

# *Environmental Assessment Scoping Report for:*

*May 2022*

*Township Establishment, creation of  
street and installation of bulk  
services for Kaniita Proper and  
Kaniita Extension 1, Omuthiya,  
Oshikoto Region.*

***APP-003840***





Prepared for: Omuthiya Town Council  
P O Box 19262  
Omuthiya  
Contact Person: Ruusa Mathews  
Contact Number: +264 (65) 24 47 00  
Email: [rmatheus@omuthiyatc.org.na](mailto:rmatheus@omuthiyatc.org.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 21 57  
Email: [bronwynn@spc.com.na](mailto:bronwynn@spc.com.na)



## PROJECT DETAILS

<b>Title</b>	Environmental Scoping Report for the: <ul style="list-style-type: none"> <li>Township Establishment, creation of street and installation of bulk services for Kaniita Proper and Kaniita Extension 1, Omuthiya, Oshikoto Region</li> </ul>		
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<b>Proponent</b>	Omuthiya Town Council P O Box 19262, Omuthiya Contact Person: Ruusa Mathews Contact Number: +264 (65) 24 47 00 Email: <a href="mailto:rmatheus@omuthiyatc.org.na">rmatheus@omuthiyatc.org.na</a>		
<b>Environmental Assessment Practitioner</b>	Stubenrauch Planning Consultants P.O. Box 41404, Windhoek Contact Person: Bronwynn Basson Contact Number: +264 (61) 25 11 89 Fax Number: +264 (61) 25 21 57 Email: <a href="mailto:bronwynn@spc.com.na">bronwynn@spc.com.na</a>		
<b>Report date</b>	May 2022		
	<b>Name</b>	<b>Signature</b>	<b>Date</b>
<b>Author</b>	Victoria Shikwaya		January 2022
<b>Reviewer</b>	Stephanie Strauss		May 2022

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## EXECUTIVE SUMMARY

### Introduction

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

- **Subdivision of the Farm Omuthiya Townlands No 1013 into Portion A and Remainder.**
- **Alteration of the boundaries of Omuthiya Proper to include 'Portion A' of the Farm Omuthiya Townlands No 1013.**
- **Consolidation of incorporated Portion A of the Farm Omuthiya Townlands No 1013 with Erf 152 Omuthiya Proper into Consolidated Erf X.**
- **Subdivision of Consolidated Erf 'X' into 'Erf B/Consolidated Erf X' and 'RE/Consolidated Erf X' for the establishment of Kaniita Proper and Kaniita Extension 1 respectively.**

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, Forestry and Tourism: Department of Environmental Affairs and Forestry (MEFT: DEAF).

### Project Description

The Omuthiya Town Council aims to re-design the area (formerly) known as Omuthiya Extension 4 to become known as Kaniita Proper and Kaniita Extension 1. The main purpose of the re-design is to increase the number of residential erven by providing residential properties having areas ranging between 301m<sup>2</sup> to 320m<sup>2</sup> as this will enable the Town Council to meet the demand for affordable residential properties at Omuthiya.

According to the Omuthiya Zoning Scheme both land portions are zoned "Undetermined" and as such are suitably zoned for township establishment purposes.

### 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 **12 November 2021**;
- Notices were placed in The New Era and The Namibian newspapers dated **12 November 2021 and 19 November 2021**, 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 **17 December 2021**).

The Draft Scoping Report was circulated from the **2<sup>nd</sup> of February 2022 until the 16<sup>th</sup> of February 2022** so that the public could review and comment on it. The comment period will remain open until the final scoping report is submitted to MEFT.

### Conclusions and Recommendations

With reference to **Table 11**, none of the negative planning and design, construction or operational phase impacts were deemed to have a high significant impact on the environment. The 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). The social impact was assessed to have Medium (positive) impact associated with possible job opportunities during construction and operation.

It is recommended that this project be authorised because should the development not proceed the subject area will remain mostly vacant and undeveloped. This would result in no additional erven being developed. None of the positive or negative impacts from the proposed development would be realized.

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

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

# 1 INTRODUCTION

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## 1.1 PROJECT BACKGROUND

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

- **Subdivision of the Farm Omuthiya Townlands No 1013 into Portion A and Remainder.**
- **Alteration of the boundaries of Omuthiya Proper to include 'Portion A' of the Farm Omuthiya Townlands No 1013.**
- **Consolidation of incorporated Portion A of the Farm Omuthiya Townlands No 1013 with Erf 152 Omuthiya Proper into Consolidated Erf X.**
- **Subdivision of Consolidated Erf 'X' into 'Erf B/Consolidated Erf X' and 'RE/Consolidated Erf X' for the establishment of Kaniita Proper and Kaniita Extension 1 respectively.**

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).

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

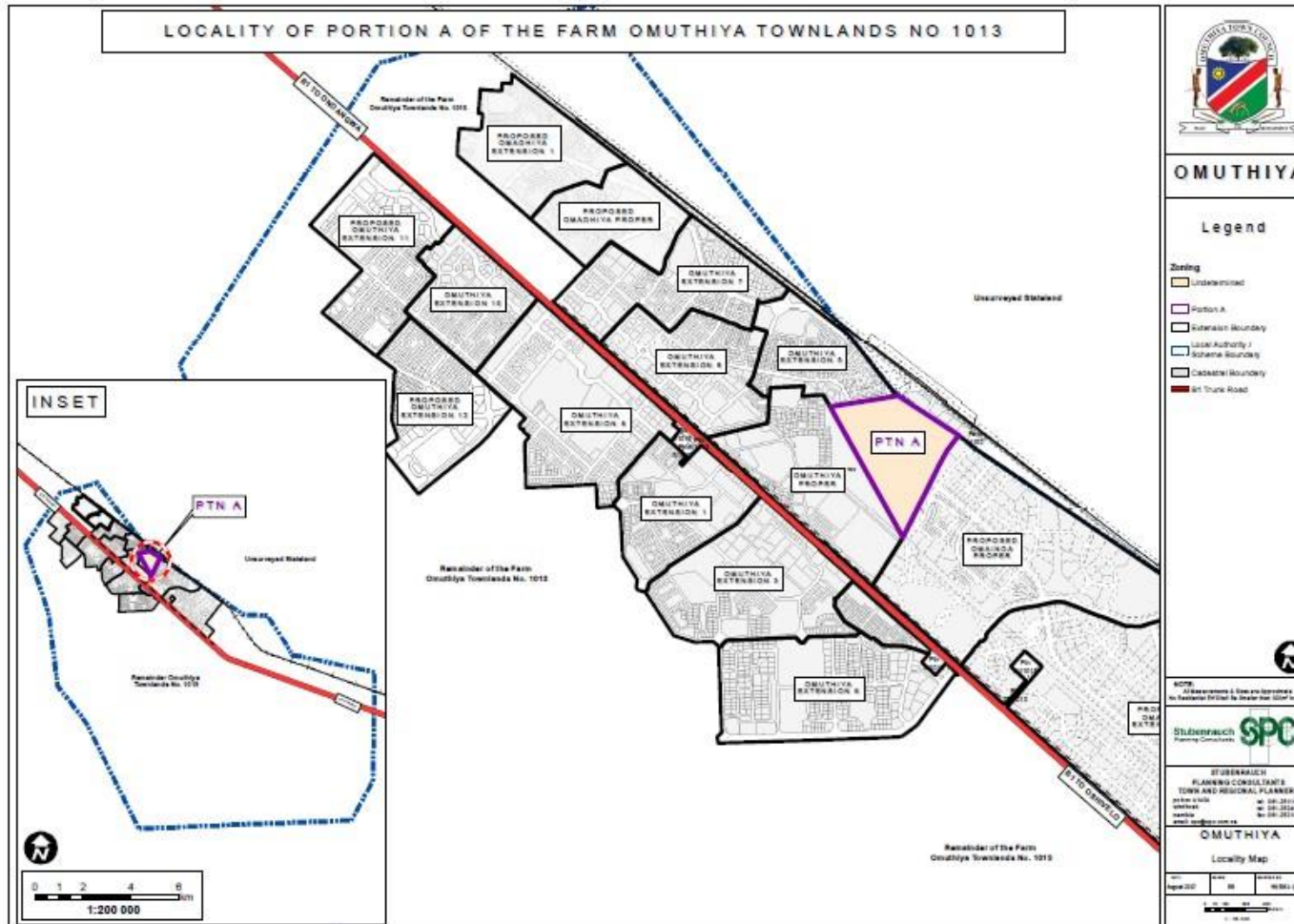
<b>Activity description and No(s):</b>	<b>Description of relevant activity</b>	<b>The portion of the development as per the project description that relates to the applicable listed activity</b>
Activity 10.1 (a) Infrastructure	The construction of oil, water, gas and petrochemical and other bulk supply pipelines	The proposed project includes the installation of bulk services (water, electricity and sewage).
Activity 10.1 (b) Infrastructure	The construction of Public roads	The proposed project includes the construction of a public road.
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 construction of a public 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, Forestry and Tourism: Department of Environmental Affairs and Forestry (MEFT: DEAF).

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***

The Kaniita townships are to be established to the east of Omuthiya Proper and Omuthiya Extension 5, the area being located to the north-east of the NamPower line and to the south-west of the railway line as depicted in **Figure 1** below.



**Figure 1:** Locality of Portion A of the Farm Omuthiya Townlands No. 1013

### 1.3 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 Farm Omuthiya Townlands No 1013 into Portion A and Remainder.**
- **Alteration of the boundaries of Omuthiya Proper to include 'Portion A' of the Farm Omuthiya Townlands No 1013.**
- **Consolidation of incorporated Portion A of the Farm Omuthiya Townlands No 1013 with Erf 152 Omuthiya Proper into Consolidated Erf X.**
- **Subdivision of Consolidated Erf 'X' into 'Erf B/Consolidated Erf X' and 'RE/Consolidated Erf X' for the establishment of Kaniita Proper and Kaniita Extension 1 respectively.**

### 1.4 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 Omuthiya 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.

