation and compiling the Environmental Scoping Report, the following assumptions and limitations apply:

- Assumes the information provided by the proponent is accurate and discloses all information available.
- The limitation that no alternative except for the preferred layout plans and the 'no-go' option was considered during this assessment. The unique character and appeal of Rundu were however taken into consideration with the design perspective. Various layout alternatives were initially considered by the proponent, also taking terrain and environmental constraints into account, thus the current design plans being the most feasible result.

1.7 CONTENT OF ENVIRONMENTAL ASSESSMENT REPORT

Section 8 of the gazetted EIA Regulations requires specific content to be addressed in a Scoping / Environmental Assessment Report. **Table 2** below is an extract from the EMA and highlights the required contents of a Scoping / Environmental Assessment Report whilst assisting the reader to find the relevant section in the report.

Table 2: Contents of the Scoping / Environmental Assessment Report

Section	Description	Section of FESR/ Annexure
8 (a)	The curriculum vitae of the EAPs who prepared the report;	Refer to **Annexure D**
8 (b)	A description of the proposed activity;	Refer to Chapter 4
8 (c)	A description of the site on which the activity is to be undertaken and the location of the activity on the site;	Refer to Chapter 3
8 (d)	A description of the environment that may be affected by the proposed activity and the manner in which the geographical, physical, biological, social, economic and cultural	Refer to Chapter 3

Section	Description	Section of FESR/ Annexure
	aspects of the environment may be affected by the proposed listed activity;	
8 (e)	An identification of laws and guidelines that have been considered in the preparation of the scoping report;	Refer to Chapter 2
8 (f)	Details of the public consultation process conducted in terms of regulation 7(1) in connection with the application, including	Refer to Chapter 5
	(i) the steps that were taken to notify potentially interested and affected parties of the proposed application	Refer to Chapter 5
	(ii) proof that notice boards, advertisements and notices notifying potentially interested and affected parties of the proposed application have been displayed, placed or given;	Refer to **Annexures A** and **B** for site notices and advertisements respectively.
	(iii) a list of all persons, organisations and organs of state that were registered in terms of regulation 22 as interested and affected parties in relation to the application;	Refer to **Annexure C**
	(iv) a summary of the issues raised by interested and affected parties, the date of receipt of and the response of the EAP to those issues;	Refer to **Annexure C**
8 (g)	A description of the need and desirability of the proposed listed activity and any identified alternatives to the proposed activity that are feasible and reasonable, including the advantages and disadvantages that the proposed activity or alternatives have on the environment and on the community that may be affected by the activity;	Refer to Chapter 4
8 (h)	A description and assessment of the significance of any significant effects, including cumulative effects, that may occur	Refer to Chapter 7

Section	Description	Section of FESR/ Annexure
	as a result of the undertaking of the activity or identified alternatives or as a result of any construction, erection or decommissioning associated with the undertaking of the proposed listed activity;	
8 (i)	terms of reference for the detailed assessment;	NB – Assessment of impacts are included in this EA Report
8 (j)	An environmental management plan	Refer to **Annexure F**

2 LEGAL FRAMEWORK

2.1 LEGISLATION RELEVANT TO THE PROPOSED DEVELOPMENT

There are multiple legal instruments that regulate and have a bearing on good environmental management in Namibia. **Table 3** below provides a summary of the legal instruments considered to be relevant to this development and the environmental assessment process.

Table 3: Legislation applicable to the proposed development

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
The Constitution of the Republic of Namibia as Amended	Article 91 (c) provides for duty to guard against "the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia." Article 95(l) deals with the "maintenance of ecosystems, essential ecological processes and biological diversity" and sustainable use of the country's natural resources.	Sustainable development should be at the forefront of this development.
Environmental Management Act No. 7 of 2007 (EMA)	Section 2 outlines the objective of the Act and the means to achieve that. Section 3 details the principle of Environmental Management	The development should be informed by the EMA.
EIA Regulations GN 28, 29, and 30 of EMA (2012)	GN 29 Identifies and lists certain activities that cannot be undertaken without an environmental clearance certificate. GN 30 provides the regulations governing the environmental assessment (EA) process.	**10.1 (b) Infrastructure** **10.2 (a) Infrastructure**
Convention on Biological Diversity (1992)	Article 1 lists the conservation of biological diversity amongst the objectives of the convention.	The project should consider the impact it will have on the biodiversity of the area.
Draft Procedures and Guidelines for conducting EIAs and compiling EMPs (2008)	Part 1, Stage 8 of the guidelines states that if a proposal is likely to affect people, certain guidelines should be considered by the proponent in the scoping process.	The EA process should incorporate the aspects outlined in the guidelines.

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
Namibia Vision 2030	Vision 2030 states that the solitude, silence and natural beauty that many areas in Namibia provide are becoming sought after commodities and must be regarded as valuable natural assets.	Care should be taken that the development does not lead to the degradation of the natural beauty of the area.
Water Act No. 54 of 1956	Section 23(1) deals with the prohibition of pollution of underground and surface water bodies.	The pollution of water resources should be avoided during construction and operation of the development.
The Ministry of Environment and Tourism (MET) Policy on HIV & AIDS	MET has recently developed a policy on HIV and AIDS. In addition, it has also initiated a programme aimed at mainstreaming HIV and gender issues into environmental impact assessments.	The proponent and its contractor have to adhere to the guidelines provided to manage the aspects of HIV/AIDS. Experience with construction projects has shown that a significant risk is created when migrant construction workers interact with local communities.
Urban and Regional Planning Act 5 of 2018	The Act provides to consolidate the laws relating to urban and regional planning; to provide for a legal framework for spatial planning in Namibia; to provide for principles and standards of spatial planning; to establish the urban and regional planning board; to decentralise certain matters relating to spatial planning; to provide for the preparation, approval and review of the national spatial development framework, regional structure plans and urban structure plans; to provide for the preparation, approval, review and amendment of zoning schemes; to provide for the establishment of townships; to provide for the alteration of boundaries of approved townships, to provide for the disestablishment of approved townships; to provide for the change of name of approved townships; to provide for the subdivision and consolidation of land; to provide for the alteration,	The subdivision and consolidation of land as well as the establishment of townships is to be done in accordance with the act.

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
	suspension and deletion of conditions relating to land; and to provide for incidental matters.	
Local Authorities Act No. 23 of 1992	The Local Authorities Act prescribes the manner in which a town or municipality should be managed by the Town or Municipal Council.	The development must comply with provisions of the Local Authorities Act.
Labour Act no. 11 of 2007	Chapter 2 details the fundamental rights and protections. Chapter 3 deals with the basic conditions of employment.	Given the employment opportunities presented by the development, compliance with the labour law is essential.
National Heritage Act No. 27 of 2004	The Act is aimed at protecting, conserving and registering places and objects of heritage significance.	All protected heritage resources (e.g. human remains etc.) discovered, need to be reported immediately to the National Heritage Council (NHC) and require a permit from the NHC before they may be relocated.
Roads Ordinance 17 of 1972	• Section 3.1 deals with width of proclaimed roads and road reserve boundaries • Section 27.1 is concerned with the control of traffic on urban trunk and main roads • Section 36.1 regulates rails, tracks, bridges, wires, cables, subways or culverts across or under proclaimed roads • Section 37.1 deals with Infringements and obstructions on and interference with proclaimed roads.	Adhere to all applicable provisions of the Roads Ordinance.
Public and Environmental Health Act of 2015	This Act (GG 5740) provides a framework for a structured uniform public and environmental health system in Namibia. It covers notification, prevention and control of diseases and sexually transmitted	Contractors and users of the proposed development are to comply with these legal requirements.

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
	infections; maternal, ante-natal and neo-natal care; water and food supplies; infant nutrition; waste management; health nuisances; public and environmental health planning and reporting. It repeals the Public Health Act 36 of 1919 (SA GG 979).	
Nature Conservation Ordinance no. 4 of 1975	Chapter 6 provides for legislation regarding the protection of indigenous plants	Indigenous and protected plants must be managed within the legal confines.
Water Quality Guidelines for Drinking Water and Wastewater Treatment	Details specific quantities in terms of water quality determinants, which wastewater should be treated to before being discharged into the environment (see Appendix B).	These guidelines are to be applied when dealing with water and waste treatment
Environmental Assessment Policy of Namibia (1995)	The Policy seeks to ensure that the environmental consequences of development projects and policies are considered, understood and incorporated into the planning process, and that the term ENVIRONMENT is broadly interpreted to include biophysical, social, economic, cultural, historical and political components.	This EIA considers this term of Environment.
Water Resources Management Act No. 11 of 2013	Part 12 deals with the control and protection of groundwater Part 13 deals with water pollution control	The pollution of water resources should be avoided during construction and operation of the development. Should water need to be abstracted, a water abstraction permit will be required from the Ministry of Water, Agriculture and Forestry.
Forest Act 12 of 2001 and Forest Regulations of 2015	To provide for the establishment of a Forestry Council and the appointment of certain officials; to	Protected tree and plant species as per the Forest Act No 12 of 2001 and Forest Regulations of 2015 may

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
	consolidate the laws relating to the management and use of forests and forest produce; to provide for the protection of the environment and the control and management of forest fires; to repeal the Preservation of Bees and Honey Proclamation, 1923 (Proclamation No. 1of 1923), Preservation of Trees and Forests Ordinance, 1952 (Ordinance No. 37 of 1952) and the Forest Act, 1968 (Act No. 72 of 1968); and to deal with incidental matters.	not be removed without a permit from the Ministry of Agriculture, Water and Forestry.
Atmospheric Pollution Prevention Ordinance No 45 of 1965	Part II - control of noxious or offensive gases, Part III - atmospheric pollution by smoke, Part IV - dust control, and Part V - air pollution by fumes emitted by vehicles.	The development should consider the provisions outlined in the act. The proponent should apply for an Air Emissions permit from the Ministry of Health and Social Services (if needed).

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
Hazardous Substance Ordinance 14 of 1974	To provide for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances; to provide for the division of such substances into groups in relation to the degree of danger; to provide for the prohibition and control of the importation, manufacture, sale, use, operation, application, modification, disposal or dumping of such substances; and to provide for matters connected therewith.	The handling, usage and storage of hazardous substances on site should be carefully controlled according to this Ordinance.
Soil Conservation Act No 76 of 1969	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	The proposed activity should ensure that soil erosion and soil pollution is avoided during construction and operation.

This EIA process will be undertaken in accordance with the EIA Regulations. A Flow Diagram (refer to **Figure 2** below) provides an outline of the EIA process to be followed.

