

ENVIRONMENTAL & SOCIAL IMPACT ASSESSMENT (ESIA) REPORT

PROPOSED TOWNSHIP ESTABLISHMENT – REZONING FROM UNDETERMINED TO RESIDENTIAL PORTION A OF OMUNGWELUME SETTLEMENT LAND, OHANGWENA REGION, NAMIBIA

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ABBREVIATION OF TERMS USED

– BID	Background Information Document
– CV	Curriculum Vitae
– DEA	Department of Environmental Affairs
– EA	Environmental Assessment
– ECC	Environmental Clearance Certificate
– EIA	Environmental Impact Assessment
– EMP /S	Environmental Management Plan / Statement
– GG	Government Gazette
– GN	Government Notice
– ha	Hectare
– HIV	Human Immunodeficiency Virus
– NMT	non-motorised transport

EXECUTIVE SUMMARY

I. INTRODUCTION

The Tuyakula Saving Group (Shack Dweller Federation of Namibia), hereafter referred to as the Proponent, is of the intention to establish a township on portion A of the Remainder of the Settlement land in Ongenga Constituency, Ohangwena Region. The Settlement has a series of challenges that need to be approached in a structured way over the short to medium term to enable the development of a successful town over the long term and these include:

- The need to consolidate the settlement and make '**one town**'.
- The need to absorb more residents, but this may have difficulties with surrounding land ownership issues, resulting in the need to densify.
- The need to improve the public environment to create parity between the public environment
- The provision of good quality low income housing.
- General improvements to public open space.
- The need for more industrial opportunities

The following policies are seen as fundamental to the long term development of the Okalongo Settlement:

- **Integration** - Towards one town / settlement.
- **Consolidation** - Making the most of the existing settlement
- **Densification** - Reducing urban sprawl by encouraging greater densities in central areas
- **Expansion** - Managing spatial growth with the separation of land provision for industry and for living.
- **Spatial Quality** - Improving the quality of public space & connectivity of public space.
- **Improving circulation** - For the vehicle, pedestrian & cyclist.
- Working towards social upliftment by getting away with shacks / *Ghettos / Kambashoes*.

There is a vast difference in the quality of the built environment between the lower income, higher density neighbourhoods and the higher income lower density neighbourhoods. As such, the municipality is working towards:

- The provision of good quality low income housing.
- Improvements to public open space.
- Meeting the town's infrastructure requirements.
- Creating neighbourhoods of sufficient density.
- Providing enough space for urban expansion.
- Improving the town's entrances

Each of these structural problems is being addressed gradually. But in order to resolve these issues, the following policies are seen as fundamental to the long term development of the town.

POLICY	DESCRIPTION
– Integration	Towards one town
– Consolidation	Making the most of the existing town
– Densification	Reducing urban sprawl by encouraging greater densities in central areas
– Expansion	Managing spatial growth through land provision for industrial and residential purposes.
– Spatial Quality	Improving the quality of public space & connectivity of public space
– Improving circulation	For the vehicles, pedestrians and cyclists.
Working towards social upliftment.	

This Environmental and Social Impact Assessment (ESIA) Report was prepared following the assessment of the proposed development entails provision for

The proposed township establishment covers approximately 14,000 Square Meter, 45 Erven and thus its development will trigger negative impacts on the environment. Omungwelum settlement has residential areas, primary and secondary schools, a police station, a clinic and various business outlets.

Omungwelum is situated approximately 36.3 km north east of the town of Oshakati alongside the route leading to Ongenga – Okalongo Road. Omungwelum was planned around the business, Government and Institutional node. The node consists mainly of a school, police station, health facilities, public offices and the business complex.

The rest of Omungwelum is made up of residential erven in a grid like layout. Omungwelum is currently administered as a settlement of the Ohangwena Regional Council.

A small agriculture development forming part of the Traditional Homestead livelihood having the potential to be expanded and to be developed as a major employment provider for the local community living at Omungwelum.

Overall, there are no significant environmental and social impacts predicted should the development take place as it falls under the Ohangwena Regional Council. However, efforts were made to address especially socio-environmental issues likely to be instigated by the whole project.

The proposed development calls for an EIA Process, and as such, the purpose of this study is to identify the direct and indirect impacts that the development will have on the natural resources, eco-system, and the socio- economic dimensions of the neighbouring communities and populations.

It should be noted that this whole process was carried out in accordance with the Namibian Environmental Management Act (No. 7 of 2007) and its Regulations and Section 50 of the Local Authorities Act of 1992, Act 23 of 1992, as amended.

II. PROJECT OBJECTIVES AND OUTPUTS

The overall objective of the township development is to support Ohangwena Regional Council's urbanization process by delivering basic services that will improve living conditions and promote local economic development. The project calls for socially equitable development and ensuring of environmental integrity in all urban infrastructure developments. Additional overall urban development guiding principles to be followed in preparing this project are:

- (a) designs which will encourage densification of the town, resulting in reduced urban infrastructure and services costs,
- (b) local economic development must also be taken into consideration in the dialogue with the cities as to investment options, and
- (c) Using social inclusive growth as a major criteria
- (d) Curbing social ills – illicit sexual activities, drug and alcohol abuses, graffiti, open urination and defecation

III. PROJECT MOTIVATION

Ohangwena Regional Council has put in place a strategy for Urban Development to mitigate effects and take advantages of opportunities by envisaged increase in the number of people migrating from rural

areas to urban centres in search of employment or economic and social opportunities. The identified project is one of the projects put together as a means of achieving the objectives of the Urban Development Strategy.

IV. KEY FINDINGS

The proposed project was generally viewed positively by communities; and the implementation and operationalization of the proposed project was viewed and assessed by beneficiary citizens as having the following benefits:

- Improved and modern town connectivity, accessibility and infrastructure;
- improved health and sanitation;
- Social cohesion and engagement; and
- Economic opportunities
- Improved safety, security for local residents and home owners

It can be deduced and reasoned from an environmental and development perspective that the whole project has no risk or impact to any physical cultural sites, natural habitats, forests, ecologically sensitive areas, and other socially important facilities and sites such as health centres, graveyards or community social centres. Most importantly, it will not affect any individual properties bordering the identified site.