### 1.5 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 <b>Annexure E</b>
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 <b>Annexures A and B</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 <b>Annexure C</b>
	(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 <b>Annexure C</b>
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 <b>Annexure F</b>

## 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	<p>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.”</p> <p>Article 95(l) deals with the “maintenance of ecosystems, essential ecological processes and biological diversity” and sustainable use of the country’s natural resources.</p>	Sustainable development should be at the forefront of this development.
Environmental Management Act No. 7 of 2007 (EMA)	<p>Section 2 outlines the objective of the Act and the means to achieve that.</p> <p>Section 3 details the principle of Environmental Management</p>	The development should be informed by the EMA.
EIA Regulations GN 28, 29, and 30 of EMA (2012)	<p>GN 29 Identifies and lists certain activities that cannot be undertaken without an environmental clearance certificate.</p> <p>GN 30 provides the regulations governing the environmental assessment (EA) process.</p>	<p>The following listed activities are triggered by the proposed development:</p> <p><b>Activity 10.1 (a) Infrastructure</b></p> <p><b>Activity 10.1 (b) Infrastructure</b></p> <p><b>Activity 10.2 (a) Infrastructure</b></p>
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	The EA process should incorporate the aspects outlined in the guidelines.



LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
	should be considered by the proponent in the scoping process.	
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 must 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 No 5 of 2018	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	The proposed development must adhere to the provisions regarding the subdivision and rezoning of land.

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
	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, 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	<ul style="list-style-type: none"> <li>• Section 3.1 deals with width of proclaimed roads and road reserve boundaries</li> <li>• Section 27.1 is concerned with the control of traffic on urban trunk and main roads</li> <li>• Section 36.1 regulates rails, tracks, bridges, wires, cables, subways or culverts across or under proclaimed roads</li> </ul>	Adhere to all applicable provisions of the Roads Ordinance.

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
	<ul style="list-style-type: none"> <li>Section 37.1 deals with Infringements and obstructions on and interference with proclaimed roads.</li> </ul>	
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 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).	Contractors and users of the proposed development are to comply with these legal requirements.
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	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,	This EIA considers this term of Environment.

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
	historical and political components.	
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 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. 1 of 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.	Protected tree and plant species as per the Forest Act No 12 of 2001 and Forest Regulations of 2015 may not be removed without a permit from the Department of 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 3** below) provides an outline of the EIA process to be followed.

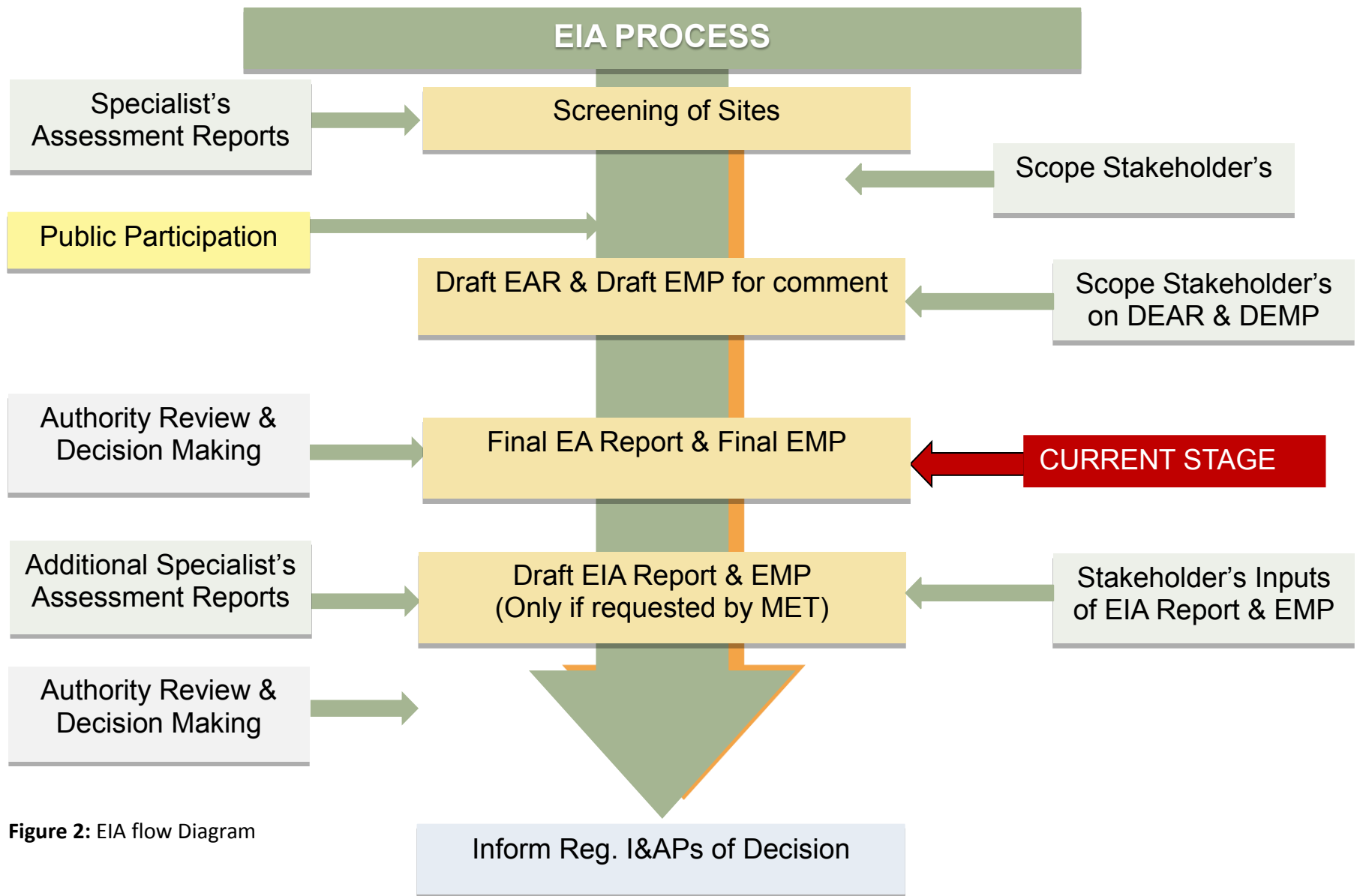


Figure 2: EIA flow Diagram

### 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 2011 Namibia Population and Housing Census (Namibia Statistics Agency, 2011), and presented from a local and regional perspective.

**Table 4:** Statistics of the Omuthiyagwiipundi Constituency and Oshikoto Region (Namibia Statistics Agency, 2013)

<b>OMUTHIYAGWIIPUNDI CONSTITUENCY</b>	
<b>ATTRIBUTE</b>	<b>INDICATOR</b>
Population	26 183
Females	13 611
Males	12 572
Population under 5 years	15%
Population aged 5 to 14 years	27%
Population aged 15 to 59 years	50%
Population aged 60 years and above	8%
Female: male ratio	92:100
Literacy rate of 15 years old and above	90%
People above 15 years who have never attended school	11%
People above 15 years who are currently attending school	39%
People above 15 years who have left school	52%
People aged 15 years and above who belong to the labour force	58%
Population employed	45%
Homemakers	13%
Students	54%
Retired or old age income recipients	33%
Income from pension	17%
Income from business and non-farming activities	9%
Income from farming	39%
Income from cash remittance	6%
Wages and salaries	24%
Main Language	Oshiwambo Languages- 86.2%
<b>OSHIKOTO REGION</b>	
<b>ATTRIBUTE</b>	<b>INDICATOR</b>
Population	181 973
Population aged 60 years and above	9%
Population aged 5 to 14 years	26%
Population aged 15 to 59 years	52%

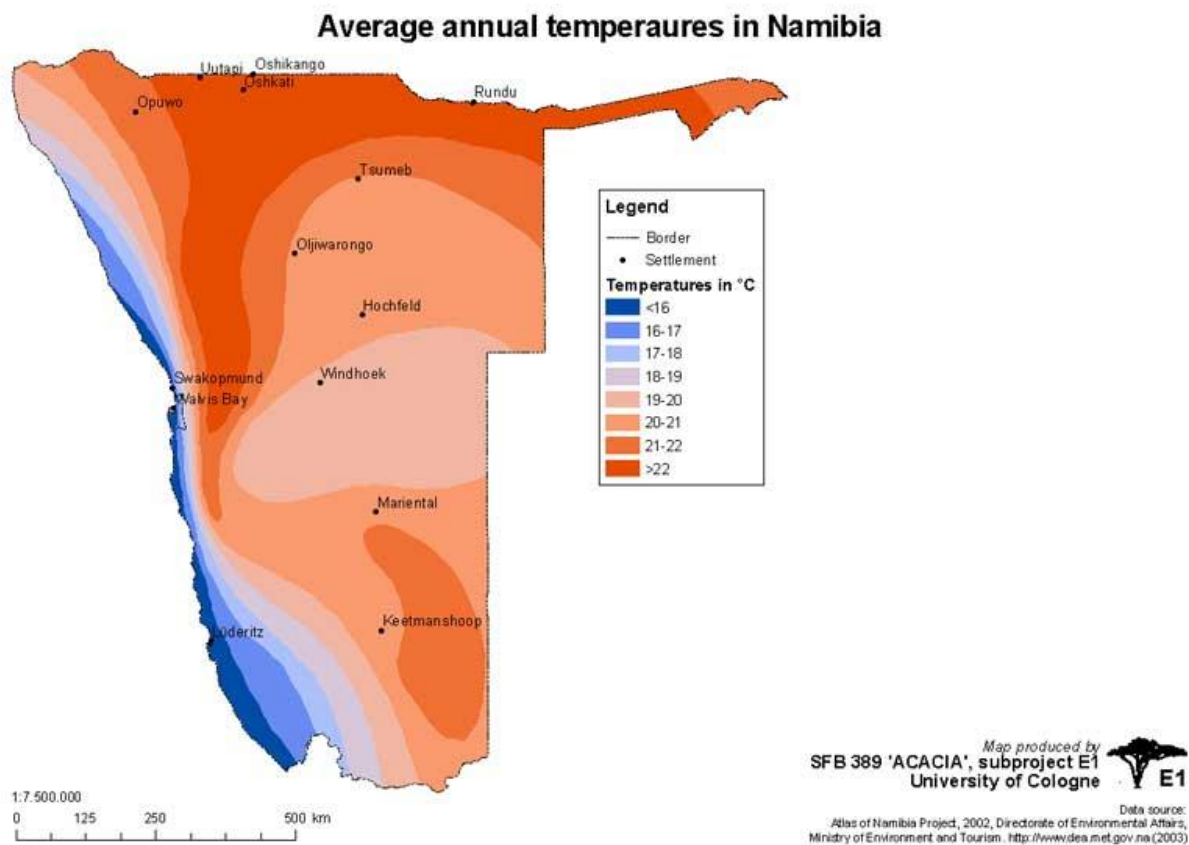
### 3.1.2 Archaeological and Heritage Context

No archaeological and heritage sites are known to be located within the proposed development area.