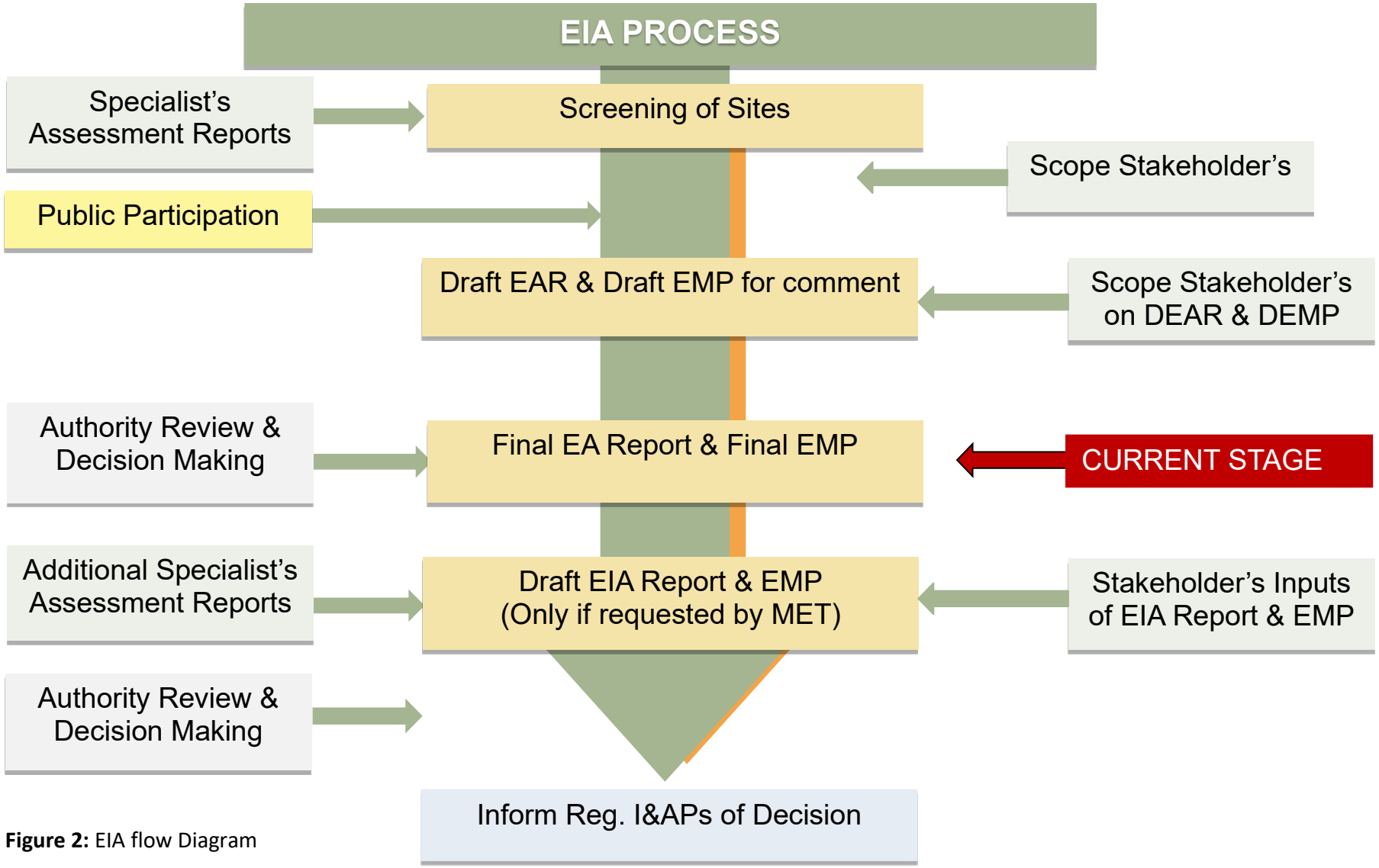


Figure 2: EIA flow Diagram

3 ENVIRONMENTAL BASELINE DESCRIPTION

3.1 SOCIAL ENVIRONMENT

3.1.1 Socio-Economic Context

The statistics shown in **Table 4** below are derived from the 2023 Namibia Population and Housing Census (Namibia Statistics Agency, 2023), and presented from a local and regional perspective.

Table 4: Statistics of the Rundu Urban Constituency (Namibia Statistics Agency, 2023)

KAVANGO EAST REGION	
Population	218 421
Females	116 111
Males	102 310
Population under 5 years	15.8%
Population aged 5 to 14 years	27.3%
Population aged 15 to 34 years	66%
Population aged 35 to 59 years	6.2%
Population aged 60 years and above	5%
Female: male ratio	100:88
Literacy rate of 15 years old and above	82.0%
People above 15 years who have never attended school	14.1%
People above 15 years who are currently attending school	27.8%
People above 15 years who have left school	56.0%
Income from pension	16.4%
Income from business and non-farming activities	10.1%
Income from farming	14.8%
Wages and salaries	32.5%
RUNDU URBAN CONSTITUENCY	
Population	118 632
Females	63 966
Males	54 666

3.1.2 Archaeological and Heritage Context

The subject site is not known to be of any historical significance. No significant archaeological and heritage sites are known to be located within the proposed development area.

3.2 BIO-PHYSICAL ENVIRONMENT

3.2.1 Climate

Rundu has a humid subtropical climate with hot summers and relatively mild winters (with warm days and chilly to cool nights). The average annual temperature as indicated in **Figure 3** below is above 22°C.

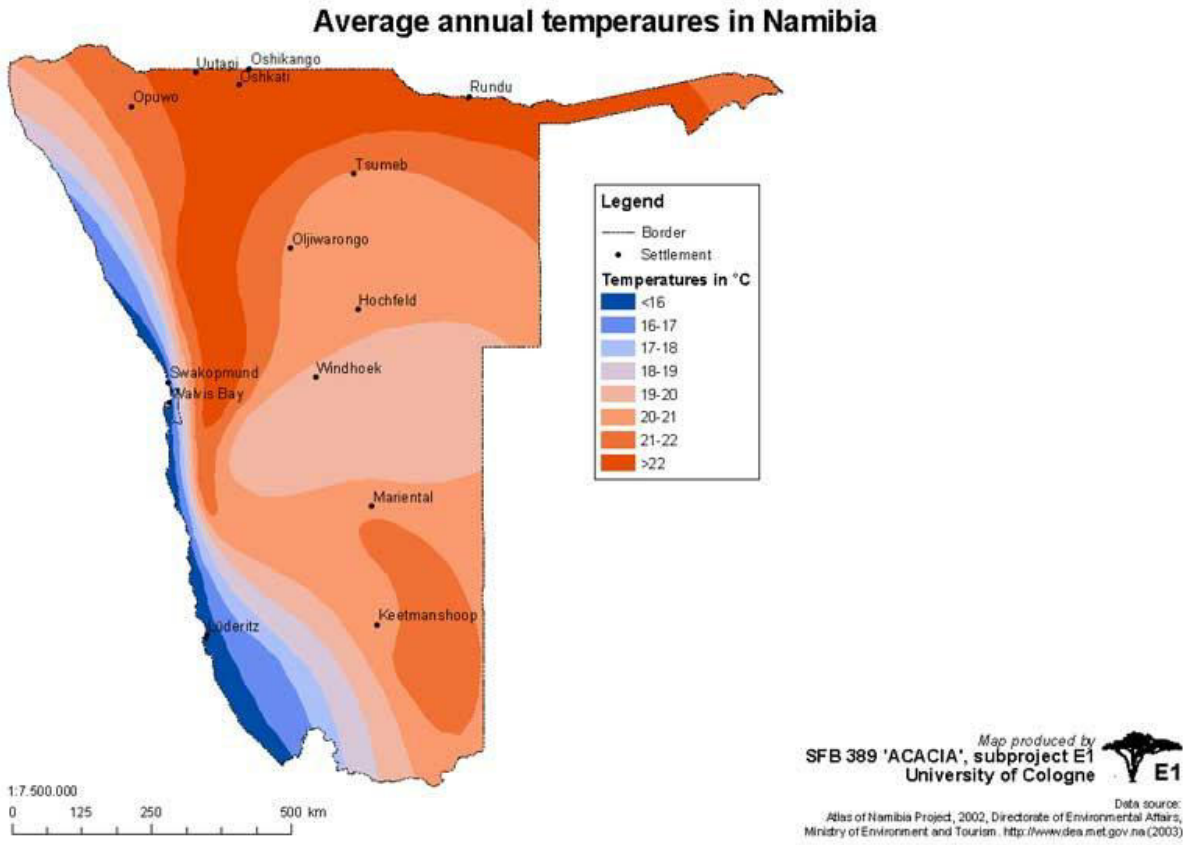


Figure 3: Annual average temperature (http://www.uni-koeln.de/sfb389/e/e1/download/atlas_namibia/e1_download_climate_e.htm#temperature_annual)

Rainfall is usually expected during the summer months and on average 95% of this rainfall is experienced from November to April. Rundu receives an average annual precipitation of above 600 mm per year as indicated in **Figure 4** below. No rain of any significance falls from May to September, and the chance of rain increases progressively from October until January, the month with the highest total on average, and then decreases again until April.