The short and relatively narrow nature of the proposed project is concentrated on a very small piece of land, and all construction efforts will call for use of medium machinery and manpower.

Anticipated Environmental and Social Risks:

The project has been extensively to have non-serious environmental and social impacts. No one – person and property - will be displaced or affected by the activity.

Some of the key environmental and social impacts identified are as follows:

Table 1: Anticipated Environmental and Social Risks

IMPACT	DESCRIPTION
– Noise and Dust Pollution	Local Construction efforts will increase ambient noise and slightly decrease air quality through dust. Noise and dust will lead to increased irritation especially in the directly affected communities especially pedestrians who had been temporarily using the identified piece of land for some time now, which may cause social distress, reaction against the project.
– Informal Access “Restrictions” to Services and Developments	The development will play very important but informal socioeconomic role in the communities - providing a variety of services such as access to socioeconomic services and facilities like schools, clinic, and even markets. The Environmental (and Social) Management Plan (EMP) will include explicit details for mitigating the impacts caused by this restricted access.
– Population Influx	The creation of employment opportunities may also result in a population influx into the area in search of possible opportunities, contributing to existing ongoing population expansion in the project areas. Construction teams that are constituted from people not from the project area have potential to create social tensions and cause disruption though at a very low level.
– Conflict Potential	The permanent site closure was assessed not to create any conflict as it was welcomed enthusiastically by all Interested and Affected Parties. Care

	was taken to ensure that the Grievance Redress Mechanism is well understood by all citizens, especially those directly affected by the implementation of the project.
– Increase in Traffic and Safety Hazards	The residential unit’s development will positively lead to a significant increase in human traffic along designated roads and access roads. Concentrated and guided increased human traffic will lead to deterioration of these access routes and the creation of dust. Details for management of impacts of increased traffic during the operational phase of the subprojects are articulated within the ESMP
– Social-Environmental Linkages	During the implementation of the project, no anticipated resultant environmental degradation is likely to hit hardest any population segment.

Other direct negative impacts will include:

- Wind erosion;
- Scouring of the landscape due to opening of borrow pits;
- Dust emissions,
- noise and vibrations during construction;

- **Institutional Capacity for implementing agencies**

The ESIA assessed institutional capacity found that necessary provisions have been made to ensure smooth implementation of all key issues raised in preparation of the project including taking on board environmental and social safeguards.

- **Access to Information for All**

There should be a policy outlining a clear process for making information publicly available and providing a right to appeal if information-seekers believe they were improperly or unreasonably denied access to information or if there is a public interest case to override an exception that restricts access to certain information.

V. LEGAL REQUIREMENTS

In terms of Section 58 of this Act , the Environmental Management Act came into force on the 6th of February 2012, as determined by the Minister of Environment and Tourism (Government Notice No. 28 of 2012).

Under Section 56 of the Environmental Management Act, 2007 (Act No.7 of 2007), the Minister has made the regulations for **Environmental Impact Assessment** as set out in the Schedule of Government Notice No. 30 (2012). These regulations require that all projects, plans, programmes and policies that have a detrimental effect on the environment must be accompanied by an EIA. Under Section 27 of the Environmental Management Act, 2007 (Act No. 7 of 2007), and after following the consultative process referred to in section 44 of that Act, the Minister lists in the Annexure to the above mentioned Schedule, activities that may not be undertaken without an Environmental Clearance Certificate (Government Notice No. 29 of 2012).

The most important provisions in terms of guiding this Environmental Assessment process are those contained in the Town Planning, Road and Townships and Division of Land Ordinances, the Water and the Forestry Acts.

The proposed developments will likely have minimal impact on sensitive aspects of the receiving environment, both biophysical and socio-economic.

VI. PUBLIC CONSULTATION / STAKEHOLDER ENGAGEMENT

Public participation was carried out in accordance with the EIA Regulations. Various I&APs at local level will be identified and their input solicited. Namlands Consultants CC emphasized and utilized the Human Rights Based Approach to Programming (HRBAP) in this regard.

Electronic and print media were fully utilized in communicating with the communities and stakeholders. The New Era Newspaper, which is widely read and circulated in Omaheke Region (and nationally) – was fully utilized on 4 November 2017. Online adverts / notices were placed on the Ohangwena Regional Council's Notice Boards. Posters of all sizes ranging from A1, 2, 3 and 4 were distributed and pasted on strategic points in Ohangwena and its immediate environs like Supermarkets, Notice Boards, Service Stations, Churches, and Business Incubation Centers. Bulk emailing and messaging was the other method used to communicate with I &APs.

VII. IMPACT ASSESSMENT

The issues identified by Namlands Consultants CC and along with those identified during the Public Consultation Process were assessed using a range of assessment criteria. The application of these criteria involved a balanced consideration of duration, extent, and intensity/magnitude, modified by probability, cumulative effects, and confidence in order to determine significance. Mitigation measures were outlined for each identified impact.

VIII. CONCLUSIONS AND RECOMMENDATIONS

Considering the fact that the Ohangwena Regional Council is experiencing housing shortages, this is a noble development. The development will help bring sanity and enhance the environmental aesthetics associated with the development. No negative social, economic or environmental activities are likely to be experienced on the identified piece of land. It is therefore highly and developmentally recommended that an Environmental Clearance (ECC) be issued by the Competent Authority, which is the Ministry of Environment and Tourism (MET), provided the recommendations included in this report and the EMP are religiously implemented.

1. BACKGROUND

1.1 INTRODUCTION

Omungwelume is situated approximately 36.3 km north east of the town of Oshakati alongside the route leading to Ongenga – Okalongo Road. Omungwelume was planned around the business, Government and Institutional node. The node consists mainly of a school, police station, health facilities, public offices and the business complex.

The proposed development is an indication of various developments planned for Ohangwena Region. This development is one of a suite of the town planning instruments used for future spatial planning.

