Environmental Assessment Scoping Report for

January 2026

Layout approval and township establishment on Portion A, B & C to be known as Tatamutsi Proper, Extension 1 & Extension 2, Erongo Region.

Prepared for: Erongo Regional Council
Private Bag 5019, Swakopmund
Contact Person: Dimari Van Rensburg
Email: dimari@erongorc.gov.na

Prepared by: Stubenrauch Planning Consultants
P.O. Box 41404, Windhoek
Contact Person: Bronwynn Basson
Contact Number: +264 (61) 25 11 89
Fax Number: +264 (61) 25 11 89
Email: bronwynn@spc.com.na

PROJECT DETAILS

Title	Environmental Scoping Report for the: Layout approval and township establishment on Portion A, B & C to be known as Tatamutsi Proper, Extension 1 & Extension 2, Erongo Region		
Report Status	Final		
SPC Reference	W/23059		
Proponent	Erongo Regional Council Private Bag 5019, Swakopmund Contact Person: Dimari Van Rensburg Email: dimari@erongorc.gov.na		
Environmental Assessment Practitioner	Stubenrauch Planning Consultants P.O. Box 41404, Windhoek Contact Person: Bronwynn Basson Contact Number: +264 (61) 25 11 89 Fax Number: +264 (61) 25 11 89 Email: bronwynn@spc.com.na		
Report date	January 2026		
	Name	**Signature**	**Date**
Authors	Bronwynn Basson		January 2026
Reviewer	Victoria Shikwaya		January 2026

LEGAL NOTICE

EXECUTIVE SUMMARY

Introduction

Erongo Regional Council hereinafter referred to as the proponent intends to undertake the following activities:

- **Subdivision of the Remainder of the Farm Uis Townlands No. 215 into 3 portions (Portions A - C) and the Remainder;**
- **Layout approval and township establishment on Portion A to be known as Tatamutsi Proper;**
- **Layout approval and township establishment on Portion B to be known as Tatamutsi Extension 1;**
- **Layout approval and township establishment on Portion C to be known as Tatamutsi Extension 2.**

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

The Erongo Regional Council is initiating the formalization of Tatamutsi informal settlement in Uis, complemented by the proposed development of two new residential townships targeted at low-income households. Phase One prioritizes Tatamutsi, where secured funding enables its upgrade into a proclaimed township—Tatamutsi Proper—with a structured land-use plan designed to facilitate orderly growth and service provision.

Key interventions in Tatamutsi include:

- Integration of most existing informal dwellings into the regularized township layout.
- Designation of the river corridor as Public Open Space to enhance environmental quality and flood risk management.
- Retention of existing roads as part of the township's traffic network.
- Allocation of serviced, vacant residential plots to accommodate eventual relocations.

Formalization will support improved infrastructure planning—covering water supply, sanitation, electricity—and enhance access to secure tenure, credit, and property rights, with benefits such as increased property values and reduced vulnerability to informality-related risks.

Phase Two is subject to funding from the Ministry of Urban and Rural Development, and foresees expanding the project through new township layouts for additional residential sites, aimed at further mitigating local housing shortages.

Roads within the design are set to a minimum of 15 metres width to ensure effective stormwater drainage, emergency access, and accommodate future network upgrades; the approach favors in-situ upgrades and minimises disruptions to both property owners and settlement residents.

Overall, the project seeks to transform Tatamutsi into a sustainable, regulated urban settlement delivering enhanced living environments, socioeconomic opportunities, and reliable public services for both current and future beneficiaries.

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 **19 September 2025**;
- Notices were placed in Namibian and the New Era newspapers dated **19 September 2025 and 26 September 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 **24 October 2025**). The comment period will remain open until the final scoping report is submitted to MET.

The Draft Scoping Report was circulated from the **28 November 2025 until 19 December 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 a comments and responses report to be included in the final report.

Conclusions and Recommendations

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)***.

If the proposed formalization and township development do not proceed, the Tatamutsi informal settlement will remain unplanned and inadequately serviced. The absence of structured layouts and tenure security would perpetuate informal land occupation, limiting residents' access to essential services such as water, sanitation, and electricity. Unregulated growth would continue to place pressure on the natural environment, particularly along the river corridor, increasing the risk of flooding and land degradation.

Furthermore, opportunities for local employment, infrastructure investment, and socioeconomic improvement would be lost. The area's potential to transition into a sustainable and regulated township would remain unrealized, maintaining existing vulnerabilities associated with informality, insecure tenure, and poor living conditions. Overall, failure to implement the project would hinder both community development and broader regional planning objectives for Uis. 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.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ANNEXURES

Annexure A: Proof of Site Notices/ Posters
Annexure B: Proof of Advertisements
Annexure C: Public Participation process
- I&AP Database & Registered List
- Notification Letters and Emails sent of BID
- Comments Received (if any)

Annexure D: Curriculum Vitae and ID of Environmental Assessment Practitioner
Annexure E: Environmental Management Plan

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 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

Erongo Regional Council Limited hereinafter referred to as the proponent intends to undertake the following activities:

- **Subdivision of the Remainder of the Farm Uis Townlands No. 215 into 3 portions (Portions A - C) and the Remainder;**
  - **Layout approval and township establishment on Portion A to be known as Tatamutsi Proper;**
  - **Layout approval and township establishment on Portion B to be known as Tatamutsi Extension 1;**
  - **Layout approval and township establishment on Portion C to be known as Tatamutsi Extension 2.**

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**
Activity 10.1 (a) Infrastructure	The construction of oil, water, gas and petrochemical and other bulk supply pipelines;	The proposed project involves the installation of bulk services.
Activity 10.1 (b) Infrastructure	The construction of Public roads	The proposed project includes the construction of roads.
Activity 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 roads.

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

Proposed Portions A – C is located on the eastern side of the Remainder of the Farm Uis Townlands No. 215 and is bordered by the C46 Road leading to Omaruru on the south. Please refer to below locality map (**Figure 1**).

1.3 ZONING AND OWNERSHIP

Ownership of the Remainder of the Farm Uis Townlands No. 215 vests with the Government of Namibia and is zoned “Undetermined”.

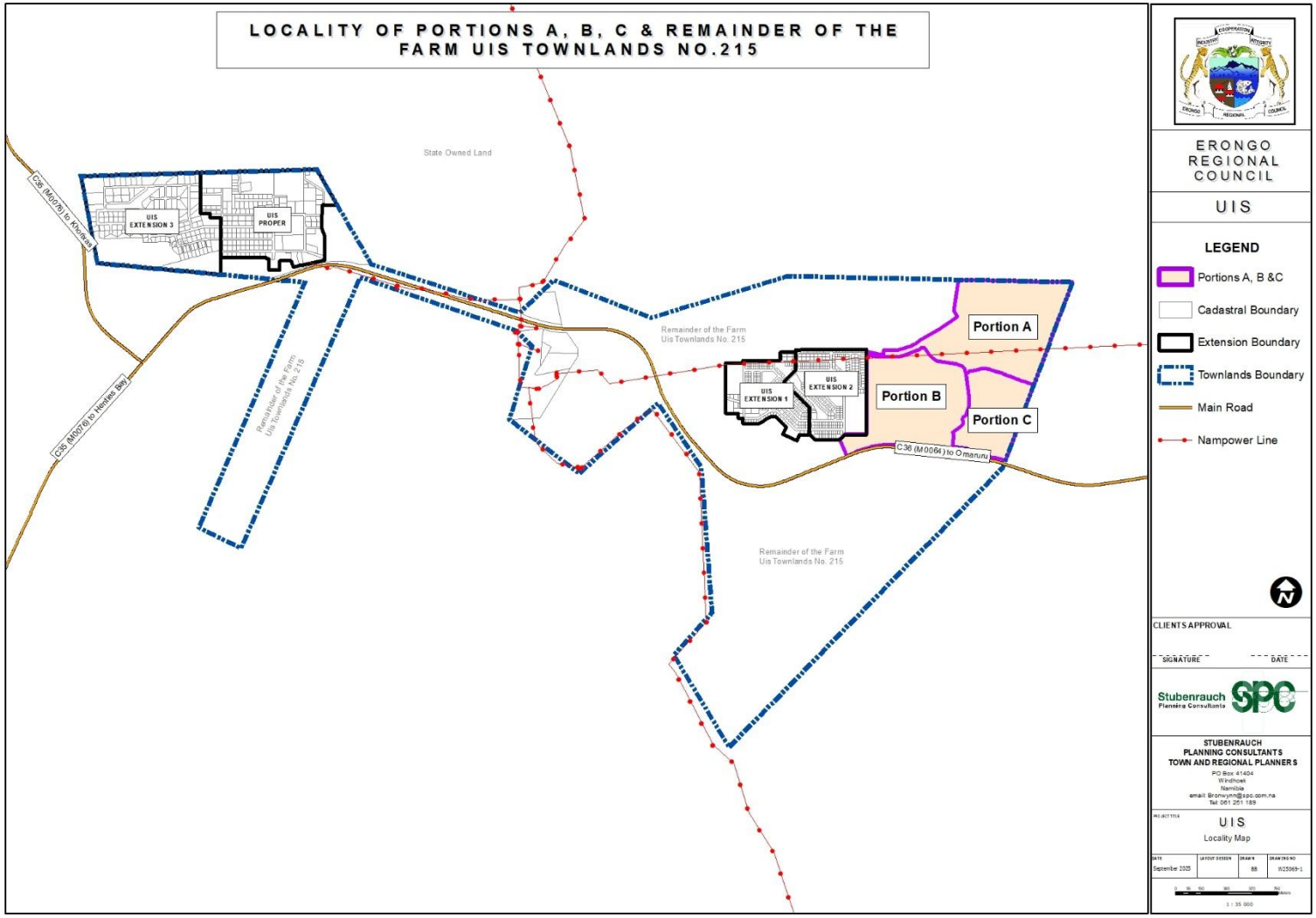


Figure 1: Locality of Portions A, B, C and Remainder of the Farm Uis Townlands No.215