## 3.2 BIO-PHYSICAL ENVIRONMENT

### 3.2.1 Climate

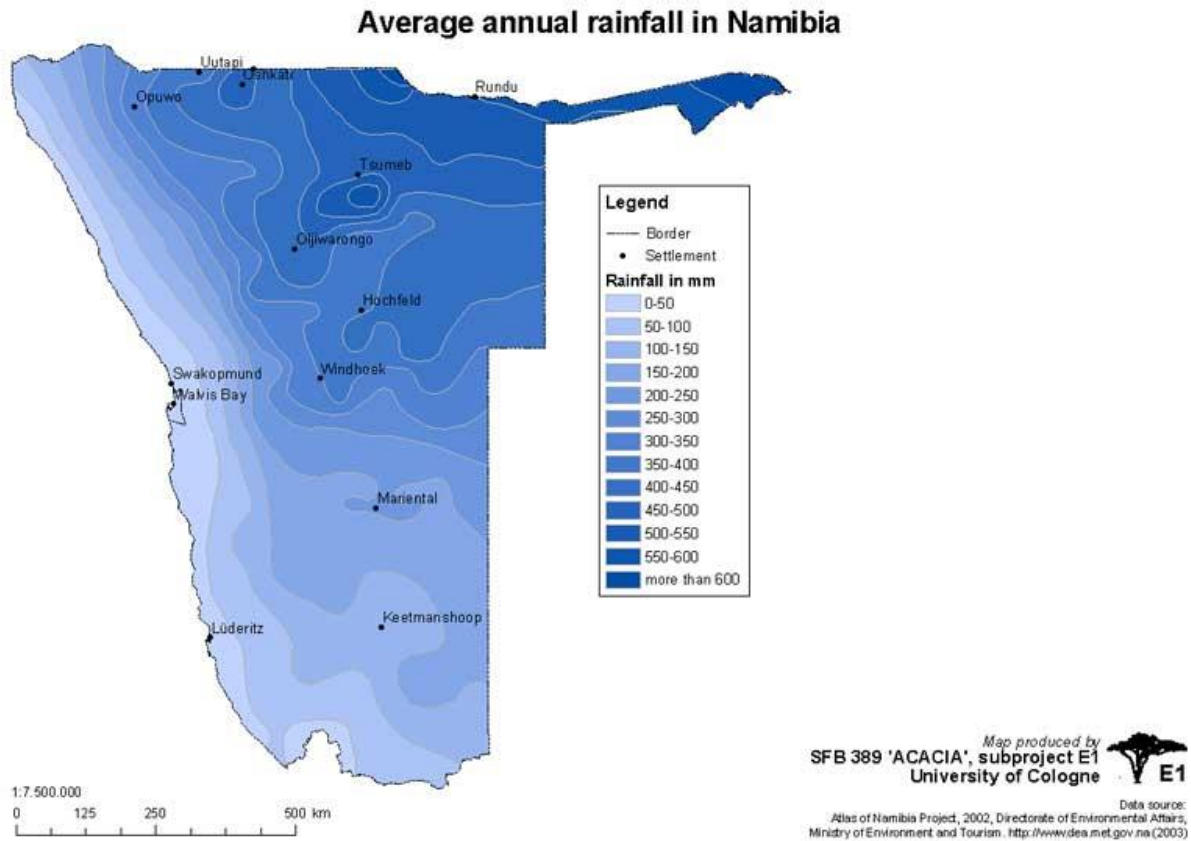
The climate of the subject area can be described as hot semi-arid. Average annual temperatures are usually more than 20 °C, with average maximum temperatures between 32 °C and 34 °C and average minimum temperatures between 20 °C and 22 °C as depicted in **Figure 3** below (Robertson, Jarvis, Mendelsohn, & Swart, 2012).



**Figure 3:** Annual average temperature ([http://www.uni-koeln.de/sfb389/e/e1/download/atlas\\_namibia/e1\\_download\\_climate\\_e.htm#temperature\\_annual](http://www.uni-koeln.de/sfb389/e/e1/download/atlas_namibia/e1_download_climate_e.htm#temperature_annual))

The subject area generally experiences more rainfall than the south and west of the country with an average rainfall of 450 mm to 500 mm as indicated in **Figure 4** below.





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

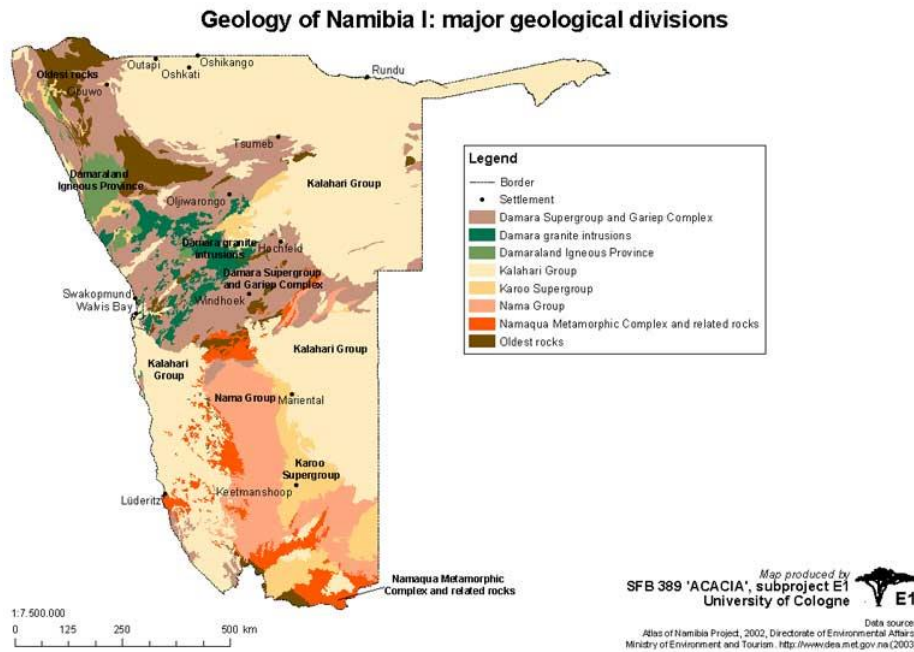
### 3.2.2 Topography, Geology and Soils

The Oshikoto Region forms part of the Kalahari Group Geological division depicted in pale yellow in **Figure 5** below. The dominant soils within the area are mainly sands and clays (Robertson, Jarvis, Mendelsohn, & Swart, 2012).

The general site conditions in terms of the soils can be described to be a defined and sandy but thin sandy top layer which is deposited on top of hardy calcrete. As such the area is suitable for urban development, inclusive of larger building and structures which may be developed within the industrial area.

The sandy soils and the topography of the area largely absorb rains and good run-off is experienced even though the topography is generally very flat. As such the area is not subject to flooding nor is any erosion gully found within the subject area.

However, as the urban areas are developing, and more formal streets having hard surfaces as well as roofs are developed within the area, the peak stormwater run-off increases which will then result in increased stormwater run-off to take place during thunderstorm occurrences. As such the streets were designed in such a way that the speed of stormwater can be controlled within the urban area, the internal street network to function to channel stormwater out of the urban area.

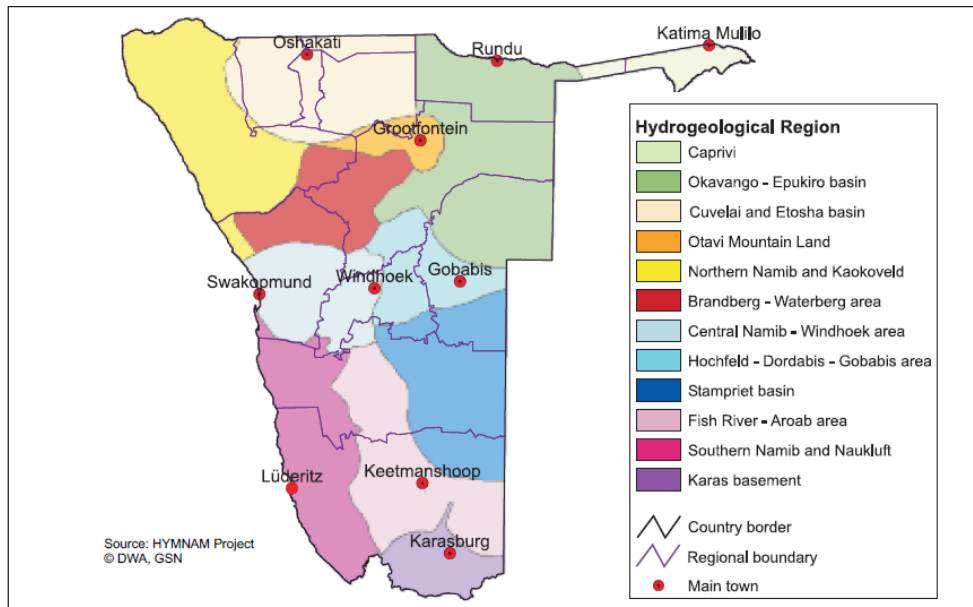


**Figure 5:** Geology of Namibia ([http://www.uni-koeln.de/sfb389/e/e1/download/atlas\\_namibia/pics/physical/geology.jpg](http://www.uni-koeln.de/sfb389/e/e1/download/atlas_namibia/pics/physical/geology.jpg))

### 3.2.3 Hydrology and Hydrogeology

In terms of groundwater, the area falls within the Cuvelai and Etosha groundwater basin as depicted in **Figure 6** below. The hydrogeological Cuvelai Basin comprises the Omusati, Oshana, Ohangwena, and Oshikoto Regions and parts of the Kunene Region. The Cuvelai Basin is the most densely populated areas in the country with most communities living in rural areas largely dependent on agriculture (Ministry of Agriculture Water and Rural Development, 2011).