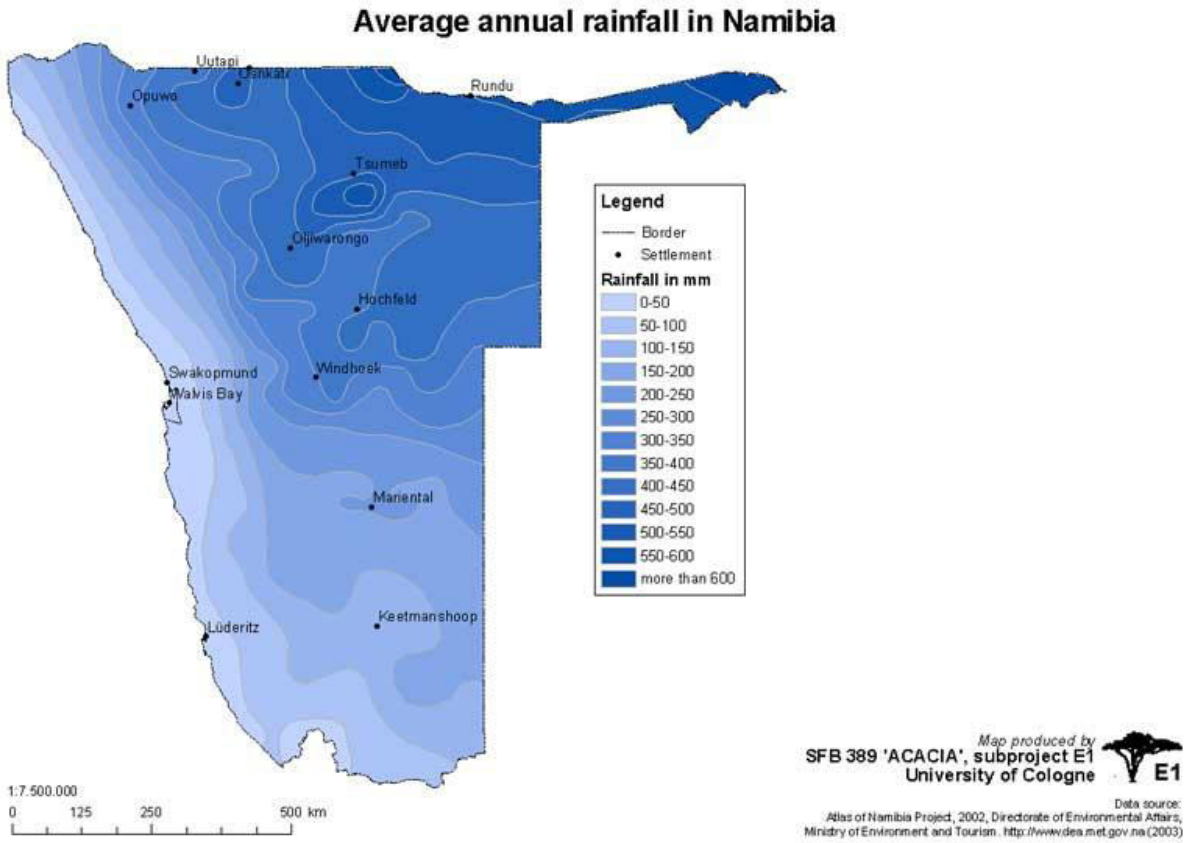


Figure 4: Average annual Rainfall (http://www.uni-koeln.de/sfb389/e/e1/download/atlas_namibia/pics/climate/rainfall-annual.jpg)

3.2.2 Topography, Geology and Soils

The Rundu area is characterised by the Kalahari Group geological division as depicted in **Figure 5** below. The dominant soil group in the area is characterised as Ferralic Arenosols which contains a high content of combined oxides of iron and aluminium and is formed by windblown sand (Mendelsohn, Jarvis, Roberts, *et al.*, 2002).

The topography of the Kavango Region is noticeably flat and is mostly made up of swamps, floodplains, wetlands and woodlands.

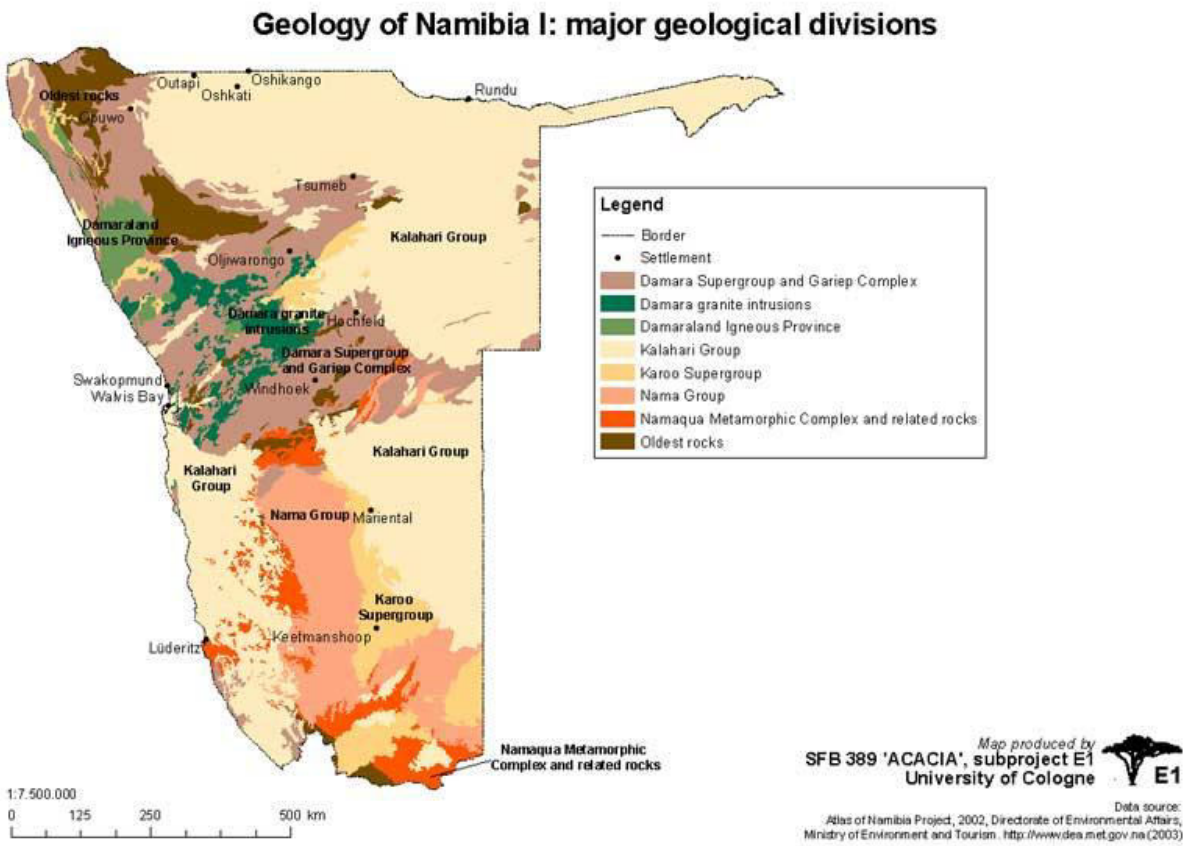


Figure 5: Geology of Namibia (http://www.uni-koeln.de/sfb389/e/e1/download/atlas_namibia/pics/physical/geology.jpg)

3.2.3 Hydrology and Hydrogeology

The main hydrological feature of the Kavango Region is the Kavango River as seen on **Figure 6** below. The Cuito River, a tributary, joins the Kavango River from Angola at Dirico, so flow volumes are greater downstream of this point. The Kavango River at Rundu experiences its highest water from January to May with the peak in April, in response to summer rain falling in the upstream catchment and making its way downstream. Water in the Cuito is delayed by a longer period and peaks in about May (Mendelsohn & el Obeid, 2004).

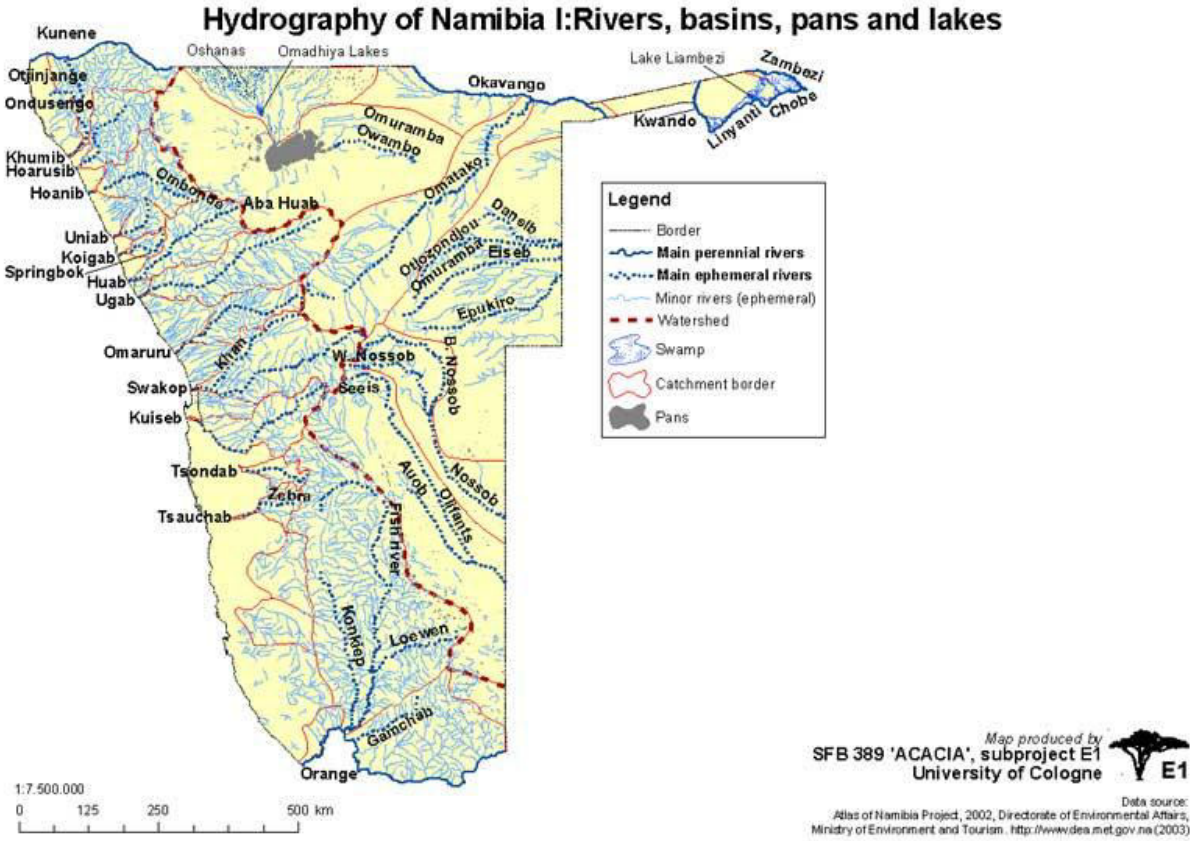


Figure 6: Hydrography of Namibia: Rivers, basins, pans and lakes (http://www.uni-koeln.de/sfb389/e/e1/download/atlas_namibia/pics/physical/hydrography_1.jpg)

Rundu is situated in an area characterised by a productive porous aquifer. About 40 boreholes were drilled before Namibia's Independence within a 15 km radius of Rundu. The water levels range from 12 to 45 m depth with yields varying from 3 to 14 m^3/h. The original water supply for Rundu was by means of 2 boreholes that were drilled in the early 1950s near the government offices of Rundu (Stubenrauch Planning Consultants, 2013). Water is currently supplied to the town via distribution from the Rundu and Nkarapamwe Water Supply Schemes which are managed by NamWater. Water is abstracted from the Kavango River and transported to the two purification plants after which it is distributed to consumers.