1.4 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 Uis Townlands No. 215 into 3 portions (Portions A - C) and the Remainder;**
- **Layout approval and township establishment on Portion A to be known as Tatamutsi Proper;**
- **Layout approval and township establishment on Portion B to be known as Tatamutsi Extension 1;**
- **Layout approval and township establishment on Portion C to be known as Tatamutsi Extension 2.**

1.5 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 Uis 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.

1.6 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

Section	Description	Section of FESR/ Annexure
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 aspects of the environment may be affected by the proposed listed activity;	Refer to Chapter 3
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	Refer to Chapter 4

Section	Description	Section of FESR/ Annexure
	that the proposed activity or alternatives have on the environment and on the community that may be affected by the activity;	
8 (h)	A description and assessment of the significance of any significant effects, including cumulative effects, that may occur 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;	Refer to Chapter 7
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 E**

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.	**Activity 10.1 (a) Infrastructure** **Activity 10.1 (b) Infrastructure** **Activity 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.

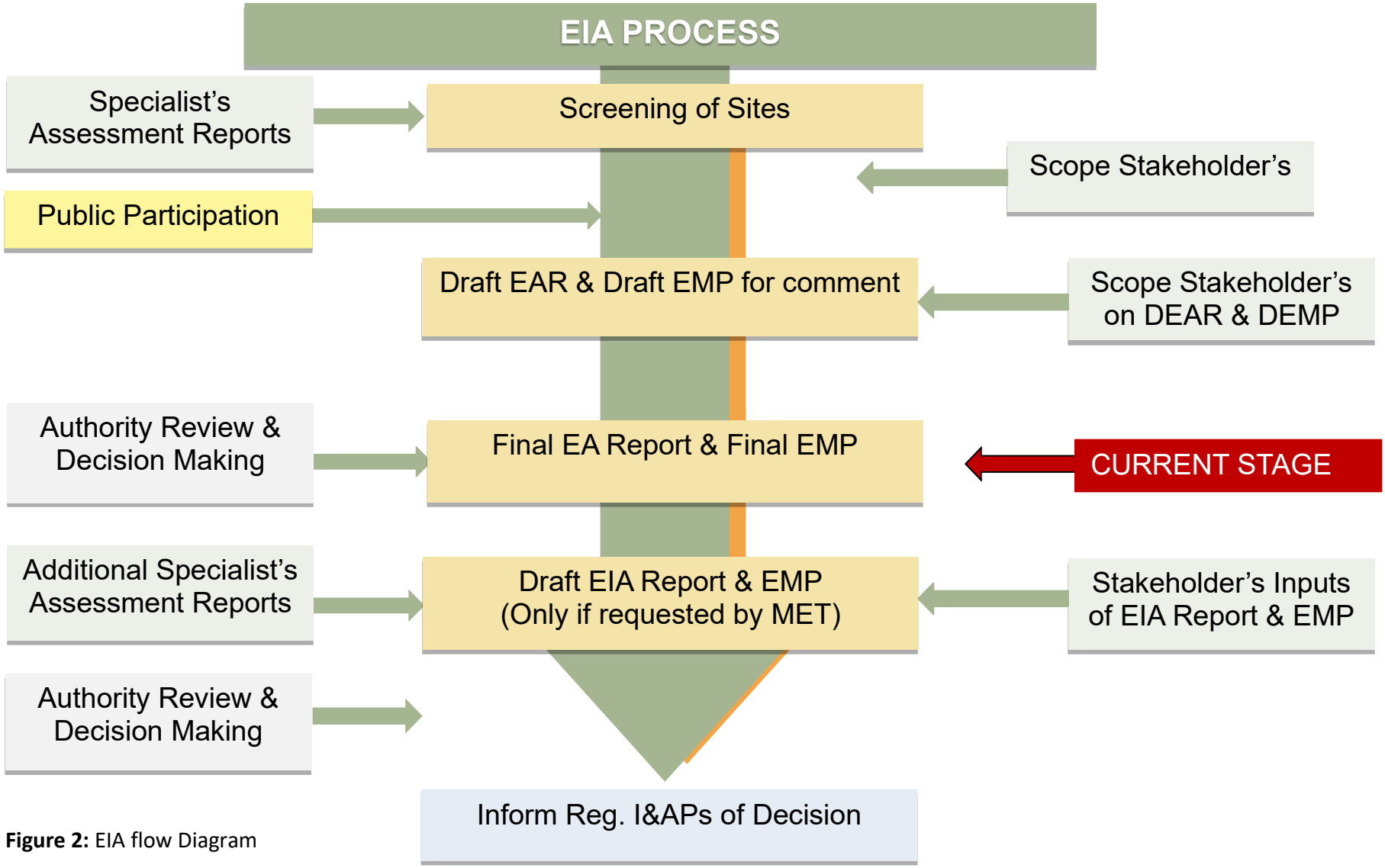


Figure 2: EIA flow Diagram

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 Erongo Region (Namibia Statistics Agency, 2023)

ERONGO REGION	
ATTRIBUTE	**INDICATOR**
Population	240 206
Females	117 884
Males	122 322
Population under 5 years	11.0%
Population aged 5 to 14 years	18.6%
Population aged 15 to 34 years	36.4%
Population aged 35 to 59 years	28.3%
Population aged 60 years and above	5.8%
Female: male ratio	100:104
Literacy rate of 15 years old and above	95.4%
People above 15 years who have never attended school	4.4%
People above 15 years who are currently attending school	15.6%
People above 15 years who have left school	78.1%
Income from pension	7.7%
Income from business and non-farming activities	7.5%
Income from farming	0.7%
Wages and salaries	68.7%

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

The average annual temperature in the Uis area ranges between 19°C and 20°C as indicated in **Figure 3** below. The average maximum temperature for Uis varies between less than 32°C and 34°C, with the average minimum temperature between 8°C and 10°C.