The Cuvelai Basin consists of thousands of drainage channels or oshanas which flow during the rainy season. The oshanas are “shallow, often vegetated and poorly defined, interconnected flood channels and pans through which surface water flows slowly or may form pools depending on the intensity of the floods (“efundja”)” (Ministry of Agriculture Water and Rural Development, 2011).



**Figure 6:** Groundwater basins and hydrogeological regions in Namibia

The most important features in the region are the Otjikoto lake and the Etosha Pan. Groundwater within the basin flows towards the Etosha Pan, due to the structure of the basin and because the pan, as the deepest point, is the base level of the groundwater flow system. The Namib plain is incised by a few main ephemeral rivers that run seawards from wetter parts of their catchments further inland (Ministry of Agriculture Water and Rural Development, 2011)

### 3.3 TERRESTRIAL ECOLOGY

#### 3.3.1 Flora and Fauna

The good rainfalls in the Oshikoto Region result in a rich biodiversity, especially regarding the flora. More than 500 different plant species are found within the region. Trees commonly found in the area is *Burkea* (*Burkea Africana*), Camel Thorn (*Acacia erioloba*), Makalani Palm (*Hyphaene petersiana*) and Leadwood (*Combretum imberbe*) (Twenty Namibian Trees, 2011).

The local occurring fauna that are expected or known to occur at the site includes domestic animals and small ground burrowing animals, reptiles, and local bird's species (Ministry of Agriculture Water and Rural Development, 2011).

## 4 PROJECT DESCRIPTION

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### 4.1 PROJECT COMPONENTS

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

- **Subdivision of the Farm Omuthiya Townlands No 1013 into Portion A and Remainder.**
- **Alteration of the boundaries of Omuthiya Proper to include 'Portion A' of the Farm Omuthiya Townlands No 1013.**
- **Consolidation of incorporated Portion A of the Farm Omuthiya Townlands No 1013 with Erf 152 Omuthiya Proper into Consolidated Erf X.**
- **Subdivision of Consolidated Erf 'X' into 'Erf B/Consolidated Erf X' and 'RE/Consolidated Erf X' for the establishment of Kaniita Proper and Kaniita Extension 1 respectively.**

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

### 4.2 ALTERNATIVES

Alternatives are defined as: "different means of meeting the general purpose and requirements of the activity" (Environmental Management Act (Act 7 of 2007) of Namibia and its regulations (2012)).

As pointed out in Section 1.4 above various layout alternatives were initially considered by the proponent prior to the commencement of the EA, ultimately resulting in the final layouts. As such the only alternative which will be discussed in this chapter is the no-go alternative.

#### 4.2.1 No – Go Alternative

The no-go alternative is the baseline against which all alternatives are assessed. The no-go alternative would essentially entail maintaining the current situation, whereby the existing land would remain mostly undeveloped. The proposed project would thus not be developed, and the town would not be able to benefit from the proposed development.

### 4.3 THE PROPOSED DEVELOPMENT

Omuthiya is experiencing an increasing in-migration of households from the rural areas in seek of affordable shelter and access to social amenities such as medical, educational and safety and security services offered at the town.

As a result of the accelerated in-migration Omuthiya, as the Regional Seat of the Oshikoto Region, has the responsibility to provide affordable erven through accelerated land delivery which has the aim to avail serviced land to the private and public sectors.

The creation of Kaniita Proper and Kaniita Extension 1 is considered to be desirable as these extensions will provide opportunities within the residential, commercial and industrial sectors while simultaneously availing land for education, institution, recreation and government offerings.

The establishment of Kaniita Proper and Kaniita Extension 1 is further considered to be desirable as:

- a) Most of the properties created within these two new township areas fall under freehold title ownership;
- b) Property owners will be able to use ownership as collateral; and
- c) The job opportunities created within commercial and retail sectors as well as the opportunity to generate and income from renting out of student / lecturer accommodation.

The Omuthiya Town Council aims to re-design the area (formerly) known as Omuthiya Extension 4 to become known as Kaniita Proper and Kaniita Extension 1. The main purpose of the re-design is to increase the number of residential erven by providing residential properties having areas ranging between 301m<sup>2</sup> to 320m<sup>2</sup> as this will enable the Town Council to meet the demand for affordable residential properties at Omuthiya.

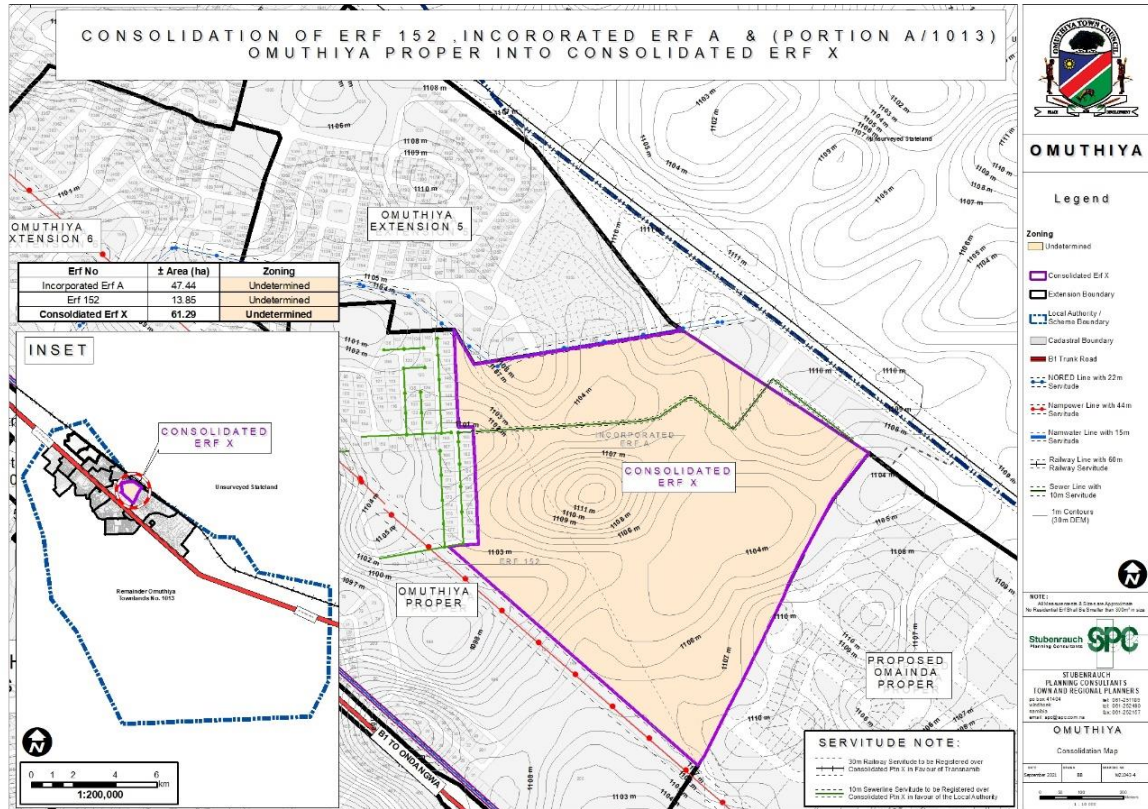
According to the Omuthiya Zoning Scheme both land portions are zoned “Undetermined” and as such are suitably zoned for township establishment purposes.

#### 4.3.1 The Proposed Consolidation

After the incorporation of the newly created portion A, the portion is to be consolidated with Erf 152 Omuthiya Proper to form ‘Consolidated Erf X’. **Table 5 and Figure 7** depicts the creation of consolidated Erf X.

**Table 5:** Creation of Consolidated Erf X

Erf/Portion No.	± Size (m <sup>2</sup> )	Current Zoning
Portion A	47,4363	Undetermined
Erf 152	13.85	Undetermined
Consolidated Erf X	61.29	Undetermined



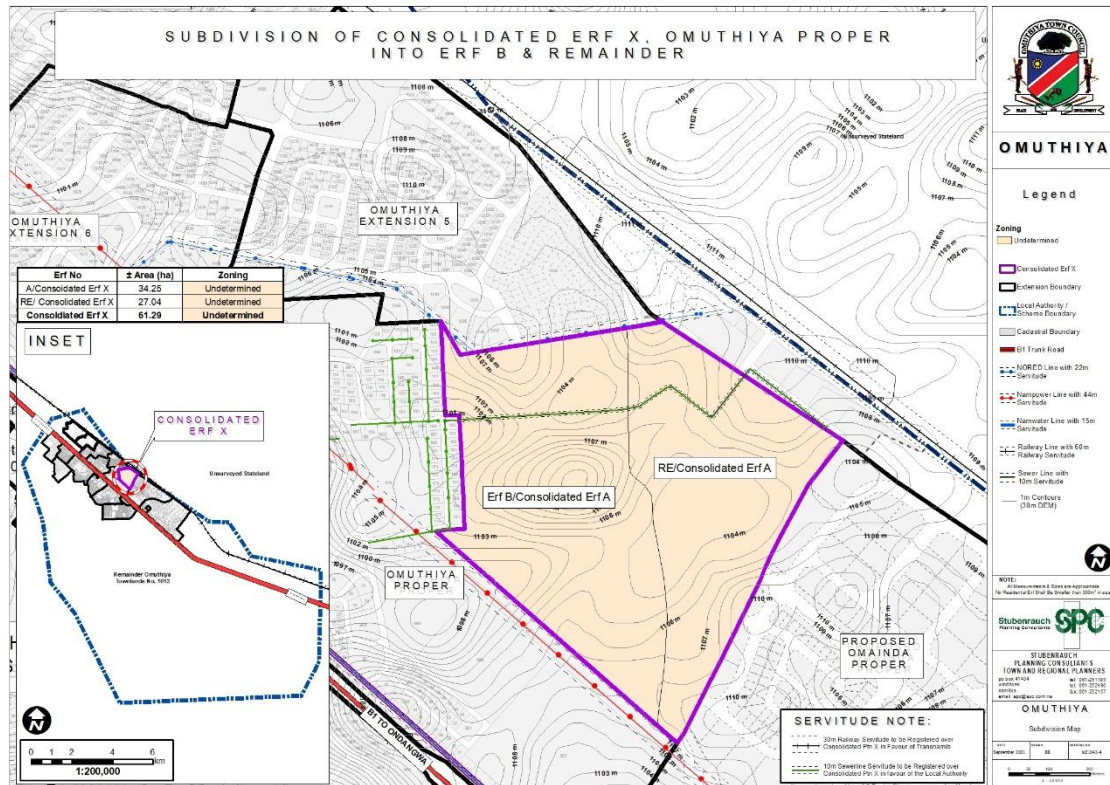
**Figure 7:** Consolidation of Erf 152, Incorporated Erf A and (Portion A/1013) Omuthiya Proper into Consolidated Erf X

#### 4.3.1 Subdivision of the Consolidated Erf X

To be able to establish Kaniita Proper and Kaniita Extension 1 on two separate portions it is necessary to subdivide 'Consolidated Erf X' into the following two portions. **Table 6 and Figure 8** depicts the subdivision of Erf X.