3.3 TERRESTRIAL ECOLOGY

3.3.1 Flora and Fauna

Rundu falls within the Broadleaved Tree-and-Savanna biome as depicted in **Figure 7** below. Plant life in this biome is dominated by several species of tall trees that can form a moderately thick canopy. The vegetation type is characterised as the Okavango Valley which is dominated by floodplain grasslands or woodlands (Mendelsohn *et al.*, 2002). The subject site is vegetated and thus it should be ensured that should any protected plant species occur on site that they are accommodated within the proposed layouts and may not be removed without a valid permit from the local Department of Forestry.

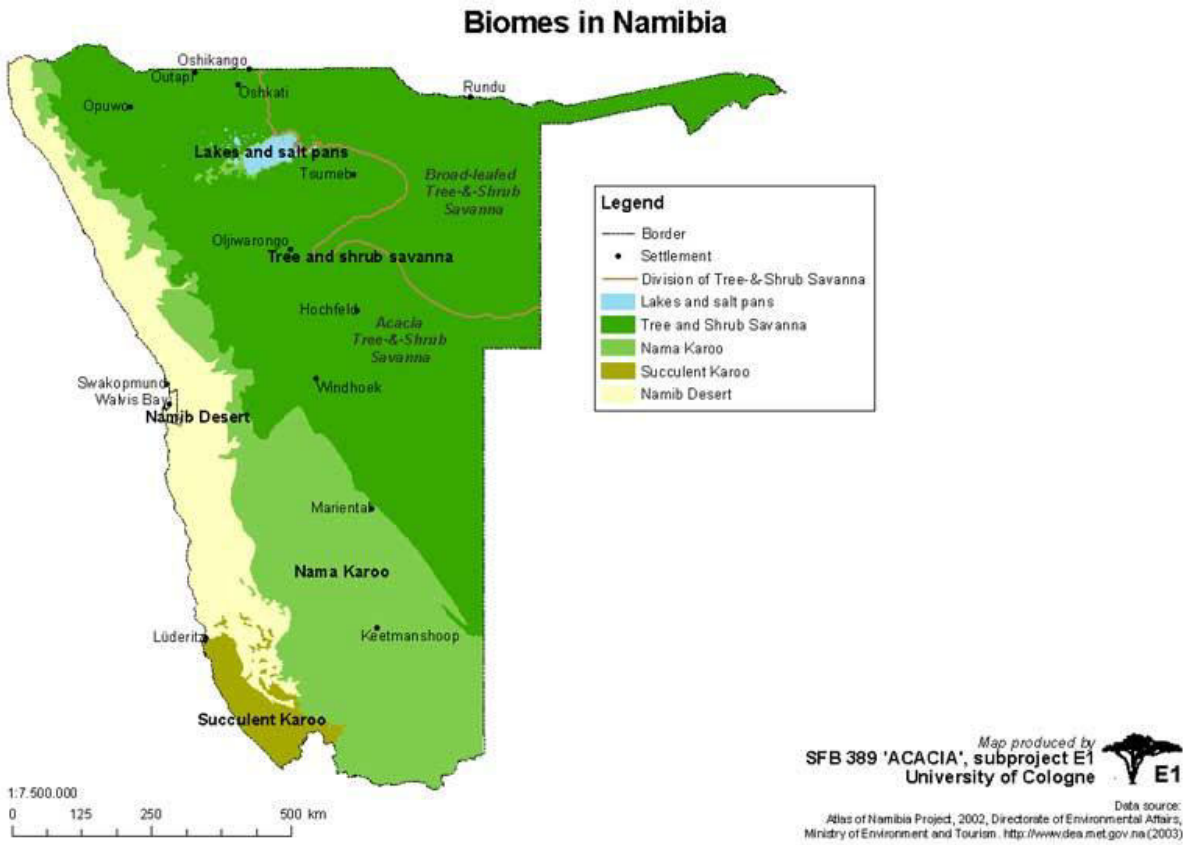


Figure 7: Biomes of Namibia (http://www.uni-koeln.de/sfb389/e/e1/download/atlas_namibia/pics/living_resources/biomes.jpg)

4 PROJECT DESCRIPTION

4.1 PROJECT COMPONENTS

As previously outlined in Section 1.1, the proposed project involves the following activities:

- **Subdivision of the Remainder of the Farm Rundu Townlands No. 1329 into Portions A – F and the Remainder;**
- **Reservation of Portion F as a "Street".**

These components will be described in further detail below, in terms of their design, layout and footprint.

4.2 ALTERNATIVES

As pointed out in Section 1.4 above various layout alternatives were initially considered by the proponent, ultimately resulting in the final layouts. As such only the no-go alternative will be discussed below.

4.2.1 No – Go Alternative

The no-go alternative represents the baseline scenario against which all development alternatives are assessed in this Environmental Impact Assessment. Under this option, the proposed intervention — namely, the reservation and development of land for urban expansion to address Rundu's housing backlog — would not proceed.

Maintaining the status quo means that the Rundu Town Council would not implement measures to allocate or service land for formal housing developments. As a result, the town will continue to experience unregulated urban expansion, with the proliferation of informal settlements and increasing pressure on existing infrastructure and services. The estimated housing backlog of approximately 12,460 units (First Capital Namibia, 2018) would remain unaddressed or worsen over time.

In addition, the no-go alternative would prevent the realisation of various socio-economic benefits typically associated with such developments. These include employment opportunities during both construction and operational phases, skills development, private sector investment, improved access to basic services, and enhanced urban planning outcomes. The local community would not benefit from the potential upliftment of living conditions or economic stimulation that the proposed project could bring.

From a sustainability and urban governance perspective, the no-go alternative is therefore not considered the preferred option. It does not support the long-term objectives of planned urban development, poverty reduction, or alignment with national and global development goals such as SDG 11.

4.3 THE PROPOSED DEVELOPMENT

Since 1990, housing development has been a priority area in Namibia. It is one of the mechanisms used to stimulate economic growth, reduce poverty and create sustainable communities across the country. Housing development is also a priority area targeted by the global sustainable development goals (SDGs) which seek to ensure sustainable livelihoods and wellbeing for all around the world. In particular, SDG 11 calls for making cities and human settlements inclusive, safe, resilient and sustainable by, amongst others, ensuring access for all to adequate, safe and affordable housing and basic services.

Rundu is the capital of the Kavango East Region with a population of 118 632 (Namibia 2023 Population and Housing Census Report) and an area measuring 164.1 square kilometres. In 2018, First Capital Namibia compiled a report on the economic profile of Rundu, which states that Rundu is currently facing a backlog of affordable housing with an estimated total demand of around 12,460 houses.

Due to Rundu's notable economic growth, the town has started experiencing rapid urbanization that led to increased housing demand as people need roofs over their heads. If left unattended, this rapid urbanisation from rural areas to Rundu urban will lead to the formation of more and bigger informal settlements that become "poverty traps" which leads to breeding grounds for numerous health, social, economic, environmental and political problems and ultimately reduce the liveability of the town. As a result of the rapid urbanisation in Rundu, the town is now faced with a serious housing backlog (around 12,460 houses according to First Capital 2018).

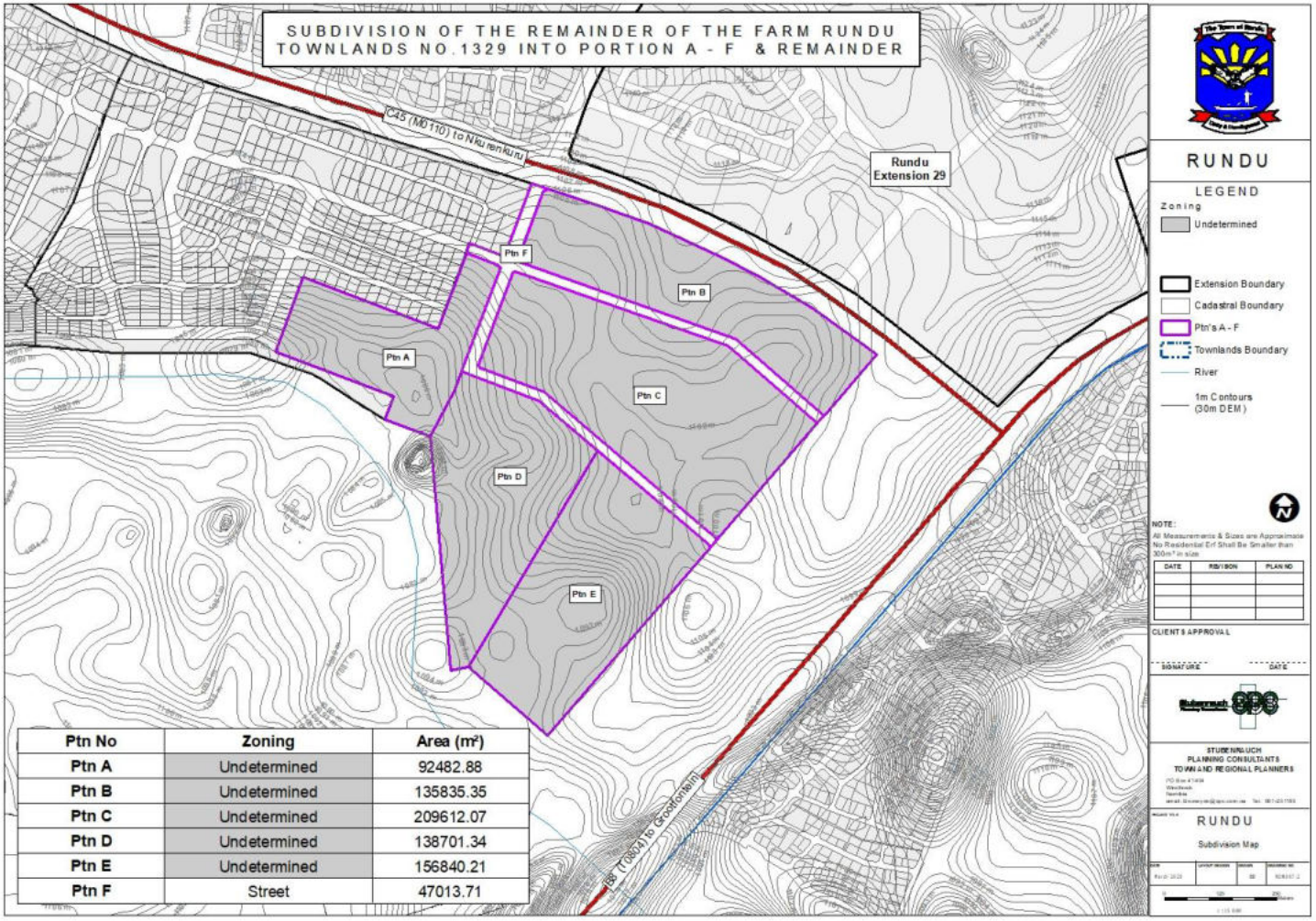
It is with this in mind that the Proponent wants to reserve blocks of land for future urban expansion to assist in tackling the backlog of housing in Rundu. These designated blocks of land were strategically identified and located to attract potential investors interested in developing township extensions in Rundu, thereby contributing to the continued population growth of the town.