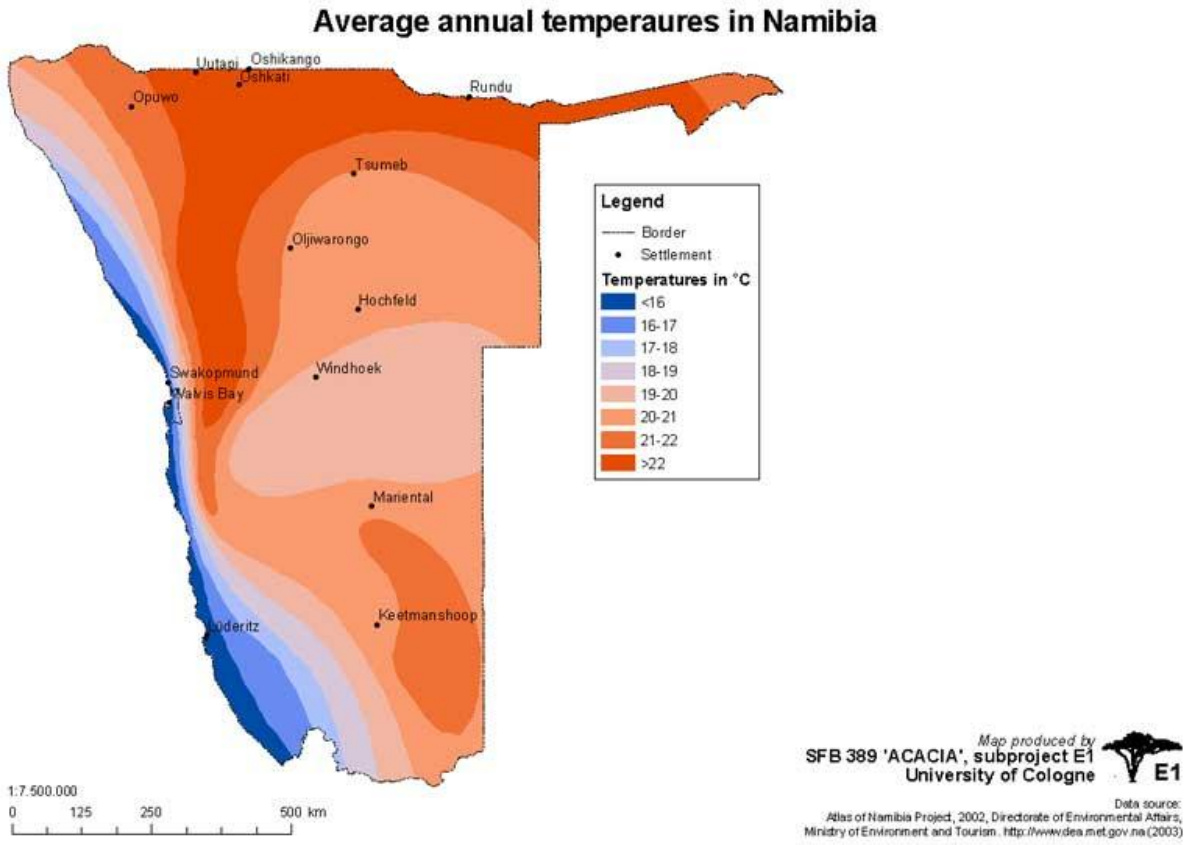


Figure 3: Annual average temperature (http://www.uni-koeln.de/sfb389/e/e1/download/atlas_namibia/e1_download_climate_e.htm#temperature_annual)

The average annual rainfall for Uis ranges between 50 mm and 100 mm per year as indicated in **Figure 4** below.

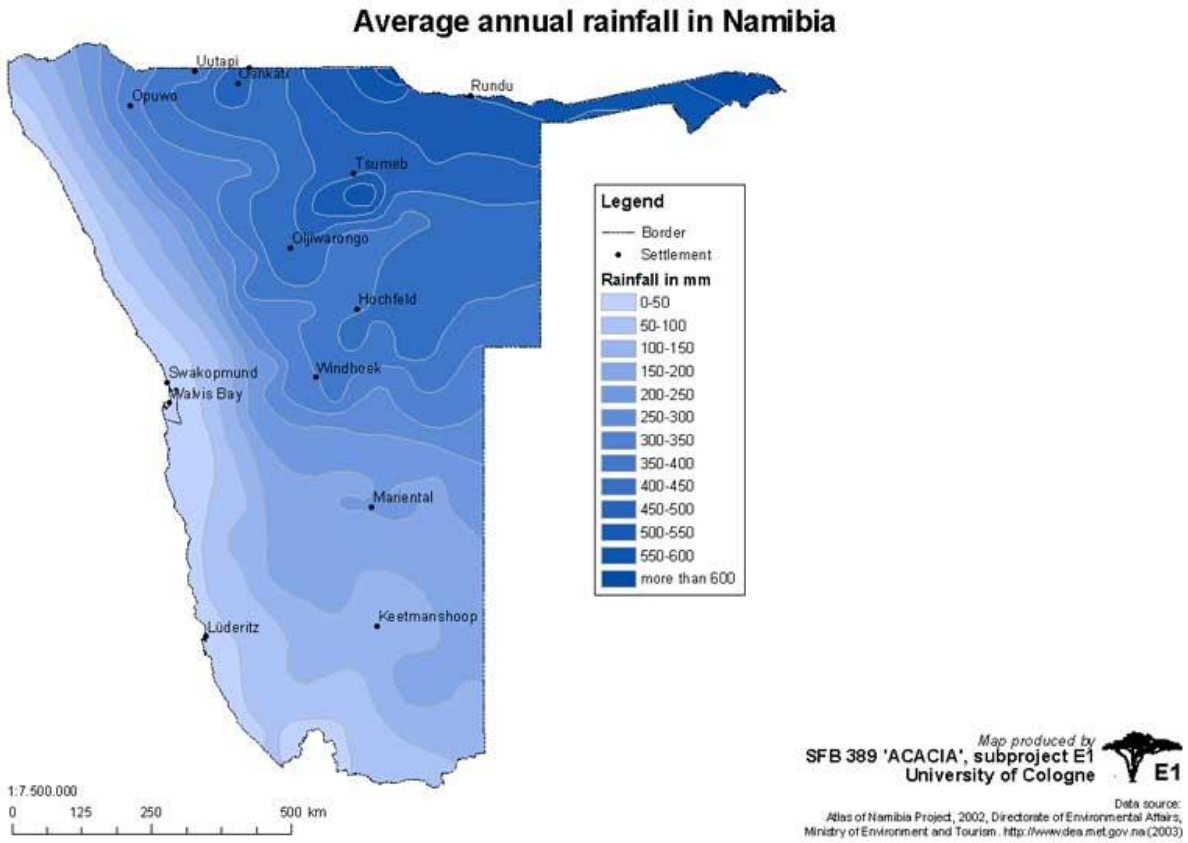


Figure 4: Average annual Rainfall (http://www.unikoeln.de/sfb389/e/e1/download/atlas_namibia/pics/climate/rainfall-annual.jpg)

3.2.2 Topography, Geology and Soils

The Uis area is characterised by the Damara Supergroup and the Damaraland Igneous Province, which date back approximately 850–600 million years ago as depicted in **Figure 5** below. The dominant rock types in this area include granites and schists associated with ancient volcanic and metamorphic activity.

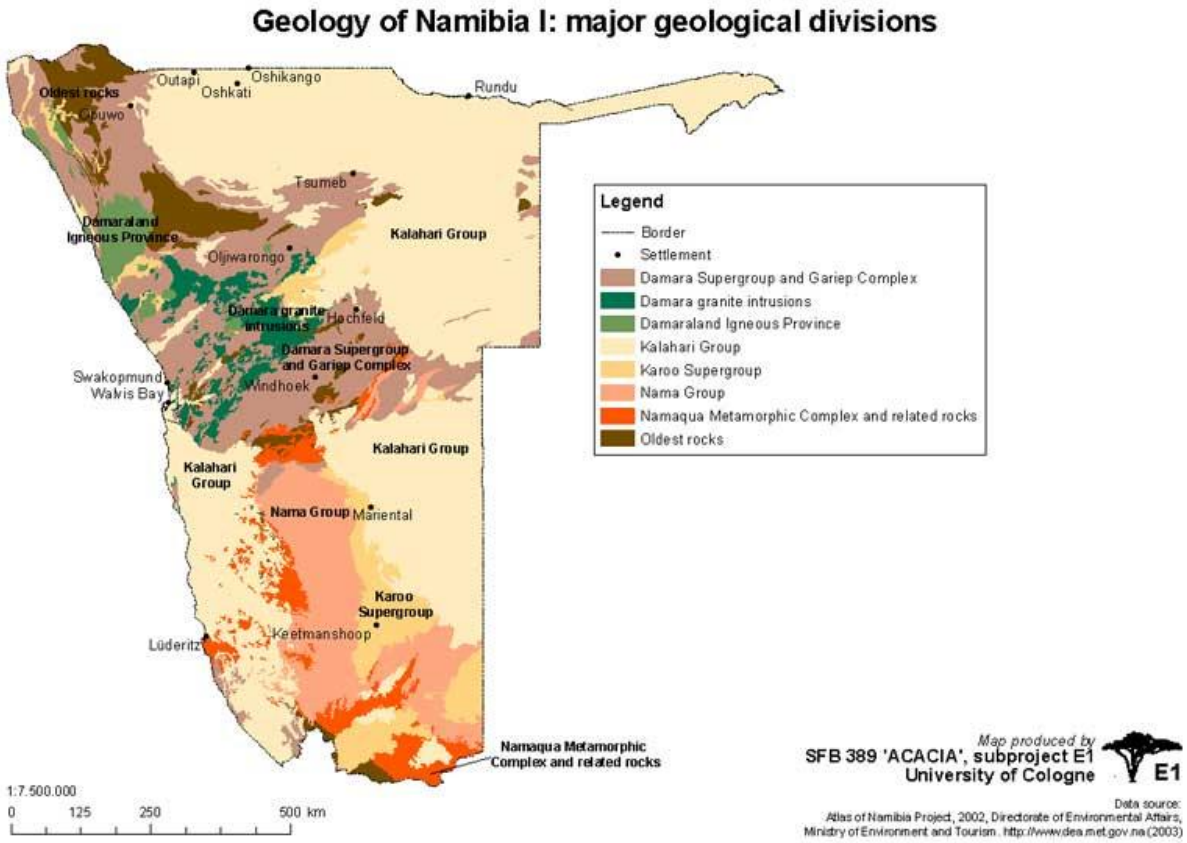


Figure 5: Geology of Namibia (http://www.uni-koeln.de/sfb389/e/e1/download/atlas_namibia/pics/physical/geology.jpg)

3.2.3 Hydrology and Hydrogeology

Uis is situated in west-central Namibia, located near the ephemeral Omaruru River. The Omaruru River (**Figure 6**) is a major hydrological feature within the Erongo Region which flows into the Omdel dam.