**Table 6:** Subdivision of Consolidated Erf X

Erf No.	± Size (m <sup>2</sup> )	Current Zoning
Erf B/Consolidated Erf X	34,25	Undetermined
RE/Consolidated Erf X	27.04	Undetermined
Consolidated Erf X	61.29	Undetermined



**Figure 8:** Subdivision of Consolidated Erf X, Omuthiya Proper into Erf B and Remainder

#### 4.3.2 Kaniita Proper is to be established on ‘Erf B of Consolidated Erf X’.

The layout prepared for Kaniita Proper is a targeted intervention, hence its predominant residential land use where the residential erven must meet with minimum erf size requirement of 300m<sup>2</sup>. To be able to curb development costs the layout design makes use of a grid pattern layout as this not only results in optimal land use utilization but also is sensitive to land survey and engineering costs, inclusive of the installation of municipal services. In total 297 single residential erven are provided in the extension.

The two homesteads found within the area are accommodated on larger residential erven. Adjacent to each homestead a residential property of at least 500m<sup>2</sup> has been provided for, these properties are to be allocated to the homestead owners as part of the compensation package.

In support of the residential component, and strategically positioned within the residential properties four (4) public open spaces (POS) are provided which are to be developed into neighbourhood / play parks. The linear open space which has been provided for along the western edge of the distributor road not only has the purpose to prevent direct access onto the abutting residential properties and thus increasing traffic safety but are also to serve as landscaped green belts along which pedestrian and cycle routes can be developed over time. As such the non-motorized movement is separated from motorized movement.

On the intersection of the major roads crossing the larger Kaniita area two “Business” erven as well as a “Local Authority” site has been provided. These properties are to encourage the development of small retail outlets as well as for an Open Market / Small Medium Enterprise (SME) development which then is to cater for the daily needs of the surrounding households.

Two properties are reserved for “Institutional” purposes, these are to be used for the development of a church and/or kindergarten. The southern part of the new extension is reserved for “Educational” purposes as this area has been earmarked by the Council as an extension area to the Vocational Training Center (VTC) to be developed within Omuthiya Proper.

The road network of Kaniita Proper is clearly defined, the smaller access roads having a road reserve of 13 meters which feed into 15 meter collector roads which in turn feed into the distributor roads having 25 meter and 30 meter road reserves respectively. The existing sewage line crossing the site from east to west has been accommodated within a street reserve.

The land uses for the proposed Kaniita Proper are depicted on **Table 7 and Figures 9 and 10** below.

**Table 7:** Township establishment and layout approval of Kaniita Proper

Zoning	No of Erven	± Total Area(ha)	% of Total Area
Residential	297	11.01	32.15
Business	2	0.14	0.40
Educational	1	12.61	36.82
Institutional	2	0.48	1.40
Local Authority	1	0.40	1.17
Public Open Space	8	3.48	10.16
Street	1	0.06	0.18
Street	Remainder	6.07	17.72
<b>TOTAL</b>	<b>312 &amp; Remainder</b>	<b>34.25</b>	<b>100.00</b>



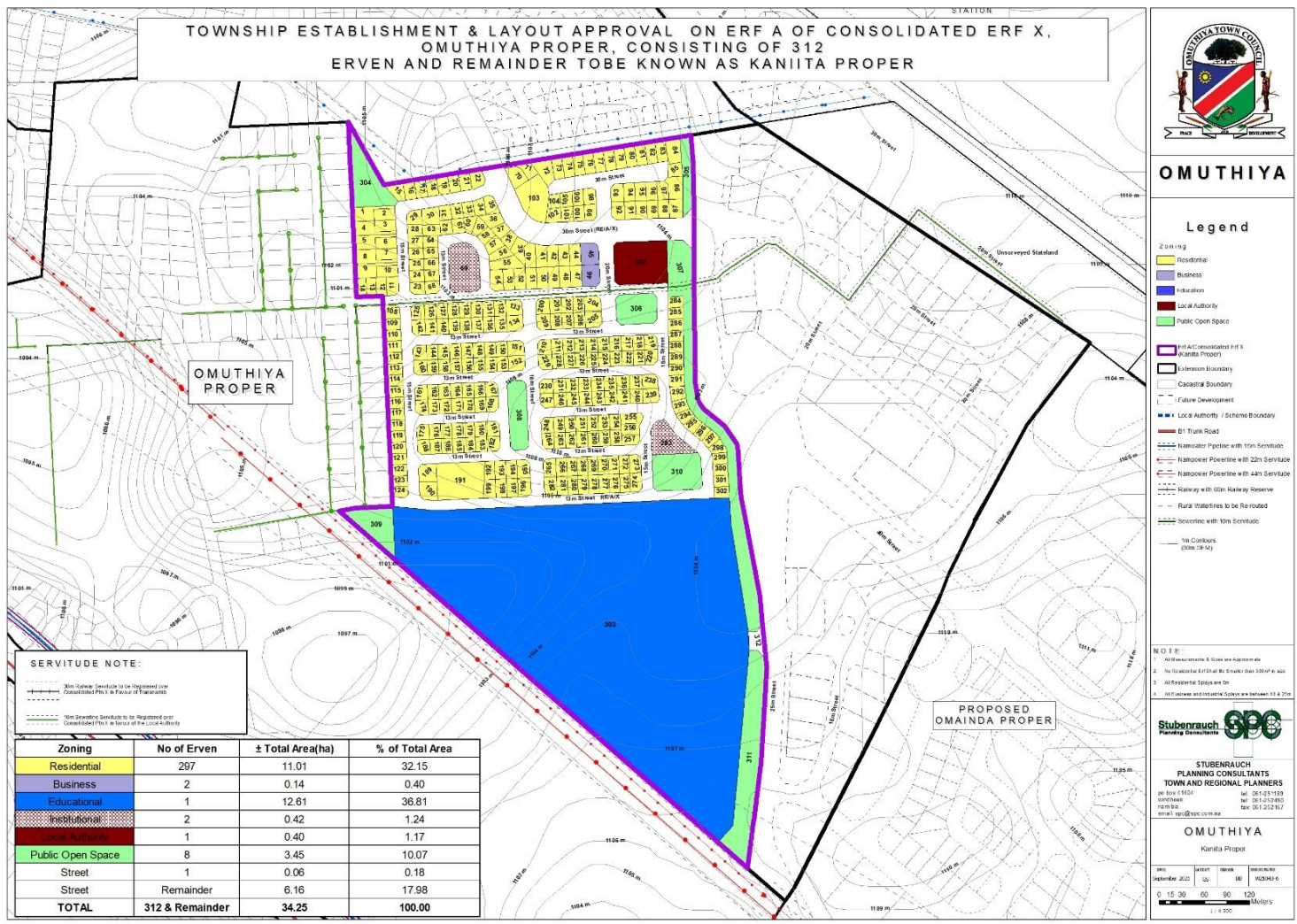
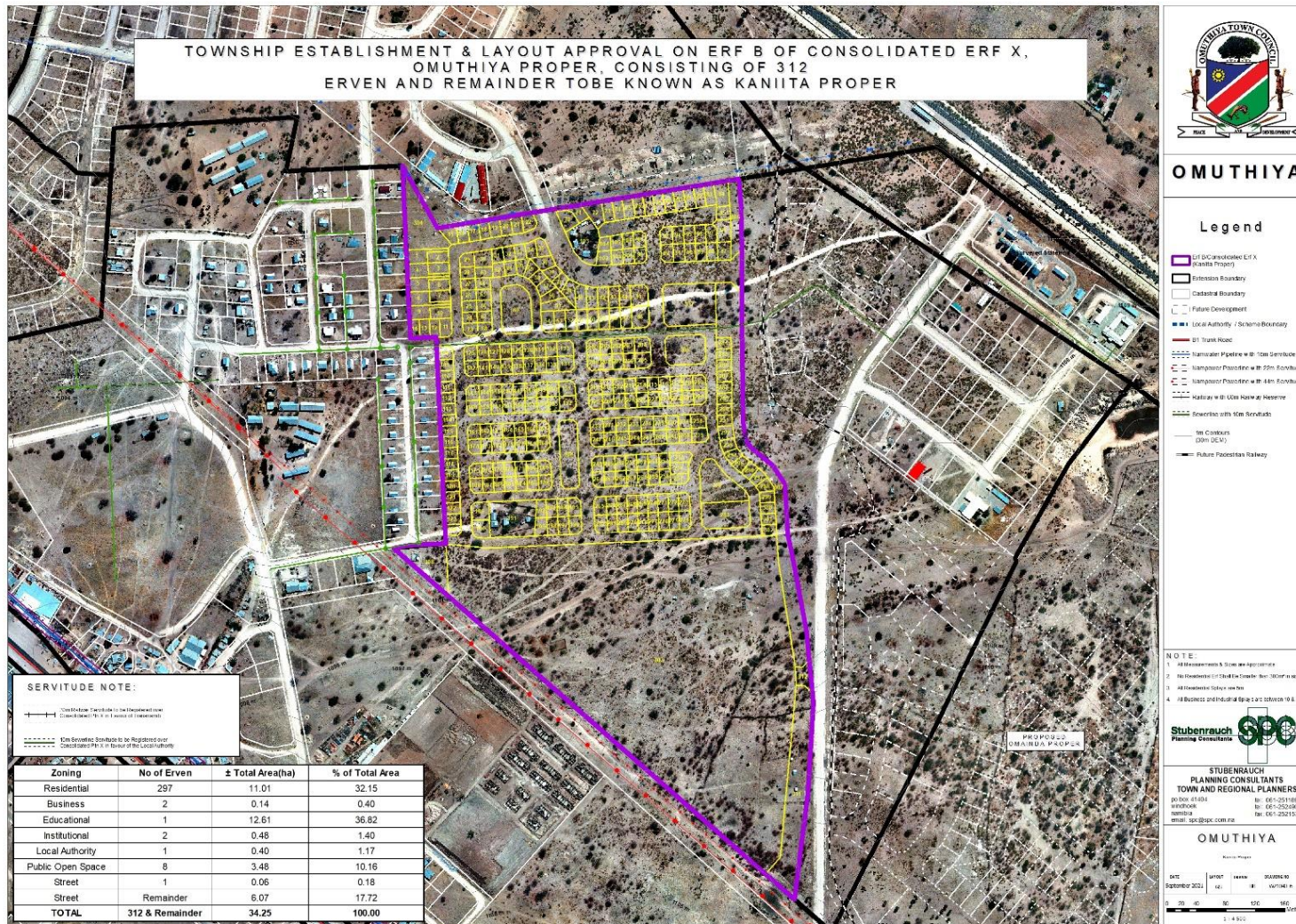