As per the Environmental Management Act (7 of 2007), identified project cannot take place without an Environmental Scoping exercise having been completed and Environmental Clearance Certificate issued from the Directorate of Environmental Affairs (MET).

Namland Consultants CC has been duly appointed by Shake Dwellers Federation of Namibia to conduct an Environmental Scoping exercise and develop Environmental Management (& Monitoring) Plan (EMP) for the proposed development. The Consultants boast of relevant experience and exposure with regards executing Environmental Impact Assessment projects at national, regional and international stages.

Simply defined, an EIA is a systematic process to identify, predict and evaluate the environmental effects of proposed actions and projects. This process is applied prior to major decisions and commitments being made. A broad definition of environment is adopted. Whenever appropriate, social, cultural and health effects are considered as an integral part of EIA. Particular attention is given in EIA practice to preventing, mitigating and offsetting these significant adverse effects of proposed undertakings.

The purpose of EIA is to:

- provide information for decision-making on the environmental consequences of proposed actions; and
- Promote environmentally sound and **sustainable development** through the identification of appropriate enhancement and mitigation measures.

According to UNCED (2015), Sustainable development is a key concept that has gained increasing international acceptance during the last two decades. A milestone in this process was the Brundtland Report, which defined sustainable development as *"development that meets the needs of today's generation without compromising those of future generations"*. Five years later, the UN Conference on Environment and Development (UNCED), the Earth Summit, established a number of international agreements, declarations and commitments (see table below). Agenda 21 of the Global Action Plan for Sustainable Development, emphasises the importance of integrated environment and development decision-making and promotes the use of EIA and other policy instruments for this purpose (UNCED, 2015; UNEP, 2016).

Table 2: Four Cornerstones of the Earth Summit (*Adapted from UNCED (2015)*)

FOUR CORNERSTONES OF THE EARTH SUMMIT	
Cornerstone	Summary
a) The Rio Declaration on Environment and Development	A set of principles which provide guidance on achieving sustainable development.
b) Framework Convention on Climate Change	An international treaty to stabilise greenhouse gas concentrations in the atmosphere.
c) Convention on Biological Diversity	An international convention with three objectives: the conservation of biodiversity, the sustainable use of its components, and the equitable sharing of benefits from genetic resources.
d) Agenda 21	A global programme of action for achieving sustainable development to which countries are politically committed rather than legally obligated.

1.2 PERSPECTIVES ON SUSTAINABLE DEVELOPMENT

Sustainable development is an evolving concept, which is continually being redefined and reinterpreted. The starting point for most people is the Brundtland definition, which also can be formally stated as twin principles of intra- and inter-generational equity. In practice, these principles mean improving the welfare of the world's poor and maintaining the development opportunities for the generations that follow (UNCED (2015).

The challenge of sustainable development may be summarised by comparing three overriding indicators:

- **First**, human activity is estimated to currently consume or pre-empt 40 per cent of net primary productivity on land.
- **Second**, 60 per cent of the world's population live close to or under the poverty line.
- **Third**, the world's population is projected to double by mid-century (circa. year 2050).

Without major policy and technology changes, UNEP and other institutions have concluded that such trends threaten the stability of the world community and the global environment (UNCED, 2015; UNEP, 2016).

1.3 IMPORTANCE OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

Reducing the burden of environmental impacts is necessary if development is to become sustainable. These impacts are more complex, larger in scale and further reaching in their potential consequences than thirty years ago when EIA was first introduced. As a result, EIA has become of ever increasing importance as a tool for development decision-making (UNCED, 2015; World Bank, 2015 & USAID, 2016).

This role is formally recognized in Principle 17 of the Rio Declaration on Environment and Development: *"Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority"*.

According to UNEP (2015), in practice, an EIA is applied primarily to prevent or minimise the adverse effects of major development proposals, such as power stations, resource renewal, agricultural processes, waste and sewage disposal, recreation, dams and reservoirs, industrial complexes, township developments, etc. It is also used as a planning tool to promote sustainable development by integrating environmental considerations into a wide range of proposed actions. Most notably, Strategic Environmental Assessment (SEA) of policies and plans focuses on the highest levels of decision making, when better account can be taken of the environment in considering development alternatives and options. More limited forms of EIA can be used to ensure that smaller scale projects, conform to appropriate environmental standards or site and design criteria. Such projects include dredging activities, road realignment and upgrading, and housing subdivisions (UNCED, 2015; World Bank, 2015 & USAID, 2016).

1.4 AIMS AND OBJECTIVES OF EIA

The aims and objectives of EIA can be divided into two categories. The immediate aim of EIA is to inform the process of decision-making by identifying the potentially significant environmental effects and risks of development proposals. The ultimate (long term) aim of EIA is to promote sustainable development by ensuring that development proposals do not undermine critical resource and ecological functions or the well-being, lifestyle and livelihood of the communities and peoples who depend on them (UNCED, 2015).

Immediate objectives of EIA are to:

- improve the environmental design of the proposal;
- ensure that resources are used appropriately and efficiently;
- identify appropriate measures for mitigating the potential impacts of the proposal; and
- Facilitate informed decision making, including setting the environmental terms and conditions for implementing the proposal.

Long term objectives of EIA are to:

- protect human health and safety;
- avoid irreversible changes and serious damage to the environment;
- safeguard valued resources, natural areas and ecosystem components; and
- Enhance the social aspects of the proposal.

1.5 LIMITATIONS OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

EIA is also a way of ensuring that environmental factors are considered in decision-making process along with the traditional economic and technical factors. Importantly EIA requires the scientific (technical) and value issues to be dealt with in a single assessment process. This helps in the proper consideration of all advantages and disadvantages of a proposal. Environmental considerations may, therefore, be set aside in favour of what are felt to be more important considerations. Alternatively, predicted adverse effects on the environment might lead to strict conditions being imposed to avoid these effects or remedy any adverse effects, or perhaps lead to the complete abandonment of a proposal (UNEP, 2015).