There are no large perennial rivers, lakes, or major swamps near Uis, highlighting the arid to semi-arid nature of the local hydrological system. Ephemeral riverbeds (such as Omaruru) are crucial groundwater recharge zones for Uis and surrounding areas. Seasonal water flows infiltrate these sandy channels, replenishing subsurface aquifers used for village water supply. There are no major pans or permanent wetlands nearby, suggesting reliance on underground aquifers and episodic surface flows for water. The region is divided by watershed lines (shown in red on the map), with Uis lying on the western side, indicating groundwater flows and surface runoff trend toward the coast. Uis's hydrological system is dominated by ephemeral river flows and periodic groundwater recharge, characteristic of semi-arid environments reliant on short-lived, seasonal water resources.

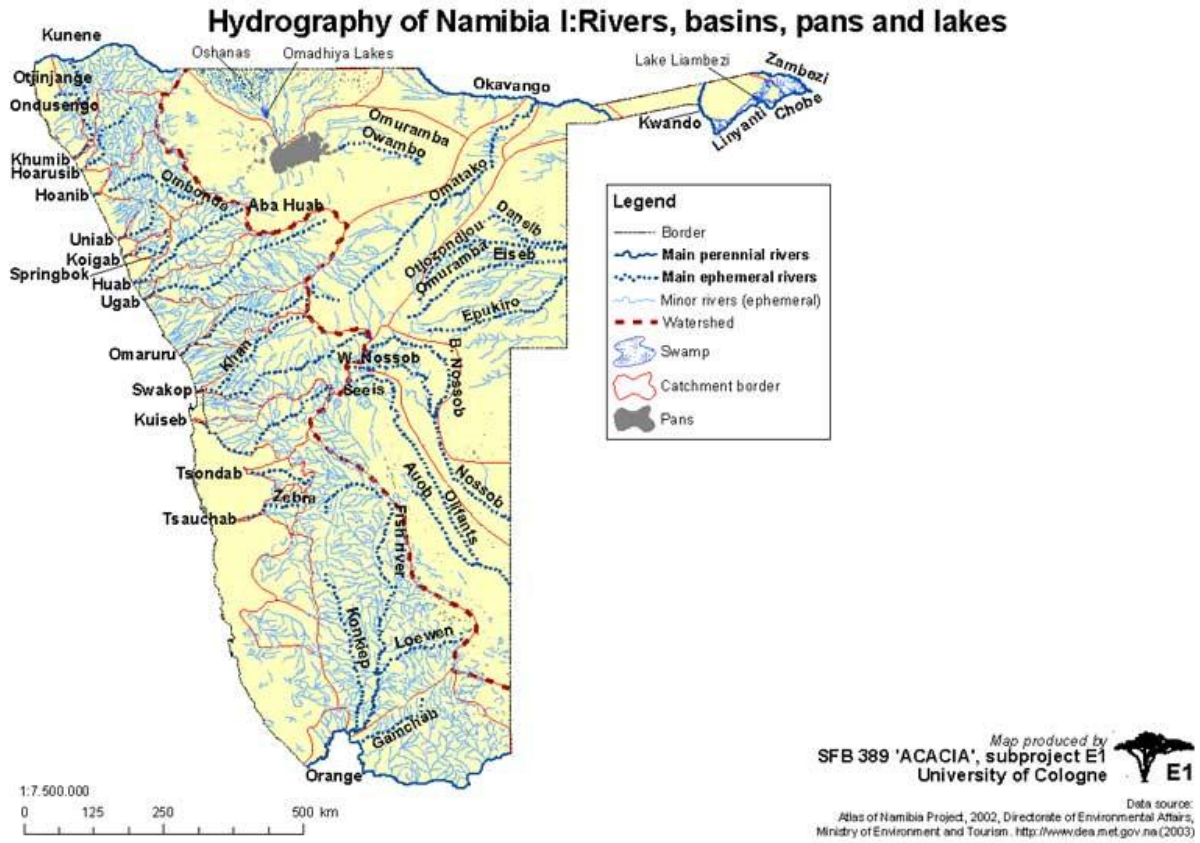


Figure 6: Hydrography of Namibia: Rivers, basins, pans and lakes (http://www.uni-koeln.de/sfb389/e/e1/download/atlas_namibia/pics/physical/hydrography_1.jpg)

3.3 TERRESTRIAL ECOLOGY

3.3.1 Flora and Fauna

Uis is located within the Namib Desert biome (Mendelsohn, Jarvis, Roberts, *et al.*, 2002). Common plants include welwitschia, dollar bush, and various succulent species capable of surviving in extreme heat and with minimal water. Along ephemeral riverbeds (like the Omaruru), there is increased plant diversity, including acacias and more robust shrubs that benefit from seasonal water flows.

The subject site is largely vegetated. It should however be ensured that 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.

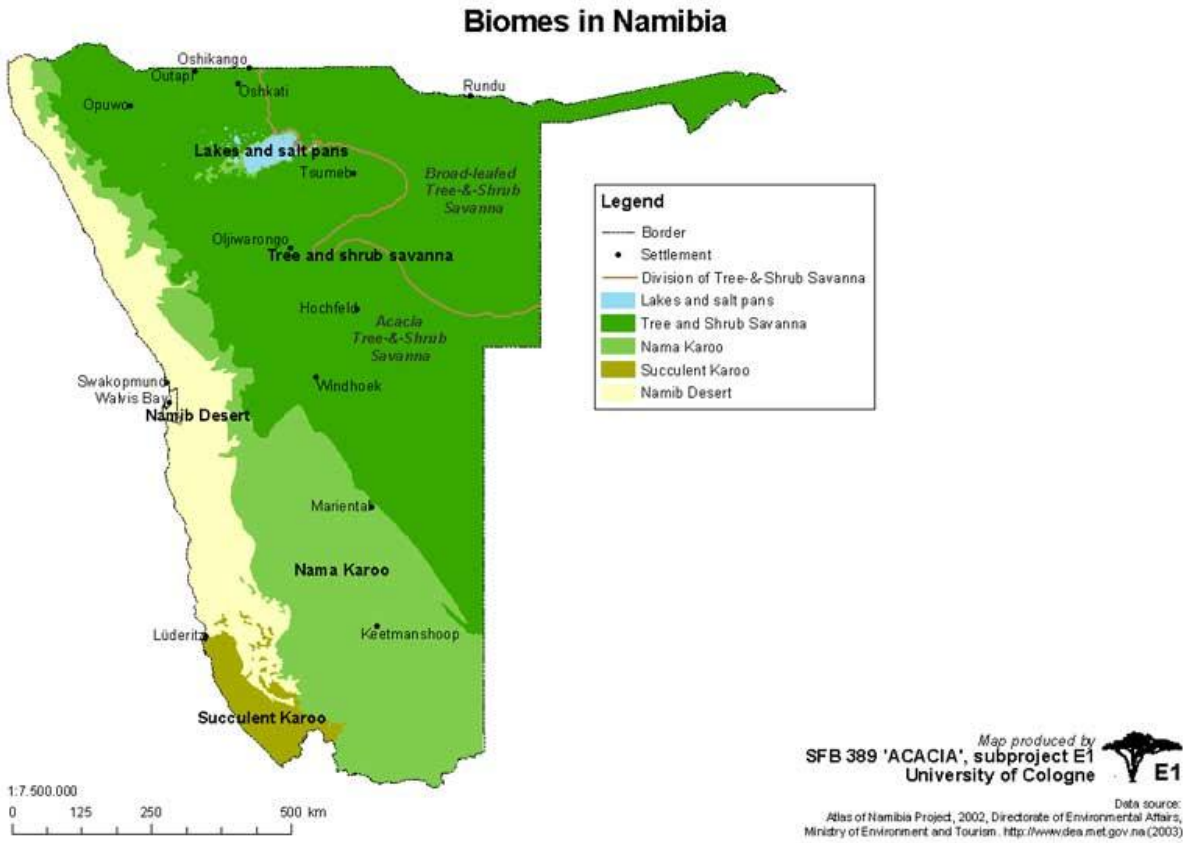


Figure 7: Biomes of Namibia (http://www.uni-koeln.de/sfb389/e/e1/download/atlas_namibia/pics/living_resources/biomes.jpg)

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 Uis Townlands No. 215 into 3 portions (Portions A - C) and the Remainder;**
- **Layout approval and township establishment on Portion A to be known as Tatamutsi Proper;**
- **Layout approval and township establishment on Portion B to be known as Tatamutsi Extension 1;**
- **Layout approval and township establishment on Portion C to be known as Tatamutsi Extension 2.**

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 serves as the baseline against which all other alternatives are evaluated. Under this scenario, no formalization or township development would occur, and the Tatamutsi informal settlement would remain in its current unplanned and inadequately serviced state. This would mean the continued absence of secure tenure, proper sanitation, reliable water supply, and electricity infrastructure.