Figure 9: Layout of proposed Kaniita Proper



**Figure 10: Aerial Map of proposed Kaniita Proper**

#### **4.3.3 Kaniita Extension 1 is to be established on ‘the Remainder of Consolidated Erf X’.**

The layout prepared for Kaniita Extension 1 is also a targeted intervention, hence it is predominantly a commercial (business) and industrial township extension.

The road network of Kaniita Extension 1 is clearly defined; the distributor roads which bisect the extension form a major crossing on the central western part of the new extension. This intersection is big enough for the development of a circle which is not only to be a prominent landmark and design feature but also serves the purpose to regulate the traffic flow negotiating the intersection. The street reserves are wide enough and can accommodate dual lane roads, inclusive of a median, traffic islands and landscaping.

The linear green belt on the eastern side of the major traffic route has been provided for as a continuation of the tram or light rail network which can, over time, be developed at Omuthiya. The southern part of the new extension is a planned and designed commercial area where the 13 business erven and the market which is to be erected on the local authority erf is to obtain access from the internal streets as part of a traffic calming intervention. The “Special” zoned erf (Erf 70) is to accommodate a filling station (with pre-determined entrances), inclusive of a forecourt opening into the large turning head which is part of the street serving this node and which can accommodate on-street parking.

The most southern “Special” zoned property (Erf 63) is reserved for the development of a station or then train stop-over which will serve the commercial area and the VTC as well as the nearby residential neighbourhood areas of Kaniita Proper and Omainda Proper.

The ‘Industrial’ node which is formalised within the north-eastern corner of Kaniita Extension 1 has the purpose to accommodate the existing buildings as erected within the planned area (former Extension 4) which has not been formalised. The Council however has already serviced the area, inclusive of building access roads within the planned street reserves. As such the previously planned street reserves and cadastral boundaries are respected by this layout, with the exception of local authority Erf 36 which already addresses the building encroachment of the building erected over two properties.

The north-western part of Extension 1 accommodates light industrial, business and government properties. This activity node is to form part of the larger Station Square area which will provide convenient passenger and goods access to the TransNamib siding which currently is located within the un-surveyed Stateland area to the north-east of GRN owned Farm 1152 where a formal station square will be provided for. This node will then also include a larger site for the development of a tram/railway station which will then connect the municipal public transport system with the national transport network as operated by TransNamib. The light industrial erven are to support and enhance the opportunities to provide rail/road transport related economic trading opportunities.

Erf 24, which is reserved for the Namibian Government accommodates existing structures. Erven 16 and 17 are also reserved for the Namibian Government and can accommodate a satellite police office or any other Government use as may be identified at a later stage.

As also made use of in Kaniita Proper, the linear public open spaces introduced along the main distributor roads serve the purpose to prevent direct access onto the abutting properties from the main roads where high traffic volumes will be experienced over time, thus increasing traffic safety. These green belts are also to serve as landscaped green belts along which pedestrian and cycle routes can be developed over time. As such the non-motorized movement is separated from motorized movement. As depicted on the layout map these green belts also serve the purpose to accommodate any infrastructure as may be required for the (rail or bus) public transport system to be introduced over time and in so doing ensuring that Omuthiya is responsive to the needs of making use of private vehicles and to rather develop a public transport network over time.

The larger POS (Erven 83, 84 and 85) not only serve as place making open spaces but can be developed in such way that they can be used by the workers employed within Kaniita Extension 1. In particular, the POS adjacent to municipal Erf 23 which a SME/formal market should be developed, should be developed into a landscaped park where employees of the industrial area can enjoy refreshments bought at the market. POS Erf 85 is to be developed into a town park which can also include a tram station/stop from where passengers making use of this public transport facility can easily and conveniently access the offering of the mixed-use node by making use of the pedestrian access created between Erven 16 and 20.

Kaniita Extension 1 is supported by a defined road hierarchy where the smaller access roads having a road reserve of 18 meters which feed into 20 metre collector roads which in turn feed into the distributor roads having 25 meter and 40 meter road reserves respectively. These road reserves are wide enough to accommodate movement of heavy vehicles.

The existing sewage line crossing the site from east to west has been accommodated within a public open space and a street reserve. The land uses for the proposed township are depicted on **Table 8 and Figures 11 and 12** below.

**Table 8:** Township establishment and layout approval of Kaniita Extension 1

<b>Zoning</b>	<b>No of Erven</b>	<b>± Total Area(ha)</b>	<b>% of Total Area</b>
Business	20	3.23	11.93
Industrial	40	5.46	20.20
Light Industrial	10	1.56	5.78
Local Authority	3	0.98	3.62
Government	3	1.12	4.14
Special	2	1.03	3.18
Public Open Space	10	2.93	10.84
Street	Remainder	10.73	39.68
<b>TOTAL</b>	<b>88 &amp; Remainder</b>	<b>27.04</b>	<b>100.00</b>