In other words, EIA is an administrative process that identifies the potential environmental effects of undertaking a proposal, and presents these environmental effects alongside the other advantages and disadvantages of the proposal to the decision-makers. In the vast majority of EIA procedures this means that the outcome of the EIA process provides advice to the decision-makers, it does not provide a final decision. So, by itself, the EIA procedures cannot be expected to stop a proposal although this is an outcome that some members of the general community and environment groups may expect. For Namibia, this is well stipulated under the **Environmental Management Act EMA (No 7 of 2007)** which requires that projects with significant environmental impact are subject to an environmental assessment process (Section 27), details principles of which are to guide all EAs; as well as **Environmental Impact Assessment (EIA) Regulations GN 28-30 (GG 4878)** which details

requirements for public consultation within a given environmental assessment process (GN 30 S21) and the requirements for what should be included in a Scoping Report (GN 30 S8) and an Assessment Report (GN 30 S15) (GRN MET, 2016).

1.6 CONSULTANCY TERMS OF REFERENCE

The Terms of Reference (TORs) for the proposed project is technically and legally based on the requirements set out by the **Namibian Environmental Management Act (2007)** and the accompanying **EIA Regulations (2012)** and **Section 50 of the Local Authorities Act of 1992, Act 23 of 1992**, as amended. The process covered the following steps:

- A description of all tasks to be undertaken as part of the assessment process, including any specialist studies to be included if needed;
- An indication of the stages at which the Environmental Commissioner is to be consulted;
- A description of the proposed method of assessing the environmental issues and alternatives
- An identification of all legislation and guidelines that have been considered in the preparation of the scoping study;
- Description of the environment that may be affected by the activity and the manner in which the physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity
- A description of environmental issues and potential impacts, including cumulative impacts that have been identified
- A Draft Environmental Management Plan that complies with EMA and its Regulations;
- The nature and extent of the Public Consultation processes to be conducted during the assessment process.

It should be noted that the TORs and scope of services required the Scoping Assessment and production of EMP for the proposed development, and this included extensive and exhaustive Public Consultation Process.

1.7 THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

Namlands Consultants CC is an established Namibian company based in Windhoek. It is a consortium of highly skilled and experienced Associates who work with clients to develop and implement site-specific solutions.

The firm navigates the regulatory red tape and guides clients successfully through the waters of prevailing national policies.

Namlands Consultants as the EAP:

- Have knowledge of and experience in conducting assessments, including knowledge of the Environmental Management Act, the Environmental Impact Assessment Regulations and guidelines that have relevance to this proposed activity, as well as Sustainable Development, Stakeholder Engagement; Data Collection , Analysis & interpretation;
- Have complied with the Environmental Management Act, the Environmental Impact Assessment Regulations, guidelines and other applicable laws, and
- Have disclosed to the proponent, competent authority / the Environmental Commissioner all material and information in its possession that reasonably has or may have the potential of influencing –
 - Any decision to be taken with respect to the application in terms of the Environmental Management Act, the Environmental Impact Assessment Regulations; or
 - The objectivity of any report, plan or document prepared by the EAP in terms of the Act and its regulations.

2 . PROJECT DESCRIPTION IN RELATION TO THE OHANGWENA TOWN PLANNING

2.1 NEED FOR THE TOWNSHIP DEVELOPMENT

The Ohangwena Regional Council has decided to implement a Structure Plan for the area under its jurisdiction commonly known as the Townlands. The town is facing immense spatial pressures. The move is meant to complement the goals set by national development policies and guidelines such as Vision 2030, NDP4 and others notably the Harambee Prosperity Plan (HPP). The whole project is being driven under Section 50 of the Local Authorities Act of 1992, Act 23 of 1992, as amended.

The aim is that the envisaged development takes place in a cohesive way as part of the broader long term development objectives of the Ohangwena Regional Council for the benefit of its constituents.

The Structure Plan is thought of as a 'live' document, regularly updated as new information comes to light and to be used as a dynamic policy document that will guide Council when evaluating development options or when attending to township development.

The urban environment cannot be seen in isolation from the natural and social environments, as the future and stability of each component is intrinsically linked. There are clearly a number of challenges that will need to be met when developing Ohangwena, with perhaps the most challenging being how to accommodate the rising population, particularly when so many of the new residents in the town are from low income groups and living in shacks.

2.2 THE STRUCTURE PLAN AND ITS RELATIONSHIP TO THE TOWN PLANNING SCHEME

The Town Planning Scheme is a statutory document, regulating and prescribing specific land-uses that are permissible on each land unit located within the area of jurisdiction.

As such the Town Planning Scheme is a legal document that refers to land-uses on all properties located within the proclaimed Townlands of Ohangwena Regional Council and only relates to permissible land-uses as reflected for each property surveyed and registered with the deeds office.

2.2.1 The Purpose of the Structure Plan

The purpose of the Structure Plan is to guide and organise the various forms of land-use, and to respond to the existing natural and man-made environments in such a way as to optimise the living conditions of the residents of Ohangwena Region, and provide a clear development strategy over the long term.

In the absence of a Structure Plan, it can be very difficult for local authorities to make informed decisions when planning applications are presented to the Council, particularly in the context of rezoning applications on land, applications for densification and increases in height, and for applications for the development of land that does not currently have a determined zoning.

As such, this proposal is based on The Structure Plan to make these decisions. Each new development, no matter how small should always be seen as part of the bigger picture of long term development.

2.3 THE PLAN: GIVING DIRECTION TO THE OHANGWENA REGIONAL COUNCIL

As a result of Namibia's relatively high natural population growth and the current high speed of rural to urban in-migration, Namibia's urban populations are growing very rapidly. This means that Namibian towns must pro-actively find ways to accommodate the needs of their fast growing populations.

In order to approach this challenge, the Structure Plan draws on the following sources:

- Current 'best practice' on the development of towns & cities internationally;
- Understanding the local, regional and national development challenges;
- The current & historic planning and construction culture of Namibia;
- Current Planning Legislation;
- Local & national precedents.

2.3.1 Current 'Best Practice' on the Development of Towns & Cities Internationally

There are nine global tendencies which will have a profound impact on spatial planning and design of towns and cities over the long term, and these are Population Growth; Increasing Economic Globalization and Increasing Structural Unemployment; Climate Change; Food Security; Water scarcity; Environmental Sustainability; Fossil Fuel Depletion; Transport Engineer Dominated Modernist Planning Principles and Shelter.