Unregulated settlement growth would persist, increasing pressure on the surrounding environment and exacerbating issues such as poor drainage, erosion, and flood risk along the Omaruru River corridor. In addition, the potential socioeconomic benefits associated with the project—such as job creation during construction, improved living conditions, and enhanced access to public services—would not be realized.

The area's developmental and economic potential would therefore remain untapped, while existing vulnerabilities related to informality and infrastructure degradation would continue. Consequently, the no-go alternative is not considered the preferred option, as it would fail to support sustainable urban development and improved quality of life for the Tatamutsi community.

4.3 THE PROPOSED DEVELOPMENT

The Erongo Regional Council proposes the formalisation of the Tatamutsi informal settlement within the Uis townlands, alongside the planned establishment of two additional township developments to accommodate low-income housing.

Phase One focuses on Tatamutsi, where funding has already been secured. The settlement will be upgraded into a proclaimed township, Tatamutsi Proper, with an organised land-use framework to support future growth. This includes:

- Incorporation of most existing informal structures into the township layout.
- Allocation of the river corridor as Public Open Space.
- Integration of the existing informal road within the new layout.
- Provision of vacant erven to accommodate relocated structures where necessary.

The formalization will enable proper infrastructure planning, zoning, and delivery of essential services such as water, sanitation, and electricity. It will also provide residents with secure tenure, improving access to credit, raising property values, and reducing risks linked to informality.

Phase Two, pending funding from the Ministry of Urban and Rural Development, will extend the initiative through the creation of two additional townships for residential erven, further addressing housing needs for low-income groups.

Roads in the layout are designed to a minimum of 15 metres in width to allow for stormwater management, emergency access, and future service installations. While some temporary structures may need relocation, cost-effective in-situ development remains a guiding principle to minimise disruption and compensation.

Ultimately, this project aims to transform Tatamutsi into a sustainable, well-regulated urban environment that enhances living standards, economic opportunities, and service delivery for its residents and the wider community.

4.3.1 The Subdivision of the Farm Uis Townlands No. 215

Remainder of the Farm Uis Townlands No. 215 is proposed to be subdivided into Portion A, B, C and the Remainder. Proposed Portion A is to accommodate the formalization of Tatamutsi Proper, while proposed Portions B and C will be reserved for future township establishments, as illustrated in **Figures 8** and **9** below. **Table 5** below depicts the portion sizes as well as the proposed township name.

Table 5: Proposed portion sizes and township names

Portion Number	± Size (ha)	Proposed Township
Portion A	59.0973	Tatamutsi Proper
Portion B	51.8692	Reserved for future Tatamutsi Extension 1
Portion C	26.9949	Reserved for future Tatamutsi Extension 2

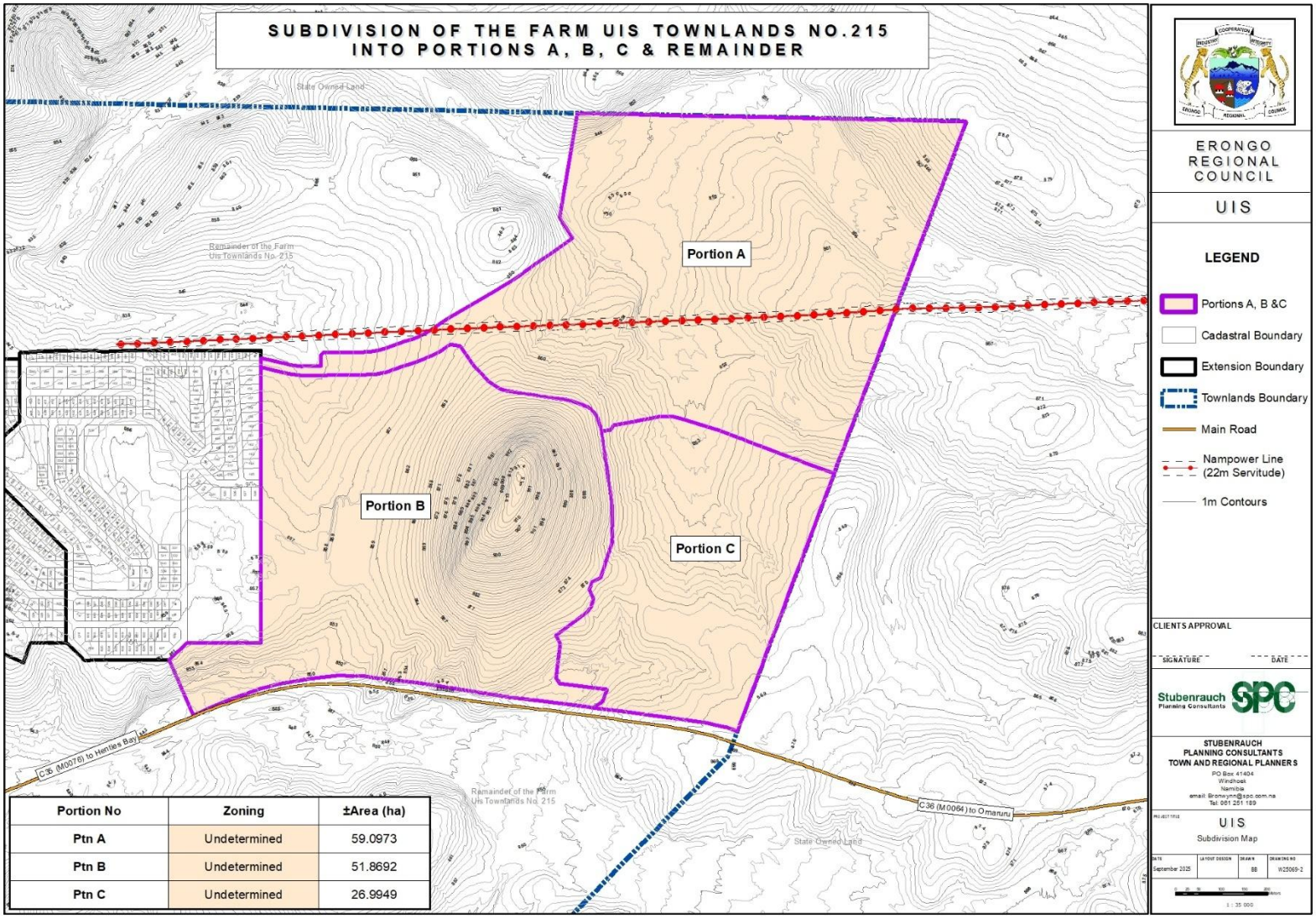


Figure 8: Subdivision of the Farm Uis Townlands No. 215 into Portions A, B & C and the Remainder