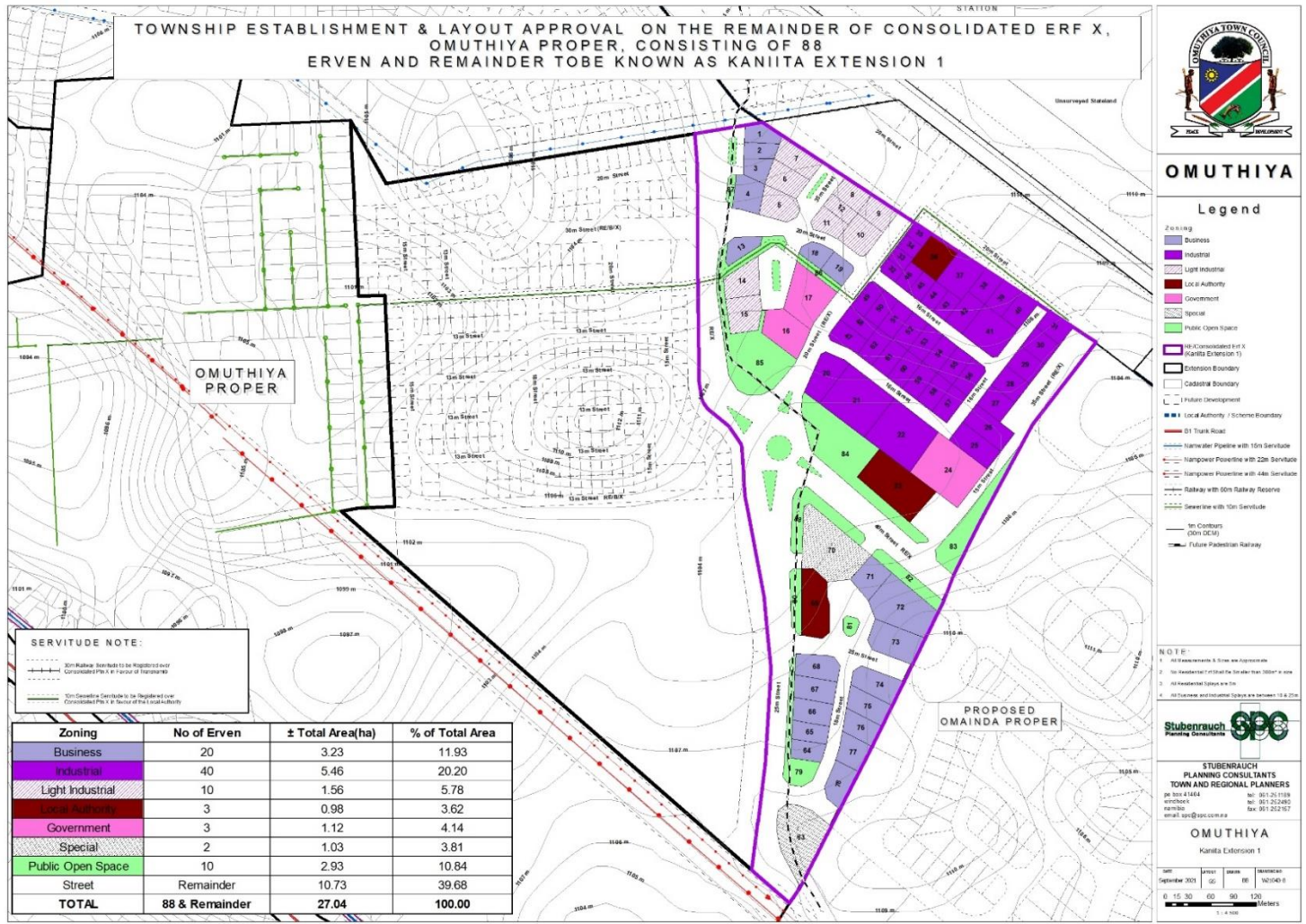
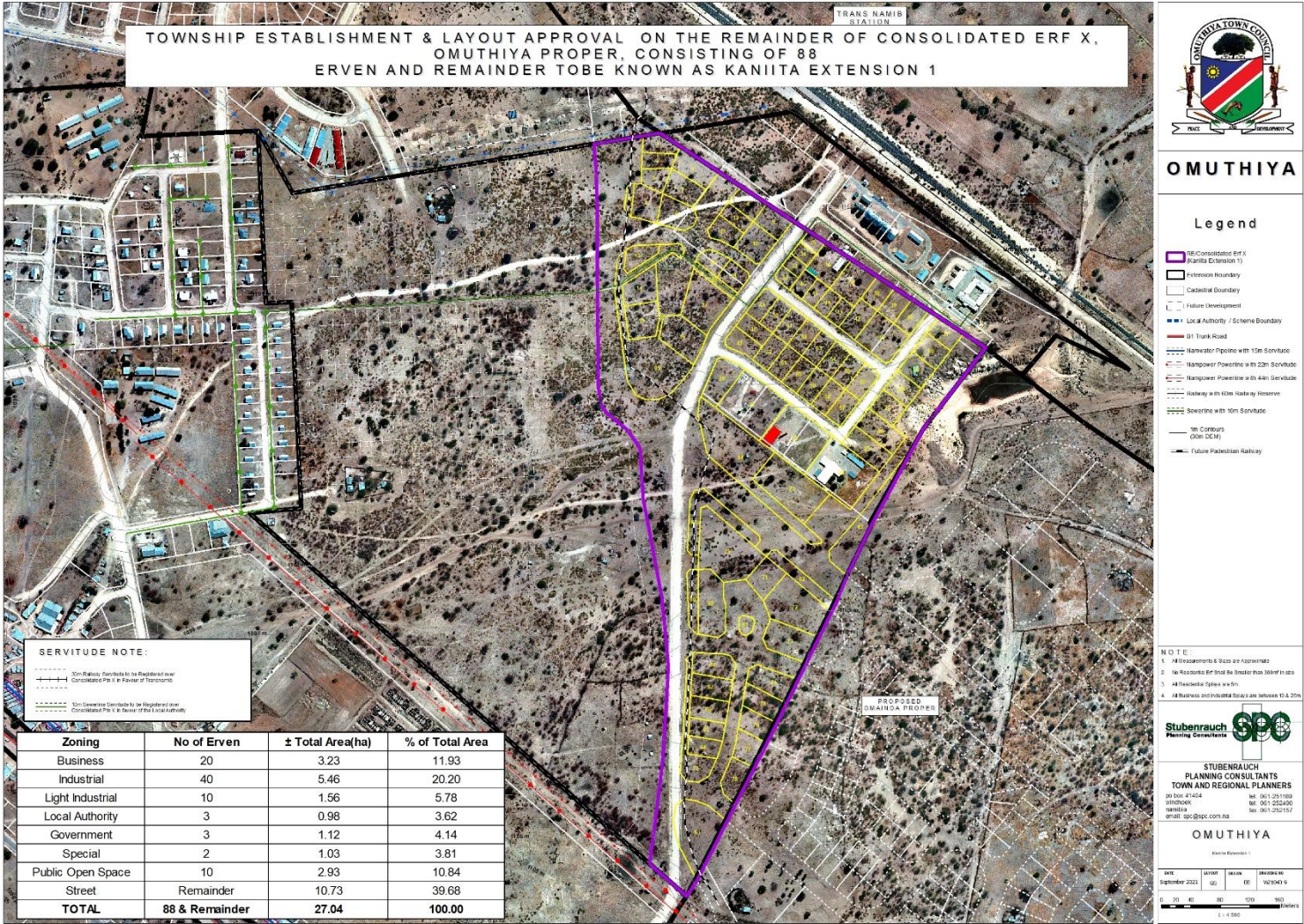


Figure 11: Layout of proposed Kaniita Extension 1



**Figure 12: Aerial Map of proposed Kaniita Extension 1**

## 5 PUBLIC PARTICIPATION PROCESS

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### 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 9** below for the activities undertaken as part of the public participation process. The I&APs were given time to comment from **12 November 2021 to 17 December 2021**.

**Table 9:** Table of Public Participation Activities

ACTIVITY	REMARKS
Placement of site notice/poster in Omuthiya.	See <b>Annexure A</b>
Placing advertisements in two newspapers namely the New Era and the Namibian ( <b>12 November 2021 and 19 November 2021</b> )	See <b>Annexure B</b>
Written notice to surrounding property owners and Interested and Affected Parties via Email ( <b>12 November 2021</b> )	See <b>Annexure C</b>

#### 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 were informed of the availability of the DESR for public comment via a letter/email dated **2 February 2022**. An Executive Summary of the DESR was included in the letters to the registered I&APs. I&APs had until **16 February 2022** 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 10**.

**Table 10:** Impact Assessment Criteria

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

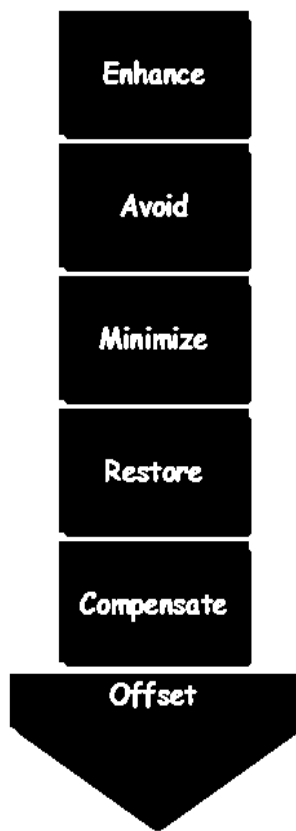
CRITERIA	CATEGORY
	<p><b>Medium:</b> Natural and/or social functions/processes are notably altered in a modified way</p> <p><b>High:</b> Natural and/or social functions/processes are severely altered and may temporarily or permanently cease</p>
<p><b>Probability of occurrence</b> Describe the probability of the Impact <u>actually</u> occurring</p>	<p><b>Improbable:</b> Not at all likely</p> <p><b>Probable:</b> Distinctive possibility</p> <p><b>Highly probable:</b> Most likely to happen</p> <p><b>Definite:</b> Impact will occur regardless of any prevention measures</p>
<p><b>Degree of Confidence in predictions</b> State the degree of confidence in predictions based on availability of information and specialist knowledge</p>	<p><b>Unsure/Low:</b> Little confidence regarding information available (&lt;40%)</p> <p><b>Probable/Med:</b> Moderate confidence regarding information available (40-80%)</p> <p><b>Definite/High:</b> Great confidence regarding information available (&gt;80%)</p>
<p><b>Significance Rating</b> The impact on each component is determined by a combination of the above criteria.</p>	<p><b>Neutral:</b> A potential concern which was found to have no impact when evaluated</p> <p><b>Very low:</b> Impacts will be site specific and temporary with no mitigation necessary.</p> <p><b>Low:</b> 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</p> <p><b>Medium:</b> 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.</p> <p><b>High:</b> 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.</p>

\*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 13** 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.

**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.

**Figure 13:** Mitigation Hierarchy

**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**

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### ***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 MEFT: DEAF for consideration. In turn, MEFT: DEAF'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 existing municipal infrastructure and biodiversity.

#### **7.2.1 Existing Service Infrastructure Impacts**

The sites on which the township establishments are to be provided need to be linked to the municipal engineering infrastructure. As such the local authority needs to appoint a civil engineer for the design and construction of municipal services once the layout plans are approved and the detailed service plans can be drawn up in response to the layout. It should be noted that the properties erected within the north-eastern area of Kaniita Extension 1 are already linked to the municipal infrastructure network of Omuthiya.

### **7.2.2 Flora and Fauna (Biodiversity)**

The sites are mostly undeveloped and thus accommodate trees which are to be protected within the proposed development. The trees located on the subject site should be accommodated in the proposed use for the sites. Trees protected under the Forestry Act 12 of 2001 should be protected within the development and may not be removed without a permit from the local Department of Forestry.

It is anticipated that the proposed development area and associated infrastructure (e.g. water, sewage, access route, etc.) would have localised negative implications on the environment and associated fauna and flora should the proposed mitigation measures as outlined in the EMP be enforced.

## ***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)**

Trees protected under the Forestry Act 12 of 2001 should be protected especially during site clearance for the proposed development. The trees located on the subject site should be accommodated in the layout and proposed use for the area as far as possible. Trees to be protected should be marked with danger tape or paint to ensure that they are not removed during the construction activities.

It is anticipated that the proposed development area and associated infrastructure (e.g. water, sewage, access route, etc.) would have localised negative implications on the environment and associated fauna and flora should the proposed mitigation measures as outlined in the EMP be enforced.

### **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 minimised 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 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-ECONOMIC 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.

### **7.4.2 Health, Safety and Security Impacts**

Working conditions on site need to ensure that the health and safety of construction workers are ensured at all times. The use of local labour during construction is strongly encouraged so as to reduce the need for migrant workforce. Health and Safety requirements need to comply with the Labour Act No. 11 of 2007, local and international health and safety legislation and standards during construction.

### **7.4.3 Traffic Impacts**

Traffic is expected to increase slightly 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, but 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 Impacts

The area is currently mostly undeveloped as such there may thus be a change in visual characteristics of the site once it becomes developed. The extent of this disturbance will depend on how highly the Interested and Affected Parties (I&APs) valued the initial aesthetic quality of the site. The change in sense of place is not expected to be significant as the proposed land use for the subject areas are in line with the surrounding land uses of the area.

### 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, which is mostly Residential, 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 Social Impacts

A small number of residents from Omuthiya could benefit from employment during construction. The proposed development additionally will make available additional erven to address the backlog of housing experienced in the town.

## 7.6 CUMULATIVE IMPACTS

The cumulative impact of the proposed developments in regard to 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.

## 7.7 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 and decommissioning phases of the project to ensure that negative impacts associated with the development are avoided or mitigated.