2.4 UNDERSTANDING INTERNATIONAL PLANNING PERFORMANCE QUALITIES

There is an increasing consensus in planning circles internationally about the performance qualities that should guide human settlement formation, generally these are;

- **Efficiency** - which relates to the efficient utilisation of land, the efficient provision of services, and efficient spatial relationships between public facilities, public amenities and public services which should be planned in a systematic way, allowing them to be utilised in a single trip. Efficient servicing and utilisation of land is particularly relevant with regard to low income areas where the cost of servicing land must be reduced to a minimum.
- **Sustainability** - which relates both to environmental and social sustainability. In the environmental sense the planning must encourage protection of the environment by respecting the need to avoid development in environmentally sensitive areas and to reduce all forms of pollution through considered design, particularly in relation to non-vehicular transport. In the social sense, planning must create an enabling environment in which people are able to help themselves in terms of economic activities, particularly with regard to low income groups, where informal and semi-formal economic activities and small and medium enterprises offer the best hope of generating income.
- **Equity** - which relates to the fundamental concern within a democratic society that within the public domain all users are equal. Meaning that publicly owned areas such as public open space and public shopping areas must be accessible to all, and not have access controlled so that they can only be used by wealthier individuals.
- **Integration** - which relates to the integration of activities and neighbourhoods. Large empty areas separating higher income neighbourhoods from lower income neighbourhoods should be discouraged, and such areas created in earlier times should be developed to integrate previously dispersed neighbourhoods. Particularly in the Namibian context where many towns applied segregation policies whilst under the South African administration, this pattern must be reversed.
- **Connectivity and Permeability** - which relates to transport networks of all modes. Neighbourhoods must be connected back into the fabric of the town, and spatial planning must not introduce barriers to the efficient circulation through neighbourhoods.

- **Safety and Security** - which relates to the design and planning of neighbourhoods so that safety and security risks can be mitigated. Passive measures can be introduced such as providing adequate space for the ingress and egress of emergency vehicles into settlement areas and control of the surface spread of fire between individual buildings.

2.4.1 The Urban Model

The urban model which emerges from these informants is clear and remarkably consistent, and calls for settlements which:

- Locational decisions are informed by an understanding of the local environmental and ecological conditions.
- Are relatively compact and dense.
- Draw inputs such as water, food, and where possible energy from relatively small distances.
- Engage in local food production and local water capture.
- Recycle in terms of outputs and are ecologically responsible in terms of waste disposal.
- Are structured around public institutions and public space.
- Are scaled to the pedestrian and non-motorised transport (NMT) reducing over the long term dependence on fossil fuels.
- Have a much more progressive approach to transport planning in which transport engineers think much more broadly about the impacts of transport networks in sustainable place making.

2.5 UNDERSTANDING LOCAL, REGIONAL AND NATIONAL DEVELOPMENT CHALLENGES

While all of the international tendencies have applicability, the development challenges in Namibia are flavoured by some unique characteristics.

- Rapid rates of urban growth;
- High levels of poverty, inequality and unemployment;
- High levels of HIV/AIDS;
- Scarce resources (particularly public resources) relative to demands being made upon them;
- Inefficient, or non-existent public transportation resulting in a dependence on personal vehicles for wealthier people, and for poorer people on relatively expensive taxi's and with walking and NMT modes in environments that are often hostile to these modes;
- Low skills levels, which result in high levels of unemployment as low skilled employees are no longer needed as a result of mechanisation and globalisation;
- Limited human capacity, which can result in poor decision making;
- Generally poor quality of the public spatial environment;
- High levels of informality, both in terms of economic activity and shelter;
- High levels of uncertainty, particularly regarding employment and long term economic development;
- High levels of cultural diversity.

2.5.1 The Current & Historic Planning of Namibia

Historically, many of the towns in Namibia were developed by colonial powers for the purpose of aiding in the extraction of goods and materials or as administrative centres. During the period of the South African Administration many planning policies that enshrined apartheid principles were implemented, which resulted in the separation of people and activities on the basis of race, and consequently quality of life. Additionally, during the liberation struggle many towns, particularly in the north were developed in the context of combating armed resistance.

In planning terms, the separation of people was not just in terms of the location of housing, but also in terms of levels of public sector investment and service provision such as sanitation, electrification, roads infrastructure, and the quality of public open space.

One of the typical characteristics of Namibian towns today is the relatively low density and typically higher income residential neighbourhoods which surround the town centre. Then, usually at some distance from the urban centre, high density low income neighbourhoods which house the urban poor and are usually augmented with high density informal settlements of shack dwellers. This results in those with the least means living the furthest from the town centre.

2.5.2 Current Planning Legislation

Table 3: Namibia’s Current Planning Legislation

PLANNING LEGISLATION	DESCRIPTION
1) Town Planning Ordinance, 18 of 1954, as amended	To make provision for the preparation and carrying out of town planning schemes and for matters incidental thereto and to provide a framework for planners within which such schemes are to be prepared.
2) Townships & Division of Land Ordinance, 11 of 1963, as amended	To consolidate and amend the laws relating to the establishment of townships and to provide for the regulation and control of the development and subdivision of land and for matters related thereto.
3) Local Authorities Act, 23 of 1992	To provide for the determination, for purposes of local government, of local authority Councils; the establishment of such local authority Councils; and to define the powers, duties and functions of local authority Councils and to provide for matters related thereto.
4) Regional Authorities Act, 22 of 1992	To establish Regional Councils in regions determined in accordance with article 103 of the Namibian Constitution; to provide for the election by Regional Councils of members of the National Council; and to define the rights, powers, duties and functions of such regional Councils; and to provide for related matters.