4.3.1 The Subdivision of the Remainder of the Farm Rundu Townlands No. 1329

In order to make land available for future investors for urban expansion, blocks of land need to be reserved by means of subdividing the Remainder of the Farm Rundu Townlands No. 1329 as depicted in **Figure 2-3** and **Table 5** below.

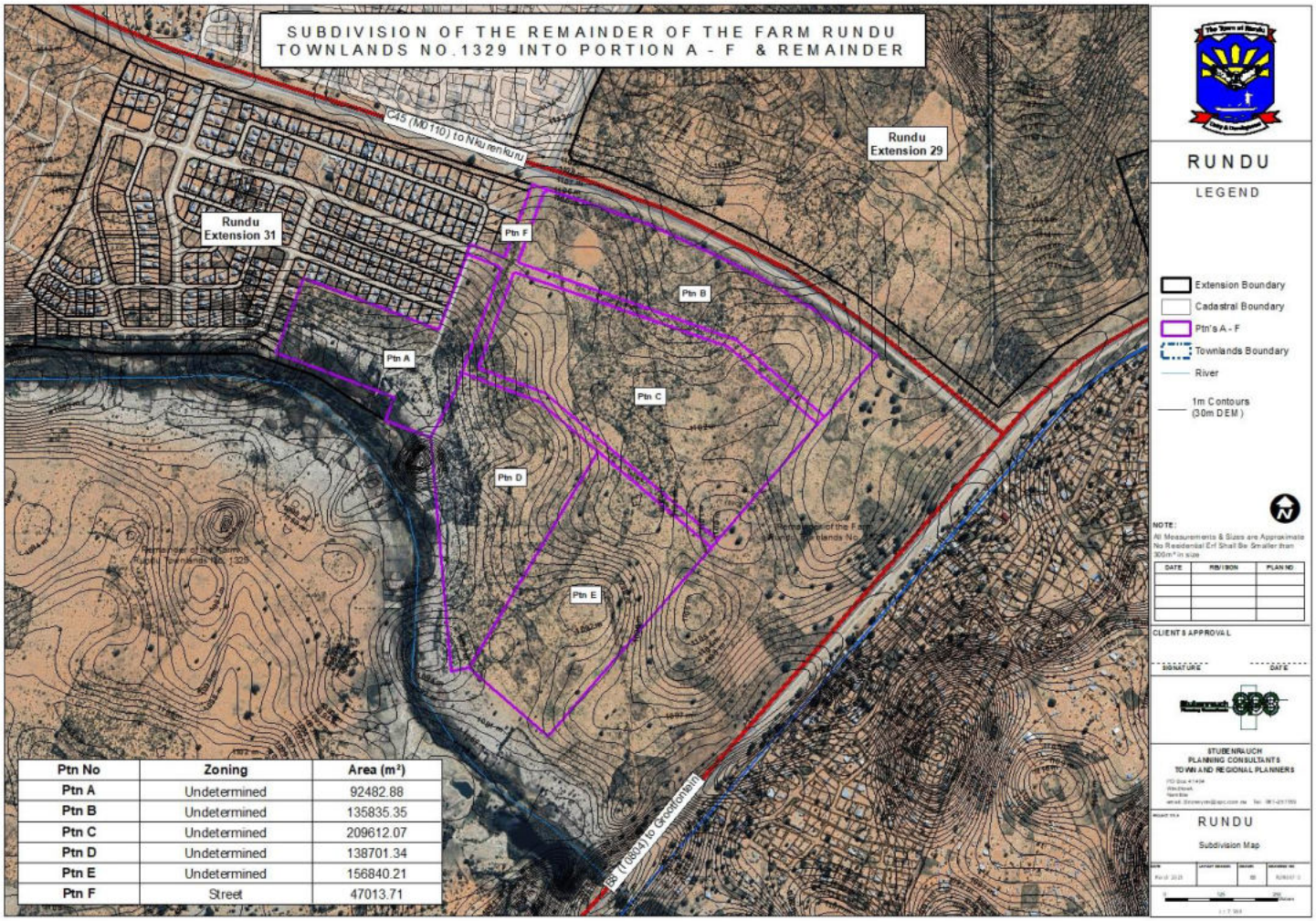
Table 5: Subdivision of the Remainder of the Farm Rundu Townlands No. 1329

Portion Numbers	**± Area (m²)**
Portion A	92482.88
Portion B	135835.35
Portion C	209612.07
Portion D	138701.34
Portion E	156840.21
Portion F	47013.71



Ptn No	Zoning	Area (m²)
Ptn A	Undetermined	92482.88
Ptn B	Undetermined	135835.35
Ptn C	Undetermined	209612.07
Ptn D	Undetermined	138701.34
Ptn E	Undetermined	156840.21
Ptn F	Street	47013.71

Figure 8: Layout map of the Subdivision of the Remainder of the Farm Rundu Townlands No. 1329 into Portions A - F & Remainder



Ptn No	Zoning	Area (m²)
Ptn A	Undetermined	92482.88
Ptn B	Undetermined	135835.35
Ptn C	Undetermined	209612.07
Ptn D	Undetermined	138701.34
Ptn E	Undetermined	156840.21
Ptn F	Street	47013.71

Figure 9: Aerial Map of the Subdivision of the Remainder of the Farm Rundu Townlands No. 1329 into Portions A - F & Remainder

4.3.2 The Reservation of Portion F

The newly created blocks of land to be reserved for future urban expansion, need street access, hence an addition portion will be created, specifically Portion F, that will serve as a street reserve which will provide access to Portions A – E.

It should be noted that proposed Portions A – E will retain the zoning of "Undetermined" to allow for future township establishments on the portions. **Table 6** below depicts the current and proposed zonings of the portions to be created.

Table 6: Current and proposed zonings

Portion Numbers	Current Zoning	Proposed Zoning
Portion A	Undetermined	Undetermined
Portion B	Undetermined	Undetermined
Portion C	Undetermined	Undetermined
Portion D	Undetermined	Undetermined
Portion E	Undetermined	Undetermined
Portion F	Undetermined	Street

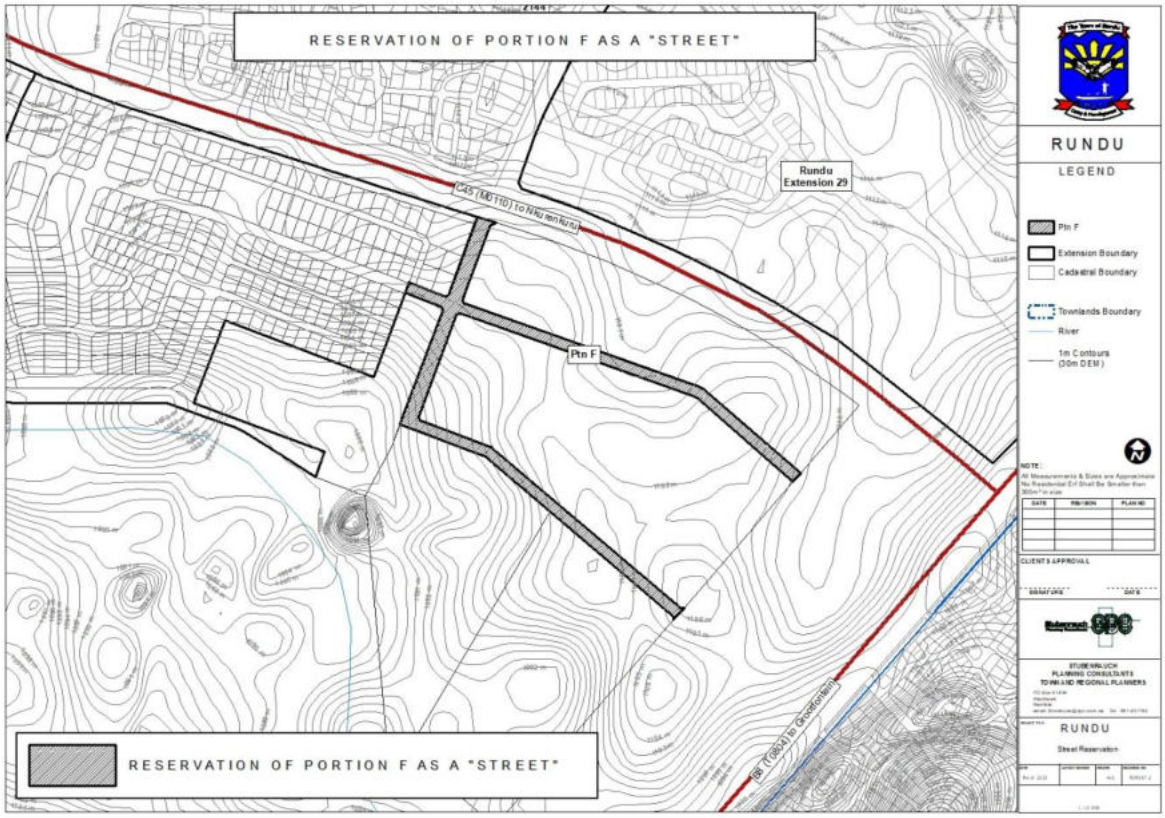


Figure 10: Reservation of Portion F as a "street"

4.3.3 Engineering Services and Access Provision

4.3.3.1 Water, sewer and Electricity

It is the responsibility of the future developers to design and install all engineering services, to the satisfaction of the local authority, once the time has come to design and establish a new township extension. As such, the future extension will be serviced by the property developers. It should be noted that an Engineering Report on bulk services provision for the township establishment must be compiled by the property developers, once the necessary township establishment procedures have been completed.

4.3.3.2 Storm Water

Storm water run-off will be accommodated within the street reserve of proposed Portion F or then as stipulated by the Rundu Town Council.

4.3.3.3 Access Provision

As mentioned, an additional portion will be created, Portion F, that will be reserved as a street to provide access to proposed Portions A – E.

Proposed Portion F will be connected to the C45 (M0110) road leading to Nkurenkuru.