## **7.8 SUMMARY OF POTENTIAL IMPACTS**

A summary of all the potential impacts from the proposed project assessed above is included in **Table 11**. The **Tables 12– 14** 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 11:** 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
<b>PLANNING AND DESIGN PHASE</b>										
<b>1. Existing Service Infrastructure</b>	Kaniita	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
<b>2. Biodiversity (Fauna and Flora)</b>	Kaniita	No mitigation	Local	Medium	Short term	Medium	Probable	Certain	Reversible	Medium (-ve)
		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
<b>CONSTRUCTION PHASE</b>										
<b>3. Biodiversity (Fauna and Flora)</b>	Kaniita	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
<b>4. Surface &amp; ground water</b>	Kaniita	No mitigation	Local	Medium	Short term	Medium	Probable	Certain	Reversible	Medium (-ve)
		Mitigation	Local	Low	Short 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
	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	Kaniita	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	Kaniita	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	Kaniita	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	Kaniita	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

Description of potential impact	Project alternative	No mitigation / mitigation	Extent	Magnitude	Duration	Significance	Probability	Confidence	Reversibility	Cumulative impact
<b>9. Noise impacts</b>	Kaniita	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
<b>10. Emissions impacts</b>	Kaniita	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
<b>11. Municipal services</b>	Kaniita	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
<b>12. Waste</b>	Kaniita	No mitigation	Local	Low	Short term	Medium	Probable	Certain	Reversible	Low (-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

Description of potential impact	Project alternative	No mitigation / mitigation	Extent	Magnitude	Duration	Significance	Probability	Confidence	Reversibility	Cumulative impact
<b>13. Hazardous Substances</b>	Kaniita	No mitigation	Local	Low	Short term	Medium	Probable	Certain	Reversible	Low (-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
<b>OPERATIONAL PHASE</b>										
<b>1. Visual &amp; sense of place</b>	Kaniita	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
<b>2. Noise</b>	Kaniita	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
<b>3. Emissions</b>	Kaniita	No mitigation	Local	Medium-Low	Medium term	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	Very 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
<b>4. Social impact</b>	Kaniita	No mitigation	Local	Medium	Long term	Medium (+)	Probable	Probable	Reversible	Medium (+)
		Mitigation	Local	Medium	Long term	Low (+)	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 12:** Proposed mitigation measures for the planning and design phase

PLANNING AND DESIGN PHASE	
Impact	Mitigation Measures
<b>Flora and Fauna (Biodiversity)</b>	<ul style="list-style-type: none"> <li>• Incorporate existing trees within the intended use for the erf.</li> <li>• Protected trees are not to be removed without a valid permit from the local Department of Forestry</li> </ul>

**Table 13:** Proposed mitigation measures for the construction phase

CONSTRUCTION PHASE IMPACTS	
Impact	Mitigation Measures
<b>Flora and Fauna</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Prevent the destruction of protected and endemic plant species.</li> <li>• Prevent contractors from collecting wood, veld food, etc. during the construction phase.</li> <li>• 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.</li> <li>• The plants that are to be kept should be clearly marked with “danger tape” to prevent accidental removal or damage. Regular inspection of the marking tool should be carried out.</li> <li>• Recommend the planting of local indigenous species of flora as part of the landscaping as these species would require less maintenance than exotic species.</li> <li>• Transplant removed plants where possible, or plant new plants in lieu of those that have been removed.</li> <li>• Protected trees are not to be removed without a valid permit from the local Department of Forestry.</li> </ul>
<b>Surface and Ground</b>	



<b>CONSTRUCTION PHASE IMPACTS</b>	
<b>Impact</b>	<b>Mitigation Measures</b>
<b>Water Impacts</b>	<ul style="list-style-type: none"> <li>• No dumping of waste products of any kind in or in close proximity to surface water bodies.</li> <li>• 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.</li> <li>• Ensure that oil/ fuel spillages from construction vehicles and machinery are minimised and that where these occur, that they are appropriately dealt with.</li> <li>• Drip trays must be placed underneath construction vehicles when not in use to contain all oil that might be leaking from these vehicles.</li> <li>• Contaminated runoff from the construction sites should be prevented from entering the surface and ground water bodies.</li> <li>• All materials on the construction site should be properly stored.</li> <li>• Disposal of waste from the sites should be properly managed and taken to the designated landfill site.</li> <li>• Construction workers should be given ablution facilities at the construction sites that are located at least <b>30 m</b> away from any surface water and regularly serviced.</li> <li>• 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.</li> </ul>
<b>Soil Erosion</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Appropriate erosion control structures must be put in place where soil may be prone to erosion.</li> <li>• Checks must be carried out at regular intervals to identify areas where erosion is occurring.</li> <li>• Appropriate remedial actions are to be undertaken wherever erosion is evident.</li> </ul>
<b>Heritage</b>	<ul style="list-style-type: none"> <li>• The project management should be made aware of the provisions of the National Heritage Act regarding the prompt reporting of archaeological finds.</li> </ul>

<b>CONSTRUCTION PHASE IMPACTS</b>	
<b>Impact</b>	<b>Mitigation Measures</b>
	<ul style="list-style-type: none"> <li>• In the event of such finds, construction must stop, and the project management or contractors should notify the National Heritage Council of Namibia immediately.</li> </ul>
<b>Health, Safety and Security</b>	<ul style="list-style-type: none"> <li>• Construction personnel should not overnight at the site, except the security personnel.</li> <li>• Ensure that all construction personnel are properly trained depending on the nature of their work.</li> <li>• Provide for a first aid kit and a properly trained person to apply first aid when necessary.</li> <li>• Restrict unauthorised access to the site and implement access control measures.</li> <li>• Clearly demarcate the construction site boundaries along with signage of “no unauthorised access”.</li> <li>• Clearly demarcate dangerous areas and no-go areas on site.</li> <li>• Staff and visitors to the site must be fully aware of all health and safety measures and emergency procedures.</li> <li>• The contractor must comply with all applicable occupational health and safety requirements.</li> <li>• The workforce should be provided with all necessary Personal Protective Equipment where appropriate.</li> </ul>
<b>Traffic</b>	<ul style="list-style-type: none"> <li>• Limit and control the number of access points to the site.</li> <li>• Ensure that road junctions have good sightlines.</li> <li>• Construction vehicles’ need to be in a road worthy condition and maintained throughout the construction phase.</li> <li>• Transport the materials in the least number of trips as possible.</li> <li>• Adhere to the speed limit.</li> <li>• Implement traffic control measures where necessary.</li> </ul>
<b>Noise</b>	<ul style="list-style-type: none"> <li>• No amplified music should be allowed on site.</li> <li>• Inform immediate neighbours of construction activities to commence prior to commencing and provide for continuous communication between the neighbours and contractor.</li> <li>• Limit construction times to acceptable daylight hours.</li> <li>• Install technology such as silencers on construction machinery as needed.</li> </ul>

<b>CONSTRUCTION PHASE IMPACTS</b>	
<b>Impact</b>	<b>Mitigation Measures</b>
	<ul style="list-style-type: none"> <li>Do not allow the use of horns as a general communication tool but use it only where necessary as a safety measure.</li> </ul>
<b>Dust and Emission</b>	<ul style="list-style-type: none"> <li>It is recommended that dust suppressants such as Dustex be applied to all the construction clearing activities where required to ensure at least 50% control efficiency on all the unpaved roads and reduce water usage.</li> <li>Construction vehicles to only use designated roads.</li> <li>During high wind conditions the contractor must make the decision to cease works until the wind has calmed down.</li> <li>Cover any stockpiles with plastic to minimise windblown dust.</li> <li>Provide workers with dust masks where necessary.</li> </ul>
<b>Waste</b>	<ul style="list-style-type: none"> <li>It is recommended that waste from the temporary toilets be disposed of at an approved Wastewater Treatment Works.</li> <li>A sufficient number of waste bins should be placed around the site for the soft refuse.</li> <li>A sufficient number of skip containers for the heavy waste and rubble should be provided for around the site.</li> <li>Solid waste will be collected and disposed of at an appropriate local landfill or an alternative approved site, in consultation with the local authority.</li> </ul>
<b>Hazardous Substances</b>	<ul style="list-style-type: none"> <li>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.</li> <li>Refuel vehicles in designated areas that have a protective surface covering and utilise drip trays for stationary plant.</li> </ul>

**Table 14:** Proposed mitigation measures for the operational phase

<b>OPERATIONAL PHASE IMPACTS</b>	
<b>Impact</b>	<b>Mitigation Measures</b>
<b>Visual and Sense of Place</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• Visual pollutants can further be prevented through mitigations (i.e. keep existing trees, introduce tall indigenous trees; keep structures unpainted and minimizing large advertising billboards).</li> </ul>
<b>Noise</b>	<ul style="list-style-type: none"> <li>• Do not allow commercial activities that generate excessive noise levels.</li> <li>• Continuous monitoring of noise levels should be conducted to make sure the noise levels does not exceed acceptable limits.</li> <li>• No activity having a potential noise impact should be allowed after 18:00 hours if possible.</li> </ul>
<b>Emissions</b>	<ul style="list-style-type: none"> <li>• Consider tarring of the internal road network.</li> <li>• Manage activities that generate emissions.</li> </ul>
<b>Social Impacts</b>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>

## 8 CONCLUSION

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

### 8.1 PLANNING AND DESIGN PHASE IMPACTS

With reference to **Table 11**, none of the negative planning and design 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 planning and design phase impacts is likely to be reduced to a **Low (negative)**.

### 8.2 CONSTRUCTION PHASE IMPACTS

With reference to **Table 11**, 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)**.

### 8.3 OPERATIONAL PHASE

With reference to **Table 11**, 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 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 operational phase impacts is likely to be reduced to a **Low (negative)**. The social impact was assessed to have **Medium (positive)** impact associated with possible job opportunities during construction and operation.

### 8.4 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 MEFT: DEAF 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.

### **8.5 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 MEFT: DEAF could be enforced as Conditions of Approval in the Environmental Authorisation, should MEFT: DEAF issue a positive Environmental Authorisation.

### **8.6 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 mostly vacant and undeveloped. This would result in no additional erven being developed. None of the positive or negative impacts from the proposed development would be realized.

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.

### **8.7 WAY FORWARD**

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

## 9 REFERENCES

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