The planning legislation of Namibia at the moment does not legally entrench spatial performance qualities. However, the Ministry of Regional and Local Government, Housing and Rural Development has recently drawn up the “Town Planning Standards and Urban Design Guidelines for Principle Layout Plans”, which is a policy directive that was signed in March 2013. It provides standards and guidelines for town planning and urban design, but also touches on desired principals that should be followed when it comes to the build environment. These principles are:

- Holistic thinking.
- Increase of choice.
- Encourage equity.
- Enhance sustainability.
- Promote income generation.
- Promote public spatial quality, and
- Integration of all the different spatial, social, natural and procedural elements that make up the urban environment.

The Townlands area itself is controlled by the Ohangwena Regional Council which is mandated to exercise development control over this area.

In terms of forward planning the overriding guidance document is Namibia’s Vision 2030 document, which has a wide scope in terms of aspiration and its broad aims are:

- Prosperity.

- Interpersonal Harmony.
- Peace, and
- Political Stability.

The fundamental principal of Vision 2030 is that development must be sustainable, which Vision 2030 defines as meaning;

'... Development that meets the needs of the present without limiting the ability of future generations to meet their own needs'

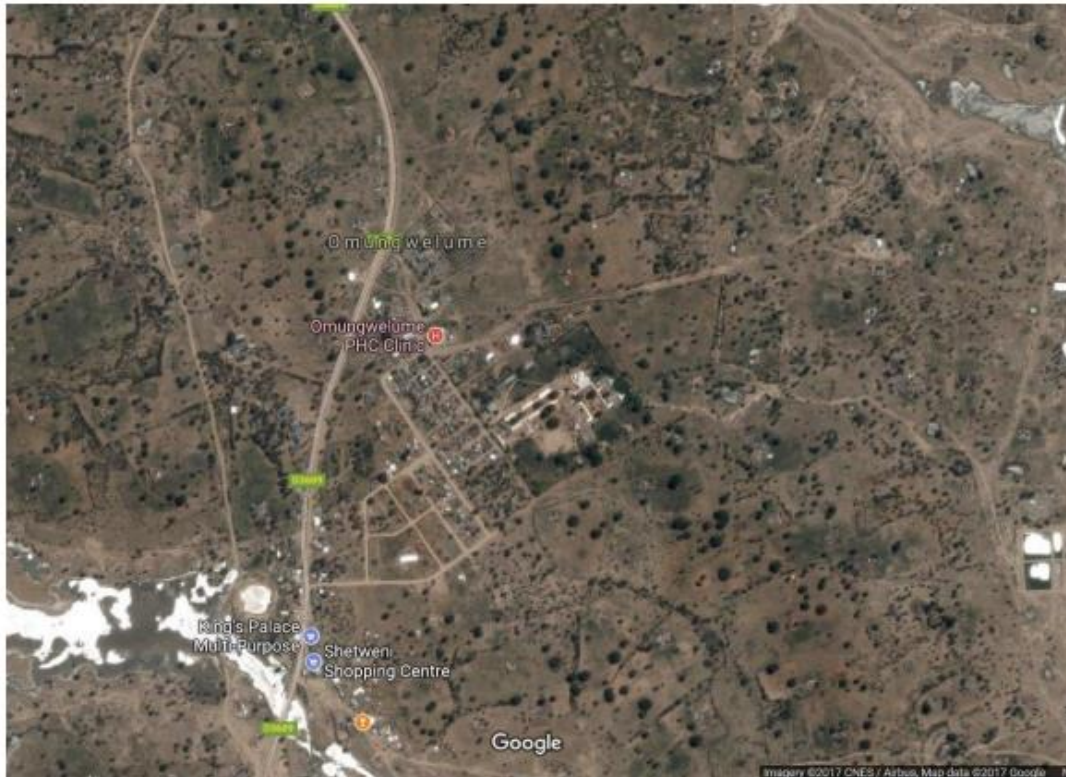
While the principle of sustainable development is the cornerstone on which the strategies for realizing the objectives of Vision 2030 pivot, the driving force among the complex agents of development comprises the following:

- Education, Science and Technology,
- Health and Development,
- Sustainable Agriculture,
- Peace and Social Justice and
- Gender Equality.

3 PROPOSED TOWNSHIP DEVELOPMENT AND LAND USES

The information contained in this section is based to a large extent on the planning applications submitted for the proposed developments to NAMPAB.

Figure 1: Locality Map Of Omungwelume



Source: Google, 2017

The proposed development will entail the following zonings and number of Erven:

Table 4: Proposed Zonings and Number of Erven

ZONING	NUMBER OF ERVEN
1) Residential	40
2) Institutional	1
3) Public Open Space	3
TOTAL	45

4 THE NAMIBIAN LEGAL REVIEW

The pursuit of sustainability, with respect to any development, is guided by a sound legislative and policy framework. This section provides a review of applicable and relevant Namibian legislation, policies and guidelines. This review serves to inform the proponent of the requirements and expectations, as laid out in terms of these instruments, to be fulfilled before the proposed project may commence. The findings of the abovementioned review are summarised below.

Table 5: Namibian Legislation relevant to the project

LEGISLATION/ GUIDELINE	RELEVANT PROVISIONS	IMPLICATIONS FOR THIS PROJECT
– Namibian Constitution First Amendment Act 34 of 1998	<i>"The State shall actively promote... maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future" (Article 95(1)).</i>	Ecological sustainability should inform and guide this EA and the proposed development.
– Environmental Management Act EMA (No 7 of 2007)	<ul style="list-style-type: none"> – Requires that projects with significant environmental impact are subject to an environmental assessment process (Section 27). – Details principles which are to guide all EAs. 	The EMA and its regulations should inform and guide this EA process.
– Environmental Impact Assessment (EIA) Regulations GN 28-30 (GG 4878)	<ul style="list-style-type: none"> – Details requirements for public consultation within a given environmental assessment process (GN 30 S21). – Details the requirements for what should be included in a Scoping Report (GN 30 S8) and an Assessment Report (GN 30 S15). 	
– Environmental Impact Assessment Policy	<ul style="list-style-type: none"> – Namibia's Environmental (Impact) Assessment Policy for Sustainable Development and Environment Conservation was approved by Cabinet in 1995. This policy requires that: <ul style="list-style-type: none"> – All policies, programs and projects, as listed in the policy, whether they are initiated by the government or private sector, should be subject to an Environmental Impact Assessment (EIA). 	The purpose of the Policy is seen as informing decision makers and promoting accountability, ensuring that alternatives and environmental costs and benefits are considered, promoting the 'user pays' principle, and promoting sustainable development.
– Forestry Act 12 of 2001	<ul style="list-style-type: none"> – Prohibits the removal of any vegetation within 100 m from a 	Even though the Directorate of Forestry has no jurisdiction within