5 PUBLIC PARTICIPATION PROCESS

5.1 PUBLIC PARTICIPATION REQUIREMENTS

In terms of Section 21 of the EIA Regulations a call for open consultation with all I&APs at defined stages of the EIA process is required. This entails participatory consultation with members of the public by providing an opportunity to comment on the proposed project. Public Participation has thus incorporated the requirements of Namibia's legislation, but also takes account of international guidelines, including Southern African Development Community (SADC) guidelines and the Namibian EIA Regulations. Public participation in this project has been undertaken to meet the specific requirements in accordance with the international best practice. Please see **Table 7** below for the activities undertaken as part of the public participation process. The I&APs were given time to comment from **24 April 2025 to 27 May 2025.**

Table 7: Table of Public Participation Activities

ACTIVITY	REMARKS
Placement of site notice/poster in Rundu	See **Annexure A**
Placing advertisements in local newspapers namely the New Era (**24 April 2025** and **30 April 2025**).	See **Annexure B**
Written notice to surrounding property owners and Interested and Affected Parties via Email (**24 April 2025**)	See **Annexure C**

5.1.1 Environmental Assessment Phase 2

The second phase of the PPP involved the lodging of the Draft Environmental Scoping Report (DESR) to all registered I&APs for comment. Registered and potential I&APs was informed of the availability of the DESR for public comment *via* a letter/email dated **25 June 2025**. An Executive Summary of the DESR was also be included in the letters to the registered I&APs. I&APs had until **09 July 2025** to submit comments or raise any issues or concerns they may have with regard to the proposed project.

6 ASSESSMENT METHODOLOGY

The purpose of this chapter is to describe the assessment methodology utilized in determining the significance of the construction and operational impacts of the proposed project, and where applicable the possible alternatives, on the biophysical and socio-economic environment.

Assessment of predicted significance of impacts for a proposed development is by its nature, inherently uncertain – environmental assessment is thus an imprecise science. To deal with such uncertainty in a comparable manner, a standardised and internationally recognised methodology has been developed. Such accepted methodology is applied in this study to assess the significance of the potential environmental impacts of the proposed development, outlined as follows in **Table 8**.

Table 8: Impact Assessment Criteria

CRITERIA	CATEGORY
Impact	**Description of the expected impact**
Nature Describe type of effect	**Positive**: The activity will have a social / economical / environmental benefit. **Neutral**: The activity will have no effect **Negative**: The activity will have a social / economical / environmental harmful effect
Extent Describe the scale of the impact	**Site Specific:** Expanding only as far as the activity itself (onsite) **Small:** restricted to the site's immediate environment within 1 km of the site (limited) **Medium:** Within 5 km of the site (local) **Large:** Beyond 5 km of the site (regional)
Duration Predicts the lifetime of the impact.	**Temporary:** < 1 year (not including construction) **Short-term:** 1 – 5 years **Medium term:** 5 – 15 years **Long-term:** >15 years (Impact will stop after the operational or running life of the activity, either due to natural course or by human interference) **Permanent:** Impact will be where mitigation or moderation by natural course or by human interference will not occur in a particular means or in a particular time period that the impact can be considered temporary
Intensity Describe the magnitude (scale/size) of the Impact	**Zero:** Social and/or natural functions and/ or processes remain unaltered **Very low:** Affects the environment in such a way that natural and/or social functions/processes are not affected **Low:** Natural and/or social functions/processes are slightly altered

CRITERIA	CATEGORY
	Medium: Natural and/or social functions/processes are notably altered in a modified way **High:** Natural and/or social functions/processes are severely altered and may temporarily or permanently cease
Probability of occurrence Describe the probability of the Impact actually occurring	**Improbable:** Not at all likely **Probable:** Distinctive possibility **Highly probable:** Most likely to happen **Definite:** Impact will occur regardless of any prevention measures
Degree of Confidence in predictions State the degree of confidence in predictions based on availability of information and specialist knowledge	**Unsure/Low:** Little confidence regarding information available (<40%) **Probable/Med:** Moderate confidence regarding information available (40-80%) **Definite/High:** Great confidence regarding information available (>80%)
Significance Rating The impact on each component is determined by a combination of the above criteria.	**Neutral:** A potential concern which was found to have no impact when evaluated **Very low:** Impacts will be site specific and temporary with no mitigation necessary. **Low:** The impacts will have a minor influence on the proposed development and/or environment. These impacts require some thought to adjustment of the project design where achievable, or alternative mitigation measures **Medium:** Impacts will be experienced in the local and surrounding areas for the life span of the development and may result in long term changes. The impact can be lessened or improved by an amendment in the project design or implementation of effective mitigation measures. **High:** Impacts have a high magnitude and will be experienced regionally for at least the life span of the development, or will be irreversible. The impacts could have the no-go proposition on portions of the development in spite of any mitigation measures that could be implemented.

*NOTE: Where applicable, the magnitude of the impact has to be related to the relevant standard (threshold value specified and source referenced). The magnitude of impact is based on specialist knowledge of that particular field.

For each impact, the EXTENT (spatial scale), MAGNITUDE (size or degree scale) and DURATION (time scale) are described. These criteria are used to ascertain the SIGNIFICANCE of the impact, firstly in the case of no mitigation and then with the most effective mitigation measure(s) in place. The decision as to which combination of alternatives and mitigation measures to apply lies with the proponent, and their acceptance and approval ultimately with the relevant environmental authority.

The SIGNIFICANCE of an impact is derived by taking into account the temporal and spatial scales and magnitude. Such significance is also informed by the context of the impact, i.e. the character and identity of the receptor of the impact.

6.1 MITIGATION MEASURES

There is a mitigation hierarchy of actions which can be undertaken to respond to any proposed project or activity (See **Figure 10** below). These cover avoidance, minimization, restoration and compensation. It is possible and considered sought after to enhance the environment by ensuring that positive gains are included in the proposed activity or project. If negative impacts occur, then the hierarchy indicates the following steps.

Figure 11: Mitigation Hierarchy

Impact avoidance: This step is most effective when applied at an early stage of project planning. It can be achieved by:

- not undertaking certain projects or elements that could result in adverse impacts;
- avoiding areas that are environmentally sensitive; and
- putting in place preventative measures to stop adverse impacts from occurring.

Impact minimization: This step is usually taken during impact identification and prediction to limit or reduce the degree, extent, magnitude, or duration of adverse impacts. It can be achieved by:

- scaling down or relocating the proposal;
- redesigning elements of the project; and
- taking supplementary measures to manage the impacts.

Restoration: This step is taken to improve degraded or removed ecosystems following exposure to impacts that cannot be completely avoided or minimised. Restoration tries to return an area to the original ecosystem that occurred before impacts. Restoration is frequently needed towards the end of a project's life cycle but may be possible in some areas during operation.

Impact compensation: This step is usually applied to remedy unavoidable residual adverse impacts. It can be achieved by:

- rehabilitation of the affected site or environment, for example, by habitat enhancement;
- restoration of the affected site or environment to its previous state or better; and
- replacement of the same resource values at another location (off-set), for example, by wetland engineering to provide an equivalent area to that lost to drainage or infill.

7 ASSESSMENT OF POTENTIAL IMPACTS AND POSSIBLE MITIGATION MEASURES

7.1 INTRODUCTION

This Chapter describes the potential impacts on the biophysical and socio-economic environments, which may occur due to the proposed activities described in Chapter 4. These include potential impacts, which may arise during the operation of the proposed development (i.e. long-term impacts) as well as the potential construction related impacts (i.e. short to medium term). The assessment of potential impacts will help to inform and confirm the selection of the preferred layouts to be submitted to MET: DEA for consideration. In turn, MET: DEA's decision on the environmental acceptability of the proposed project and the setting of conditions of authorisation (should the project be authorised) will be informed by this chapter, amongst other information, contained in this EA Report.

The baseline and potential impacts that could result from the proposed development are described and assessed with potential mitigation measures recommended. Finally, comment is provided on the potential cumulative impacts which could result should this development, and others like it in the area, be approved.

7.2 PLANNING AND DESIGN PHASE IMPACTS

During the planning and design phase consideration should be given on aspects such as impacts of traffic and existing municipal infrastructure.

7.2.1 Traffic Impacts

The intended development will not have an impact on traffic in the subject area as the traffic is not expected to increase significantly as the sites are currently existing and the portions are in close proximity to an already developed area within the town.

7.2.2 Existing Service Infrastructure Impacts

The proposed development will not have any negative impacts on the existing municipal services, as the property is located in an already developed neighbourhood, where current Municipal engineering services (water, sewage and electricity) are sufficient.

7.3 CONSTRUCTION PHASE IMPACTS ON THE BIOPHYSICAL ENVIRONMENT

The construction phase impacts are those impacts on the biophysical and socio-economic environment that would occur during the construction phase. These impacts are inherently temporary in duration but may have longer lasting effects.

7.3.1 Flora and Fauna Impacts (Biodiversity)

The proposed development will not change the character of the neighborhood as it is merely a formalization as such, no negative impacts to the natural environment is expected to arise from the proposed development. The physical land use for the property will also not negatively impact the natural environment as most of the vegetation found on-site will be respected in all the town planning processes.

7.3.2 Surface and Ground Water Impacts

Surface and groundwater impacts may be encountered during the construction and operation phase, especially if development takes place within the rainy season. The risk of contaminating such water sources can be increased by accidental spillage of oils and fuels and any other equipment used during construction. This risk is minimized by the fact that the construction phase will be a short-term activity.

7.3.3 Soil Erosion Impacts

Given the characteristics of the proposed site, soil erosion is likely to be encountered especially if construction will take place during the rainy season, the removal of the sparse vegetation will render the soil vulnerable to erosion as they also serve the purpose of keeping the soils compacted.

7.4 CONSTRUCTION PHASE IMPACTS ON THE SOCIO-EONOMIC ENVIRONMENT

7.4.1 Heritage impacts

No archaeological and heritage resources are expected to be found on the site. The project management should however be made aware of the provisions of the National Heritage Act regarding the prompt reporting of archaeological finds. Section 3.1.2 provides an overview of the archaeological and heritage context of the town and region.

7.4.2 Health, Safety and Security Impacts

Due to the demand for construction workers during the construction of the proposed project an influx of migrant workforce who will require temporary accommodation in Rundu might be experienced. Experience with other construction projects in a developing-world context has shown that, where migrant construction workers have the opportunity to interact with the local community, a significant

risk is created for the development of social conditions and sexual behaviors that contribute to the spread of HIV and AIDS.

In response to the threat the pandemic poses, MET has developed a policy on HIV and AIDS. This policy, which was developed with support from USAID, GTZ and the German Development Fund, provides for a non-discriminatory work environment and for workplace programs managed by a Ministry-wide committee. The MET has also recently initiated a programme aimed at mainstreaming HIV and gender issues into environmental impact assessments.