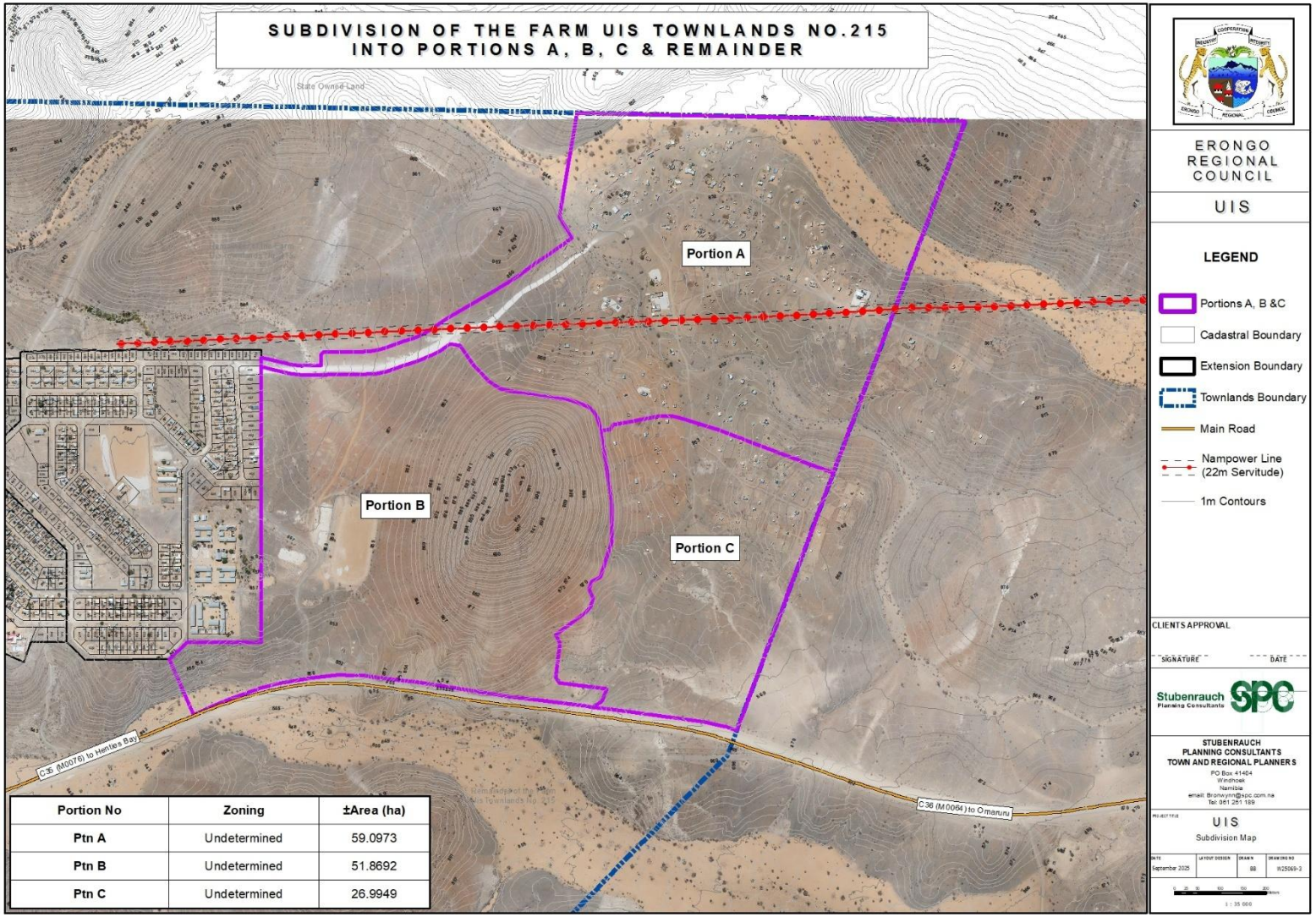


Figure 9: Aerial Map of Proposed Subdivision

4.3.2 The Layout approval and township establishment on Portion A to be known as Tatamutsi Proper

The layout responds to the planning brief provided to SPC by the Erongo Regional Council. While the overall design is guided by biophysical factors and environmental considerations, the primary determinants of the design as discussed and agreed upon with the client, are as follows:

- The existing movement networks;
- The existing powerlines;
- The topography and the natural storm water drainage courses;
- Provide residential erven with sizes no less than 300 m²; and
- Ensure direct street access for each property created.

Tatamutsi Proper comprises of approximately 371 erven and the Remainder (street). The layout makes provision for the following land uses as outlined in **Table 6** below.

Table 6: Tatamutsi Proper Summary Table

Zoning	No of Erven	± Total Area (ha)	% of Total Area
Residential	334	20.72	35.06
Business	13	1.98	3.35
Institutional	1	0.42	0.72
Local Authority	2	0.20	0.34
Public Open Space	19	23.08	39.05
Street	Remainder	12.70	21.49

Residential Erven

A total number of 334 residential erven will be created during this township establishment. All residential erven created will measure 300m² or more in accordance with the town planning guidelines.

Business Erven

A total of 13 business erven has been provided as supporting land use zones to create employment opportunities for the residents as well as to ensure a well-balanced neighbourhood. Introducing business erven within the township establishment also promotes walkability and creates a self-sustaining community whereby the concept of work, live and play is in close proximity to one another.

Institutional Erf

Provision was made for one institutional erf as a supporting land use zoning for the residents of Tatamutsi.

Local Authority Erven

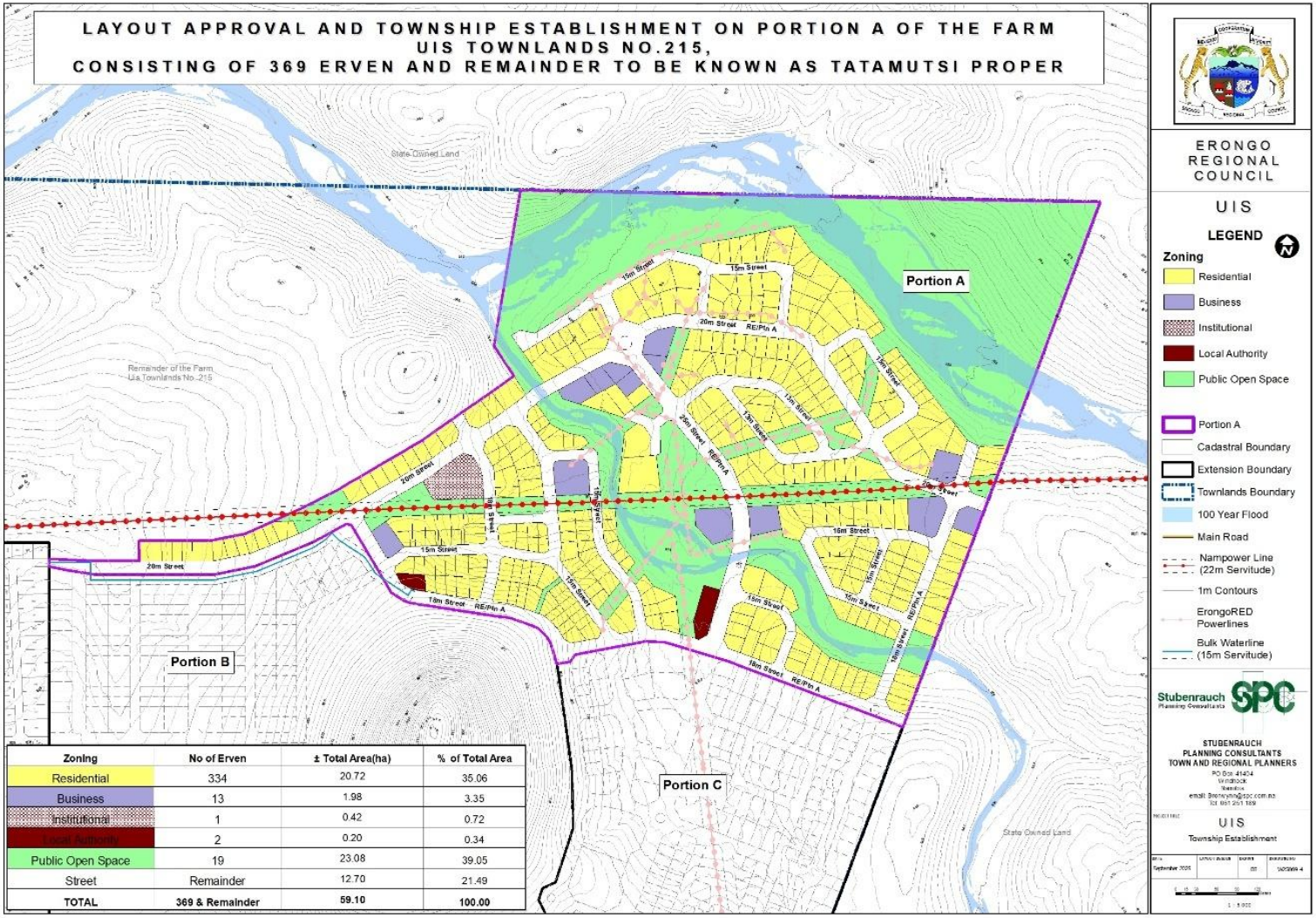
A total of two Local Authority erven has been accommodated within the layout of Tatamutsi Proper. One of the Local Authority erven is to cater for the existing water tower which is to provide water to the residents of Tatamutsi, while the other Local Authority erf is reserved for future local authority purposes.

Public Open Space

The Public Open Space erven serve the purpose of accommodating the natural drainage path of water and to accommodate the ErongoRed and NamPower lines.

Streets

The streets are designed in a manner that carries the water naturally in a southerly direction, ensuring that the water does not accumulate within residences. **Figure 10 & 11** below depicts the proposed layout for Tatamutsi Proper.