– Nature Conservation Ordinance 4 of 1975	watercourse (Forestry Act S22 (1)). – Prohibits the removal of and transport of various protected plant species.	Townlands, these provisions will be used as a guideline for conservation of vegetation.
– Labour Act 11 of 2007	Details requirements regarding minimum wage and working conditions (S39-47).	Shack Dwellers Federation of Namibia should ensure that all contractors involved during the construction, operation and maintenance of the proposed project comply with the provisions of these legal instruments.
– Health and Safety Regulations GN 156/1997 (GG 1617)	Details various requirements regarding health and safety of labourers.	
Public Health Act 36 of 1919	Section 119 states that “no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health.”	
National Heritage Act 27 of 2004	Section 48(1) states that “A person may apply to the [National Heritage] Council [NHC] for a permit to carry out works or activities in relation to a protected place or protected object”.	Any heritage resources (e.g. human remains etc.) discovered during construction requires a permit from the NHC for relocation.
Burial Place Ordinance 27 of 1966	Prohibits the desecration or disturbance of graves and regulates how bodies may be unearthed or dug up.	Regulates the exhumation of graves.
Water Act 54 of 1956	The Water Resources Management Act 24 of 2004 is presently without regulations; therefore the Water Act No 54 of 1956 is still in force: – Prohibits the pollution of underground and surface water bodies (S23 (1)). – Liability of clean-up costs after closure/ abandonment of an activity (S23 (2)).	The protection of ground and surface water resources should be a priority. The main threats will most likely be concrete and hydrocarbon spills during construction and hydrocarbon spills during operation and maintenance.
Town Planning Ordinance 18 of 1954	Subdivision of land situated in any area to which an approved Town Planning Scheme applies must be consistent with that scheme (S31).	The proposed use of the project site must be consistent with the Karibib Town Planning Scheme (2012).
Townships and Division of Land Ordinance 11 of 1963	Details the functions of the Township Board including what they consider when receiving an application for Township Establishment (S3).	The proposed layout and land uses should be informed by environmental factors such as water supply, soil etc. as laid out in Section 3.
Road Ordinance 1972 (Ordinance 17 Of 1972)	– Width of proclaimed roads and road reserve boundaries (S3.1) – Control of traffic on urban trunk and main roads (S27.1) – Rails, tracks, bridges, wires, cables, subways or culverts across	The limitations applicable on RA proclaimed roads should inform the proposed layout and zonings where applicable.

	<p>or under proclaimed roads (S36.1)</p> <ul style="list-style-type: none"> - Infringements and obstructions on and interference with proclaimed roads. (S37.1) - Distance from proclaimed roads at which fences are erected (S38) 	
<p>Draft Integrated Pollution Control and Waste Management Bill</p>	<ul style="list-style-type: none"> - The purpose of this Bill is to regulate and prevent discharge of pollutants to the air, water and land in Namibia, and to enable the country to fulfil its international obligations in this regard. 	<p>The project is forbidden from forbids any person from discharging or disposing any water without a water pollution license (aside from the discharge of domestic waste from a private dwelling or the discharge of pollutants or waste to a sewer or sewage treatment works).</p>
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5. RECEIVING ENVIRONMENT: OHANGWENA REGION

The proposed township establishment covers approximately 14,000 Square Meter, 45 Erven and thus its development will trigger negative impacts on the environment. Omungwelume settlement has residential areas, primary and secondary schools, a police station, a clinic and various business outlets.

Omungwelume is situated approximately 36.3 km north east of the town of Oshakati alongside the route leading to Ongenga – Okalongo Road. Omungwelume was planned around the business, Government and Institutional node. The node consists mainly of a school, police station, health facilities, public offices and the business complex.

The rest of Omungwelume is made up of residential erven in a grid like layout. Omungwelume is currently administered as a settlement of the Ohangwena Regional Council.

A small agriculture development forming part of the Traditional Homestead livelihood having the potential to be expanded and to be developed as a major employment provider for the local community living at Omungwelume.

5.1 Land Uses:

The current lands uses comprise of residential, business, Government, institutional and local authority land uses. The initial planning of Omungwelume settlement as it is known today concentrated on the formalization of the existing structures at that point in time; this approach leading to a situation where:

- a) No cohesion between various land uses was created;
- b) The internal street network is not structured nor does it have a structured road hierarchy;
- c) No defined town centre has been created;
- d) Service delivery, such as the electrification of rural households, is uncoordinated;
- e) and
- f) A mixture of formal and informal structures is still found within Omungwelume.

5.2 Omungwelume / Ohangwena Natural / Bio-Physical Environment

The overview of the natural environment and the pressures exercised on the natural environment as result of the increasing urbanization and human habitation taking place within the Omungwelume settlement Townlands area was obtained during the feasibility study.

5.2.1. Vegetation

The vegetation in the area is generally classified as Broadleaf Savannah. The vegetation is characterized by broad-leafed deciduous woodland, which varies in structure and species composition due to soil and topographic heterogeneity.

This variation takes place at a localized spatial scale, which makes the classification of plant communities challenging. The vegetation in this region is therefore characterized as "mosaics" of smaller units as opposed to vegetative units (Obeid & Mendelsohn, 2001).

There are two major "mosaic" units prevalent in the Settlement area. The first vegetation grouping includes vegetation types associated with drainage systems. The prevalent vegetation type within this grouping is Floodplain and Open Water vegetation (as outlined by Obeid & Mendelsohn, 2001). Overgrazing by livestock has impacted much of the natural vegetation within the floodplain in the region.