7.4.3 Traffic Impacts

Traffic is expected to increase during the construction phase of the project in areas where construction will take place. A number of trucks and other heavy machinery will be required to deliver, handle and position construction materials as well as to remove spoil material. Not only will the increase in traffic result in associated noise impacts, it will also impact on the roads in the area.

7.4.4 Noise Impacts

Construction may result in associated noise impacts. These noise impacts will mainly be associated with construction machinery and construction vehicles. The impact is however limited mainly to the construction period only.

7.4.5 Dust and Emission Impacts

Excavation and stockpiles during the construction phase could result in dust impacts, if not managed correctly. Dust could impact negatively on the health of the nearby community if mitigation measures are not implemented. Dust impacts are primarily associated with the construction phase.

7.4.6 Municipal Services

The construction phase will result in additional people on-site, who will require provision of the following services:

- Potable water for domestic (ablution and drinking) and construction purposes.
- Temporary toilets during the construction phase.
- Solid waste management (domestic and construction waste).

These services if not managed well are likely to create an opportunity for water wastage; litter; solid and human waste pollution.

7.4.7 Storage and Utilisation of Hazardous Substances

Hazardous substances are regarded by the Hazardous Substance Ordinance (No. 14 of 1974) as those substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances. During the construction period, the use and storage of these types of hazardous substances, such as shutter oil, curing compounds, types of solvents, primers and adhesives and diesel, on-site could have negative impacts on the surrounding environment if these substances spill and enter the environment.

7.5 OPERATIONAL PHASE IMPACTS

The operational phase impacts are those impacts on the biophysical and socio-economic environment that would occur during the operational phase of the proposed project and are inherently long-term in duration.

7.5.1 Visual and Sense of Place Impacts

The extent of this disturbance will depend on how highly the interested and affected parties valued the initial aesthetic quality of the site. The intended activities for the proposed site may alter the sense of place for the existing community and property owners situated in close proximity to the site, as well as the residents of Rundu who frequent the site.

7.5.2 Noise Impacts

The operational activities may result in associated noise impacts, depending on the exact type of activities taking place on the properties. However due to the nature of the land uses proposed for the subject erven it is not expected that the noise levels will be significant if managed well.

7.5.3 Emission Impacts

The air quality in the area is considered to be fairly good. Additional emissions are not expected due to the land uses that are intended for the site.

7.5.4 Waste Impacts

Increased amounts of waste may be generated as a result of the operational activities at the sites. Effective waste management on site should be practiced as per the recommendations in the EMP.

7.5.5 Social Impacts

The proposed development will not have any socio-economic impacts, however, once the blocks have been developed into township extensions, it will have a positive socio-economic impact on the area. It will bring about residential erven, that will assist the Local Authority in meeting the housing demand, as well as allow Council to collect much needed revenue from these properties, in rates and taxes. This development will actively address housing the backlog in the town, by providing a more affordable option, than the larger residential erven that are currently in the area.

7.6 CUMULATIVE IMPACTS

The cumulative impact of the proposed developments regarding the degradation of the project area is very difficult to rate. If all proposed mitigation measures are however in place to minimise the overall impacts then the cumulative impact can be expected to be rated as ***Medium-Low (negative)*** for the proposed developments.

7.1 ENVIRONMENTAL MANAGEMENT PLAN

An Environmental Management Plan (EMP) is contained in **Annexure F** of this report. The purpose of the EMP is to outline the type and range of mitigation measures that should be implemented during the construction, operation and decommissioning phases of the project to ensure that negative impacts associated with the development are avoided or mitigated.

7.2 SUMMARY OF POTENTIAL IMPACTS

A summary of all the potential impacts from the proposed project assessed above is included in **Table 9**. The **Tables 10 – 13** provide a summary of the mitigation measures proposed for the impacts. While some difference in magnitude of the potential impacts would result from the proposed alternatives this difference was not considered to be significant for any of the potential impacts. As such, the table below applies to all proposed alternatives.

Table 9: Summary of the significance of the potential impacts

Description of potential impact	Project alternative	No mitigation / mitigation	Extent	Magnitude	Duration	Significance	Probability	Confidence	Reversibility	Cumulative impact
PLANNING AND DESIGN PHASE										
1. Traffic Impacts	Rundu	No mitigation	Local	Medium	Medium term	Medium	Probable	Certain	Reversible	Medium (-ve)
		Mitigation	Local	Low	Medium term	Low	Probable	Certain	Reversible	Low (-ve)
	No go	No mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
2. Proposed services	Rundu	No mitigation	Local	Medium	Medium term	Medium	Probable	Certain	Reversible	Medium (-ve)
		Mitigation	Local	Low	Medium term	Low	Probable	Certain	Reversible	Low (-ve)
	No go	No mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
CONSTRUCTION PHASE										
3. Biodiversity (Fauna and Flora)	Rundu	No mitigation	Local	Medium-Low	Short term	Medium	Probable	Certain	Reversible	Medium (-ve)
		Mitigation	Local	Low	Short term	Low	Probable	Certain	Reversible	Low (-ve)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
4. Surface & ground water	Rundu	No mitigation	Local	Medium	Short term	Medium	Probable	Certain	Reversible	Medium (-ve)

Description of potential impact	Project alternative	No mitigation / mitigation	Extent	Magnitude	Duration	Significance	Probability	Confidence	Reversibility	Cumulative impact
		Mitigation	Local	Low	Short term	Medium - low	Probable	Certain	Reversible	Medium - Low (-ve)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
5. Soil erosion	Rundu	No mitigation	Local	Medium	Short term	Medium – low	Probable	Certain	Reversible	Medium – low (-ve)
		Mitigation	Local	Low	Short term	Low	Probable	Certain	Reversible	Low (-ve)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
6. Heritage	Rundu	No mitigation	Local	Very low	Short term	Very low	Probable	Certain	Irreversible	Very low(-ve)
		Mitigation	Local	Negligible	Short term	Negligible	Probable	Certain	Irreversible	Negligible (-ve)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
7. Health, safety and security	Rundu	No mitigation	Local	Medium-Low	Short term	Medium-Low	Probable	Certain	Reversible	Medium-Low (-ve)
		Mitigation	Local	Low	Short term	Low	Probable	Certain	Reversible	Low (-ve)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
8. Traffic impacts	Rundu	No mitigation	Local	Low	Short term	Low	Probable	Certain	Reversible	Low (-ve)
		Mitigation	Local	Very low	Short term	Very low	Probable	Certain	Reversible	Very low

Description of potential impact	Project alternative	No mitigation / mitigation	Extent	Magnitude	Duration	Significance	Probability	Confidence	Reversibility	Cumulative impact
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
9. Noise impacts	Rundu	No mitigation	Local	Medium	Short term	Medium - low	Probable	Certain	Reversible	Medium - Low (-ve)
		Mitigation	Local	Low	Short term	Low	Probable	Certain	Reversible	Very low (-ve)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
10. Emissions impacts	Rundu	No mitigation	Local	Medium	Short term	Low	Probable	Certain	Reversible	Low (-ve)
		Mitigation	Local	Low	Short term	Very Low	Probable	Certain	Reversible	Very Low (-ve)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
11. Municipal services	Rundu	No mitigation	Local	Low	Short term	Low	Probable	Certain	Reversible	Low (-ve)
		Mitigation	Local	Very low	Short term	Very low	Probable	Certain	Reversible	Very low (-ve)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
12. Waste	Rundu	No mitigation	Local	Low	Short term	Medium	Probable	Certain	Reversible	Medium (-ve)
		Mitigation	Local	Very low	Short term	Low	Probable	Certain	Reversible	Low (-ve)

Description of potential impact	Project alternative	No mitigation / mitigation	Extent	Magnitude	Duration	Significance	Probability	Confidence	Reversibility	Cumulative impact
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
13. Hazardous Substances	Rundu	No mitigation	Local	Low	Short term	Medium	Probable	Certain	Reversible	Medium (-ve)
		Mitigation	Local	Very low	Short term	Low	Probable	Certain	Reversible	Very low (-ve)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
OPERATIONAL PHASE										
1. Visual & sense of place	RUndu	No mitigation	Local	Medium	Medium term	Medium	Probable	Certain	Reversible	Medium (-ve)
		Mitigation	Local	Medium-Low	Medium term	Medium-Low	Probable	Certain	Reversible	Medium-Low (-ve)
	No go	No mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
2. Noise	Rundu	No mitigation	Local	Medium-Low	Medium term	Medium-Low	Probable	Certain	Reversible	Medium-Low (-ve)
		Mitigation	Local	Low	Medium term	Low	Probable	Certain	Reversible	Low (-ve)
	No go	No mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral

Description of potential impact	Project alternative	No mitigation / mitigation	Extent	Magnitude	Duration	Significance	Probability	Confidence	Reversibility	Cumulative impact
3. Emissions	Rundu	No mitigation	Local	Medium-Low	Medium term	Low	Probable	Certain	Reversible	Low (-ve)
		Mitigation	Local	Low	Medium term	Very Low	Probable	Certain	Reversible	Very Low (-ve)
	No go	No mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
4. Waste	Rundu	No mitigation	Local	Low	Long term	Medium	Probable	Certain	Reversible	Medium (-ve)
		Mitigation	Local	Very low	Long term	Low	Probable	Certain	Reversible	Low (-ve)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
5. Social impact	Rundu	No mitigation	Local	High	Long term	Medium (+)	Probable	Probable	Reversible	Medium (+)
		Mitigation	Local	High	Long term	Medium (+)	Probable	Probable	Reversible	Medium (+)
	No go	No mitigation	Local	Neutral	Long term	Neutral	Probable	Probable	Reversible	Neutral
		Mitigation	Local	Neutral	Long term	Neutral	Probable	Probable	Reversible	Neutral

Table 10: Proposed mitigation measures for the planning and design phase

PLANNING AND DESIGN PHASE IMPACTS	
Impact	**Mitigation Measures**
Traffic	• Ensure that road junctions have good sightlines. • Provide formal road crossings at relevant areas. • Provide for speed reducing interventions such as speed bumps at relevant road sections.
Existing Service Infrastructure	• It is recommended that alternative and renewable sources of energy be explored and introduced into the proposed development to reduce dependency on the grid. • Solar geysers and panels should be considered to provide for general lighting and heating of water and buildings. • Water saving mechanisms should be considered for incorporation within the developments in order to further reduce water demands. • Re-use of treated wastewater should be considered wherever possible to reduce the consumption of potable water.