Zoning	No of Erven	± Total Area(ha)	% of Total Area
Residential	334	20.72	35.06
Business	13	1.98	3.35
Institutional	1	0.42	0.72
Local Authority	2	0.20	0.34
Public Open Space	19	23.08	39.05
Street	Remainder	12.70	21.49
TOTAL	**369 & Remainder**	**59.10**	**100.00**

Figure 10: Proposed layout for Tatamutsi Proper

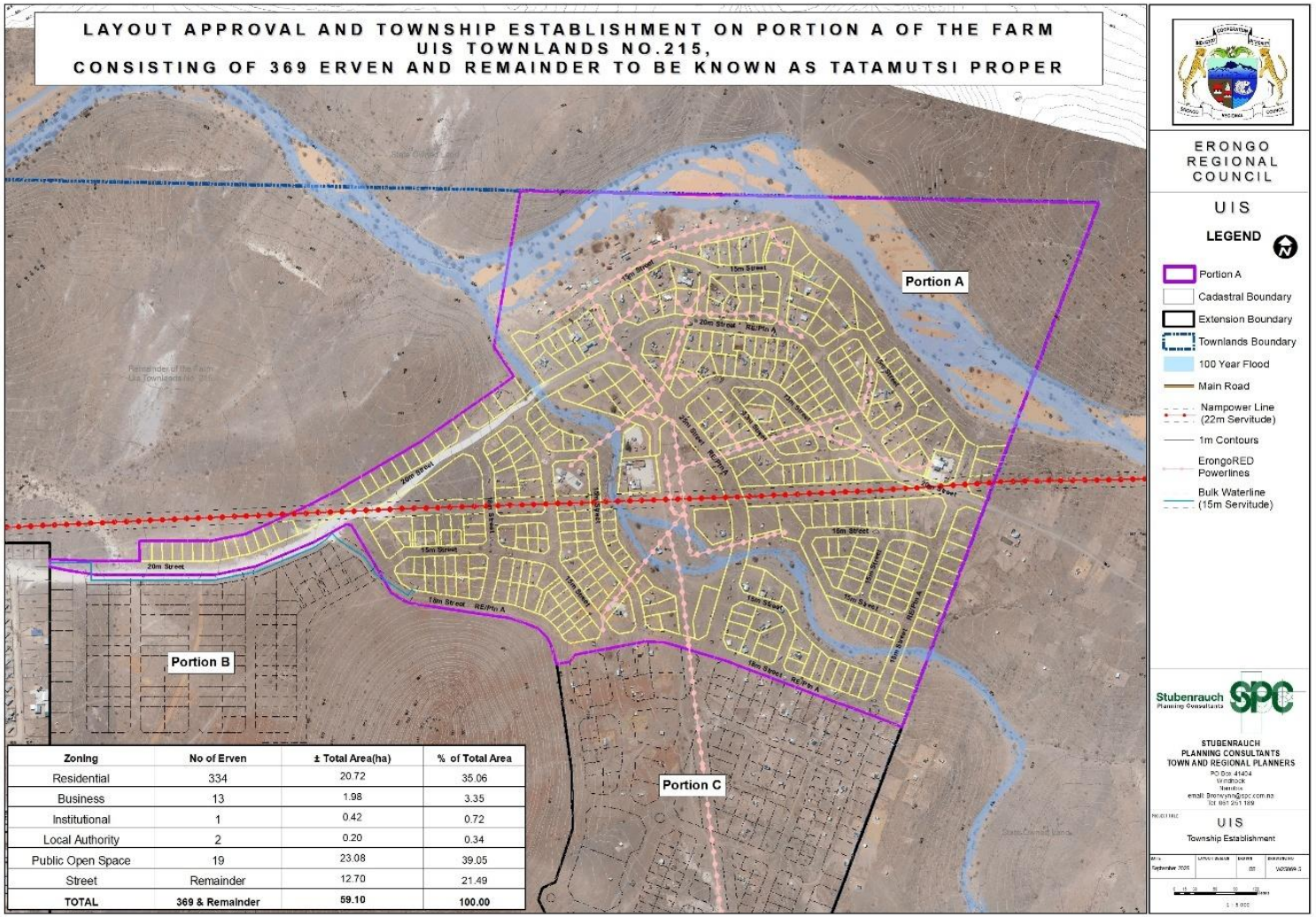


Figure 11: Aerial Image of the Proposed layout for Tatamutsi Proper

4.3.3 The Layout approval and township establishment on Portion B to be known as Tatamutsi Extension 1

Tatmutsi Extension 1 to be established on Portion B, the establishment of Extension 1 is motivated by the urgent need to address the growing demand for affordable and serviced residential land in Uis. While the formalization of Tatamutsi Proper will regularize existing informal developments, it will not be sufficient to accommodate the increasing number of low-income households in need of secure tenure and housing opportunities.

A key feature of Extension 1 is the provision of a dedicated sports field, which will serve as a vital community facility supporting youth development, recreation, and social cohesion. In addition, the extension incorporates a large open space to accommodate the existing rocky area, ensuring that natural constraints are respected and that land unsuitable for development is utilized productively as part of the township design. The draft layout for Tatamutsi Extension 1 is depicted in Figure 12 below.

4.3.4 The Layout approval and township establishment on Portion C to be known as Tatamutsi Extension 2

Extension 2 to be established on Portion C, is proposed as a predominantly residential township while integrating key economic and service facilities to support Uis's growth. The layout includes an SME Park to promote local entrepreneurship, a few business erven to meet retail and service needs, and a truck port to accommodate heavy vehicles and improve logistics. The draft layout for Tatamutsi Extension 2 is depicted in **Figure 12** below

By combining affordable residential erven with economic infrastructure, Extension 2 will address housing demand while creating opportunities for livelihoods and reducing pressure on the existing town centre. This extension complements Tatamutsi Proper and Extension 1 by strengthening both the social and economic sustainability of Uis.

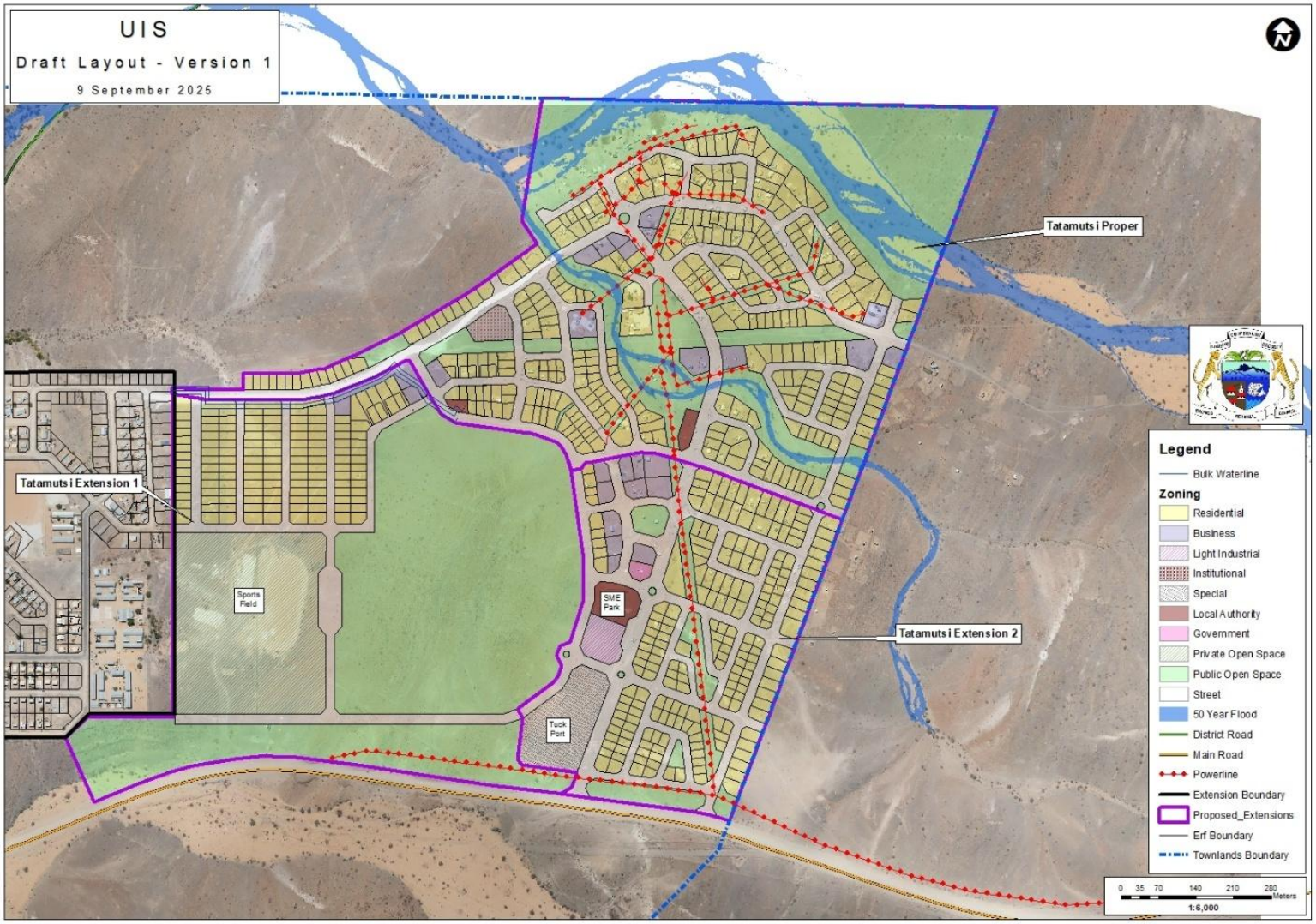


Figure 12: Combined proposed layout of Tatamutsi Proper, Extension 1 and Extension 2

4.3.5 Engineering Services and Access Provision

- *Water, Sewerage and Electricity*

An existing water tower is located within the area and will be connected to the newly created erven to ensure adequate water supply to the residents. The responsibility for the provision and management of this infrastructure rests with the Erongo Regional Council.