Table 11: Proposed mitigation measures for the construction phase

CONSTRUCTION PHASE IMPACTS	
Impact	**Mitigation Measures**
Flora and Fauna	• Adapt the proposed developments to the local environment – e.g. small adjustments to the site layout could avoid potential features such as water bodies and vegetation. • Prevent the destruction of protected and endemic plant species. • Prevent contractors from collecting wood, veld food, etc. during the construction phase. • Do not clear cut the entire development site, but rather keep the few individual trees/shrubs not directly affecting the developments as part of the landscaping. • The plants that are to be kept should be clearly marked with “danger tape” to prevent accidental removal.

CONSTRUCTION PHASE IMPACTS	
Impact	**Mitigation Measures**
	• Regular inspection of the marking tool should be carried out. • The very important plants should be "camped off" to prevent the unintended removal or damage to these trees. • Recommend the planting of local indigenous species of flora as part of the landscaping as these species would require less maintenance than exotic species. • Transplant removed plants where possible, or plant new plants in lieu of those that have been removed. • Prevent the introduction of potentially invasive alien ornamental plant species such as; *Lantana, Opuntia, Prosopis, Tecoma*, etc.; as part of the landscaping as these species could infest the area further over time.
Surface and Ground Water Impacts	• It is recommended that construction takes place outside of the rainy season in order to limit flooding on site and surface water pollution. • No dumping of waste products of any kind in or in close proximity to surface water bodies. • Heavy construction vehicles should be kept out of any surface water bodies and the movement of construction vehicles should be limited where possible to the existing roads and tracks. • Ensure that oil/ fuel spillages from construction vehicles and machinery are minimised and that where these occur, that they are appropriately dealt with. • Drip trays must be placed underneath construction vehicles when not in use to contain all oil that might be leaking from these vehicles. • Contaminated runoff from the construction sites should be prevented from entering the surface and ground water bodies. • All materials on the construction site should be properly stored. • Disposal of waste from the sites should be properly managed and taken to the designated landfill site. • Construction workers should be given ablution facilities at the construction sites that are located at least **30 m** away from any surface water and regularly serviced.

CONSTRUCTION PHASE IMPACTS	
Impact	**Mitigation Measures**
	• Washing of personnel or any equipment should not be allowed on site. Should it be necessary to wash construction equipment these should be done at an area properly suited and prepared to receive and contain polluted waters.
Soil Erosion	• It is recommended that construction takes place outside of the rainy season in order to limit potential flooding and the runoff of loose soil causing further erosion. • Appropriate erosion control structures must be put in place where soil may be prone to erosion. • Checks must be carried out at regular intervals to identify areas where erosion is occurring. • Appropriate remedial actions are to be undertaken wherever erosion is evident.
Heritage	• The project management should be made aware of the provisions of the National Heritage Act regarding the prompt reporting of archaeological finds. • In the event of such finds, construction must stop, and the project management or contractors should notify the National Heritage Council of Namibia immediately.
Health, Safety and Security	• Construction personnel should not overnight at the site, except the security personnel. • Ensure that all construction personnel are properly trained depending on the nature of their work. • Provide for a first aid kit and a properly trained person to apply first aid when necessary. • Restrict unauthorised access to the site and implement access control measures. • Clearly demarcate the construction site boundaries along with signage of “no unauthorised access”. • Clearly demarcate dangerous areas and no-go areas on site. • Staff and visitors to the site must be fully aware of all health and safety measures and emergency procedures on site. • The contractor must comply with all applicable occupational health and safety requirements. • The workforce should be provided with all necessary Personal Protective Equipment where appropriate.

CONSTRUCTION PHASE IMPACTS	
Impact	**Mitigation Measures**
Traffic	• Limit and control the number of access points to the site. • Ensure that road junctions have good sightlines. • Construction vehicles need to be in a road worthy condition and maintained throughout the construction phase. • Transport the materials in the least number of trips as possible. • Adhere to the speed limit. • Implement traffic control measures where necessary.
Noise	• No amplified music should be allowed on site. • Inform immediate neighbours of construction activities to commence and provide for continuous communication between the neighbours and contractor. • Limit construction times to acceptable daylight hours. • Install technology such as silencers on construction machinery if noise levels are significantly high. • Do not allow the use of horns as a general communication tool but use it only where necessary as a safety measure.
Dust and Emission	• It is recommended that dust suppressants such as Dustex be applied to all the construction clearing activities to ensure at least 50% control efficiency on all the unpaved roads and reduce water usage. • Construction vehicles to only use designated roads. • During high wind conditions the contractor must make the decision to cease works until the wind has calmed down. • Cover any stockpiles with plastic to minimise windblown dust. • Provide workers with dust masks.

CONSTRUCTION PHASE IMPACTS	
Impact	**Mitigation Measures**
Waste	• It is recommended that waste from the temporary toilets be disposed of at an approved Wastewater Treatment Works. • A sufficient number of waste bins should be placed around the site for the general waste. • A sufficient number of skip containers for the heavy waste and rubble should be provided for around the site. • Solid waste will be collected and disposed of at an appropriate local land fill or an alternative approved site, in consultation with the local authority.
Hazardous Substances	• Storage of the hazardous substances in a bunded area, with a volume of 120 % of the largest single storage container or 25 % of the total storage containers whichever is greater. • Refuel vehicles in designated areas that have a protective surface covering and utilise drip trays for stationary plant.

Table 12: Proposed mitigation measures for the operational phase

OPERATIONAL PHASE IMPACTS	
Impact	**Mitigation Measures**
Visual and Sense of Place	• It is recommended that more 'green' technologies be implemented within the architectural designs and building materials of the development where possible in order to minimise the visual prominence of such a development within the more natural surrounding landscape. • Natural colours and building materials such as wood and stone should be incorporated as well as the use of indigenous vegetation in order to help beautify the development. • Visual pollutants can further be prevented through mitigations (i.e. keep existing trees, introduce tall indigenous trees; keep structures unpainted and minimise large advertising billboards).
Noise	• Do not allow commercial activities that generate excessive noise levels. • Continuous monitoring of noise levels should be conducted to make sure the noise levels does not exceed acceptable limits. • No activity having a potential noise impact should be allowed after 18:00 hours if possible.
Emissions	• Consider tarring of the internal road network. • Manage activities that generate emissions.
Waste	• Solid waste will be collected from site regularly. • Waste should be disposed of at an appropriate local land fill, in consultation with the local authority. • No waste may be buried or burned.
Social Impacts	No specific mitigation measures are required, only that the local community be consulted in terms of possible job creation opportunities and must be given first priority if unspecialised job vacancies are available.

8 CONCLUSION

The purpose of this Chapter is to briefly summarise and conclude the FESR and describe the way forward.

8.1 CONSTRUCTION PHASE IMPACTS

With reference to **Table 9**, none of the negative construction phase impacts were deemed to have a high significance impact on the environment. The construction impacts were assessed to a ***Medium to Low (negative)*** significance, without mitigation measures. With the implementation of the recommended mitigation measures in Chapter 7 as well as in the EMP**,** the significance of the construction phase impacts is likely to be reduced to a ***Low (negative)***.

8.2 OPERATIONAL PHASE

The most significant operational phase impact ***medium (positive)*** is the social impact. This is as a result of the potential job opportunities during construction as well the increased development within the area. Furthermore, the community of Rundu are expected to benefit through improved access to housing, increased economic opportunities, and enhanced infrastructure development resulting from the proposed.

8.3 LEVEL OF CONFIDENCE IN ASSESSMENT

With reference to the information available at the project planning cycle, the confidence in the environmental assessment undertaken is regarded as being acceptable for the decision-making, specifically in terms of the environmental impacts and risks. The Environmental Assessment Practitioner believes that the information contained within this FESR is adequate to allow MET: DEA to be able to determine the environmental acceptability of the proposed project.

It is acknowledged that the project details will evolve during the detailed design and construction phases. However, these are unlikely to change the overall environmental acceptability of the proposed project and any significant deviation from what was assessed in this FESR should be subject to further assessment. If this was to occur, an amendment to the Environmental Authorisation may be required in which case the prescribed process would be followed.

8.4 MITIGATION MEASURES

With the implementation of the recommended mitigation measures in Chapter 7 as well as in the EMP, the significance of the construction and operational phase impacts is likely to be reduced to a ***Low (negative)***. **It is further extremely important to include an Environmental Control Officer (ECO)**

on site during the construction phase of the proposed project to ensure that all the mitigation measures discussed in this report and the EMP are enforced.

It is noted that where appropriate, these mitigation measures and any others identified by MET: DEA could be enforced as Conditions of Approval in the Environmental Authorisation, should MET: DEA issue a positive Environmental Authorisation.

8.5 OPINION WITH RESPECT TO THE ENVIRONMENTAL AUTHORISATION

Regulation 15(j) of the EMA, requires *that the EAP include an opinion as to whether the listed activity must be authorised and if the opinion is that it must be authorised, any condition that must be made in respect of that authorisation*.

It is recommended that this project be authorised because should the development not proceed the subject area will remain remaining underutilised. The broader community of Rundu is expected to benefit significantly from the proposed township extensions. These benefits include improved access to affordable housing, increased opportunities for homeownership, job creation during the planning and construction phases, and the stimulation of local economic activities. Additionally, the development is anticipated to enhance service delivery and infrastructure, thereby improving the overall quality of life for residents. The significance of the social impact was therefore deemed to be **Medium (positive).**

The "no go" alternative on the other hand was deemed to have a ***High (negative)*** impact, as all the social benefits resulting from the development would not be realised.

The significance of negative impacts can be reduced with effective and appropriate mitigation provided in this report and the EMP. If authorised, the implementation of an EMP should be included as a condition of approval.

8.6 WAY FORWARD

The FESR is herewith submitted to MEFT: DEA for consideration and decision making. If MEFT: DEA approves, or requests additional information / studies all registered I&APs and stakeholders will be kept informed of progress throughout the assessment process.

9 REFERENCES

Mendelsohn, J. & el Obeid, S. 2004. The flow of a lifeline.

Mendelsohn, J., Jarvis, A., Roberts, C. & Roberston, T. 2002. Atlas of Namibia*.*

Namibia Statistics Agency. 2011. Namibia 2011 Population & Housing Census - Main Report. 214. [Online], Available: http://www.nsa.org.na/files/downloads/Namibia 2011 Population and Housing Census Main Report.pdf.

Namibia Statistics Agency. 2023. 2023 Population and Housing Census Kavango Regional Profile*.*

Stubenrauch Planning Consultants. 2013. Rundu Structure Plan*.*