It should be noted that a number of households within the Tatamutsi area are already connected to the ErongoRed electricity grid system. The remaining erven will be connected to the ErongoRed network as part of the formalization process, thereby ensuring equitable access to electricity for all households within the area.

There is an existing oxidation pond system in Uis; however, these facilities are located at a considerable distance from Tatamutsi. As such, the Infrastructure Master Plan for Uis must make provision for the sewerage connection of Tatamutsi Proper. It should further be noted that the Erongo Regional Council is currently in the process of compiling the Infrastructure Master Plan for Uis, within which the required sewerage services for Tatamutsi will be addressed.

- *Storm Water*

Stormwater management has been duly accommodated in the layout plan for Tatamutsi Proper, primarily within erven zoned as "Public Open Space." The street network has been designed to facilitate the natural flow of water in a southerly direction, thereby preventing the accumulation of stormwater within residential areas.

- *Roads and access*

Access to the intended development will be obtained from the internal street network of the adjacent township.

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 **19 September 2025 to 24 October 2025.**

Table 7: Table of Public Participation Activities

ACTIVITY	REMARKS
Placement of site notice/poster in Uis	See **Annexure A**
Placing advertisements in two newspapers namely the Namibian and the New Era (**19 September 2025 and 26 September 2025**)	See **Annexure B**
Written notice to surrounding property owners and Interested and Affected Parties via Email (**19 September 2025**)	See **Annexure C**

5.1.1 Environmental Assessment Phase 2

The second phase of the PPP involves 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 **28 November 2025**. An Executive Summary of the DESR was also included in the letters to the registered I&APs. I&APs had until **19 December 2025** to submit comments or raise any issues or concerns they may have with regard to the proposed project.

5.1.2 Summary of Public Comments

A petition was received from the Tatamutsi residence residing on proposed Portion C and outside the Uis Townlands, on behalf of Dâure Daman Traditional Community, by the time the objection period lapsed on 24 October 2025 (Annexure C).

During the public meeting, emphasis was made that all town planning related activities and engineering services are always focused on Portion A. As such, the community demanded that Portion C and the areas outside the townlands must be connected to municipal services and be formalised prior to Portion A.

Further emphasis was placed on the fact that the attendees of the meeting do not reside on proposed Portion A, but rather in Portion C and the areas outside the Uis Townlands. As the Erongo Regional Council could not commit to first formalise the area falling outside the Uis Townlands, some of the attendees refused to return the attendance register and left the meeting.

Kindly refer to the attached Minutes of the Public Meeting held on 3 October 2025 in the Uis Community Hall.

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 11** 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 13: 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: DEAF 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 may have an impact on traffic in the subject area as the site is currently undeveloped. Once the proposed site is developed traffic in the area is expected to increase.

7.2.2 Existing Service Infrastructure Impacts

The proposed development is to be provided with the necessary engineering services inclusive of water, sewage and electricity. The bulk municipal services as required for the development must be developed in accordance with the requirements of the local authority. Once the site becomes developed the increasing demand on the existing services would have to be determined and additional services would have to be provided for if needed.

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 naturally occurring vegetation present on site should be incorporated within the layout of the proposed development as far as possible. The unnecessary removal of protected species as per the Forest Act (No. 12 of 2001) should be avoided, these may not be removed without a valid permit from the local Department of Forestry. Construction activities should avoid any sensitive habitats occurring on site.

7.3.2 Habitat Fragmentation and Destruction

Disturbance to local habitats may be experienced during site clearance for the proposed development. The construction activities associated with the proposed developed will permanently change the present landscape and result in the displacement of existing vegetation and faunal populations occurring at the site, including invertebrates and other living organisms. The impact is expected to have localised negative impacts on the environment and associated flora and fauna.

7.3.3 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 minimised by the fact that the construction phase will be a short-term activity.

7.3.4 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 Uis 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

There may be a change in visual characteristics of the site particularly as the areas are currently undeveloped. 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 Uis 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 erf 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

Increase 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 establishment of Tatamutsi Proper has a purpose of formalising Tatamutsi as indicated on the maps attached. The proposed formalisation will enable the Erongo Regional Council to allocate freehold land tenure to the current residents of Tatamutsi, empowering them towards wealth generation and economic upliftment.

Thus, it is put forward that the intended township establishment will not have any negative socio-economic impacts but rather positively contributes to the development of Uis.

The establishment of Tatamutsi Proper will also enable the Erongo Regional Council to generate additional revenue from the sales of the vacant properties and from the rates and taxes payable to Council.

7.5.6 Surface and Groundwater Impacts

Pollution may result from the use of hazardous liquids (i.e. oil, diesel etc.), fertilizers or pesticides, leakages from wastewater works, improper disposal of waste during operation. For pollution of these resources large quantities of pollutants would need to be released in the natural environment which is not likely to be associated with the development intended for the proposed site.

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 E** 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 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 – 12** 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	Uis	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	Uis	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)	Uis	No mitigation	Local	Medium	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
	Uis	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
4. Habitat Fragmentation and Destruction										
	Uis	Mitigation	Local	Low	Short term	Low	Probable	Certain	Reversible	Low (-ve)
		No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
4. Surface & ground water	Uis	No mitigation	Local	Medium	Short term	Medium	Probable	Certain	Reversible	Medium (-ve)
		Mitigation	Local	Medium - 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	Uis	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
6. Heritage	Uis	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	Uis	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)

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
8. Traffic impacts	Uis	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
	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	Uis	No mitigation	Local	Medium-low	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	Uis	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
11. Municipal services	Uis	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)

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
12. Waste	Uis	No mitigation	Local	Medium	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
13. Hazardous Substances	Uis	No mitigation	Local	Medium	Short term	Medium	Probable	Certain	Reversible	Medium (-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
OPERATIONAL PHASE										
1. Visual & sense of place	Uis	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	Uis	No mitigation	Local	Medium-Low	Medium term	Medium-Low	Probable	Certain	Reversible	Medium-Low (-ve)

Description of potential impact	Project alternative	No mitigation / mitigation	Extent	Magnitude	Duration	Significance	Probability	Confidence	Reversibility	Cumulative impact
		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
3. Emissions	Uis	No mitigation	Local	Low	Medium term	Low	Probable	Certain	Reversible	Low (-ve)
		Mitigation	Local	Very - 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	Uis	No mitigation	Local	Medium	Long term	Medium	Probable	Certain	Reversible	Medium (-ve)
		Mitigation	Local	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	Uis	No mitigation	Local	Medium	Long term	Medium (+)	Probable	Probable	Reversible	Medium (+)
		Mitigation	Local	Medium	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
	Uis	No mitigation	Local	Medium	Long 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
6. Surface and Groundwater impact		Mitigation	Local	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

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. • 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.

CONSTRUCTION PHASE IMPACTS	
Impact	**Mitigation Measures**
	• 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. • 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.

CONSTRUCTION PHASE IMPACTS	
Impact	**Mitigation Measures**
	• 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.
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 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.

CONSTRUCTION PHASE IMPACTS	
Impact	**Mitigation Measures**
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.
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.
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.
Surface and groundwater impacts	• The release of pesticides and herbicides in harmful quantities should be prevented. • The use of eco-friendly and/or biodegradable pesticides and herbicides should be promoted. • Ensure that surface water is channelled and captured through a proper storm water system to be treated in an appropriate manner before disposal into the environment.

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 7**, 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 Uis are further expected to benefit from the new development made available in the town.

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*.

If the proposed formalization and township development do not proceed, the Tatamutsi informal settlement will remain unplanned and inadequately serviced. The absence of structured layouts and tenure security would perpetuate informal land occupation, limiting residents' access to essential services such as water, sanitation, and electricity. Unregulated growth would continue to place pressure on the natural environment, particularly along the river corridor, increasing the risk of flooding and land degradation.

Furthermore, opportunities for local employment, infrastructure investment, and socioeconomic improvement would be lost. The area's potential to transition into a sustainable and regulated township would remain unrealized, maintaining existing vulnerabilities associated with informality, insecure tenure, and poor living conditions. Overall, failure to implement the project would hinder both community development and broader regional planning objectives for Uis. The significance of the social impact was therefore deemed to be Medium (positive). 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., Jarvis, A., Roberts, C. & Roberston, T. 2002. Atlas of Namibia*.*

Ministry of Agriculture Water and Rural Development. 2011. Groundwater in Namibia an explanation to the Hydrogeological Map*.*

Ministry of Lands and Resettlements. 2015. Baseline Report (Volume 1) for the Zambezi Integrated Regional Land-use Plan*.*

Namibia Statistics Agency. 2023. Namibia 2023 Population & Housing Census - Main Report. 214. [Online], Available: http://www.nsa.org.na/files/downloads/Namibia 2023 Population and Housing Census Main Report.pdf.

Namibia Statistics Agency. 2013. Erongo Census Regional Profile*.*