The second major vegetation grouping is comprised of fairly tall woodland growing on deep Kalahari sands. The prevalent vegetation type within the Omungwelume Settlement is Woodlands of the Northern Sand Plains. This is the dominant vegetation type in the Township, covering all natural areas with the exception of the flood plains and open water systems.

5.2.2 Wildlife

The major wildlife resources in the region are Rabbits, Squirrel, Rats and woodland birdlife (NACSO, 2007). Habitat destruction and the road transport route paralleling the human activity, has led to the exclusion of most wildlife from the region. It is possible that there is still limited smaller wildlife present in areas with limited disturbance.

The only prevalent wildlife remaining in the area is birdlife. This fauna is currently being impacted by human activity in the region and is likely to decrease significantly in numbers should careful environmental planning not take place.

5.2.3 Surface water

The major surface water feature in the Okalongo Township is the flood plain and the existing pipeline water. There is limited rainfall to the south of the Ohangwena Region, as is evident from the presence of only dry drainage lines in this region. The highly permeable Kalahari sands also limit the amount of surface runoff, thereby reducing the amount of water reaching drainage lines.

5.3 Socio-economic Environment

5.3.1 Cultural conflict

The development of the region has attracted a number of people from different cultures to the area. This often results in conflict between various cultural groups, particularly over the scarce resources and the available services.

5.3.2 HIV/AIDS prevalence

HIV/AIDS is becoming increasingly prevalent in the region. This is shortening the average lifespan in the region, placing strain on local medical services and creating social issues. The number of orphans in the region is growing due to an increase in HIV/AIDS related deaths of parents.

5.3.3 Crime

The growth of the population and increasing competition for resources has resulted in an increase in crime in the region.

5.3.4 Relocation of existing households

Urban growth and the development of conservation areas will require the relocation of existing households. This will impact the families currently residing in these households.

5.3.5 Conservation vs. resource utilization conflict

A universal environmental concern is that of the conflict between resource utilization and conservation. The survival of the local population is dependent upon local resources for their livelihoods, particularly because a large proportion of the community survives by subsistence. This places a great deal of pressure upon the local resources. Creating a balance between resource utilization and use is therefore vital as sustainable resource use is dependent on resource conservation and the maintenance of ecological integrity.

5.3.6 Disaster Management

Disaster Risk Management attempts to predict environmental parameters, as opposed to managing them, and manage human activity.

In the case of the Okalongo Township, people need to be “managed” with regard to a number of potential natural risks. The primary risks are:

- Resource depletion due to over-use;
- Flooding (drowning); and
- Drought

5.4 Environmental priorities and recommendations

The October 2017 Feasibility Study (fieldwork and desktop) by Namlands Consultants cc included an assessment of the environmental and social impacts of the Project at a Regional scale (Kavango). While the assessment was based on limited field work it was built upon a relatively comprehensive community consultation program which provides a good baseline, particularly with respect to scoping of environmental and local community concerns for the current ESIA and EIA study.

A summary of the major findings is presented below. The issues raised and recommendations made by the Namland Consultants were taken on board and addressed in more detail as part of the current investigation.

6. PUBLIC CONSULTATION / PARTICIPATION

6.1 INTRODUCTION

The role of stakeholder engagement in the proposed township development was greatly explored by the consultant. The Consultant explored the different elements of a Stakeholder Engagement Framework, while considering the steps, stakeholder categories, and possible options for public participation in the whole process. It is important to note that there is no single 'magic bullet' solution that exists for stakeholder engagement. Each situation requires thorough design and planning specifically tailored to the objectives sought for the relevant stage of a project or program. Depending on the unique situation and context, a range of different stakeholder engagement and public participation methods will be employed.

The term participation typically refers to some aspect of local community involvement in the design, implementation and evaluation of a project or plan (Brown & Wyckoff-Baird, 1992). According to Smith (1983), public participation encompasses a range of procedures and methods designed to consult, involve, and inform the public to allow those that would be potentially affected by a decision or policy to have input into the process. The latter are also known as stakeholders, which include (IFC 2007):

"...persons or groups who are directly or indirectly affected by a project, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively. Stakeholders may include locally affected communities or individuals and their formal and informal representatives, national or local government authorities, politicians, religious leaders, civil society organizations and groups with special interests, the academic community, or other businesses"

Stakeholder engagement broadly refers to a framework of policies, principles, and techniques which ensure that citizens and communities, individuals, groups, and organizations have the opportunity to be engaged in a meaningful way in the process of decision-making that will affect them, or in which they have an interest.

Table 6: Issues of Public Participation

ISSUE	DESCRIPTION
Enhance effectiveness, public knowledge, understanding and awareness	<ul style="list-style-type: none"> – Public participation can act be a mechanism to break down and address complex decisions by different stakeholders who can provide new information, views, needs and interests. This provides an opportunity for stakeholders to better understand the range of views on an issue. – Implementation can also be improved with public consent and commitment on the process, yielding higher quality decisions, and the ability to better allocate scarce resources.
Meet growing demand for Public Participation	<ul style="list-style-type: none"> – A growing public desire to be involved in decisions that will affect them has influenced the need for greater openness of decision-making processes. Public participation can counter public mistrust of government and in this case, the Ohangwena Regional Council and expert-led decision-making processes in the provision of affordable housing to the previously disadvantaged Namibians. A public participation process can assist to negotiate trade-offs, seek consensus and set common priorities for all parties involved in an issue.
Meet Legal and Policy Requirements	<ul style="list-style-type: none"> – Increasingly, international and national agreements, legislation, and in this case Regulation No 29, Section 21 under the Environmental Management Act (Act No 7 of 2007), which requires some form of public participation or

	community engagement in relation to project implementation, as well as the Four Cornerstones of the Four Cornerstones of the Earth Summit
Levels of Engagement and Stakeholder Categories	– There are many types and levels of stakeholder engagement. Stakeholder engagement in natural resources management / environmental management has been increasingly seen as a basic human right : both as a result of the human right to a certain level of environmental quality, as well as a result of the human right to participatory democracy (IFC, 2007).

Table 7: Public Participation Five Elements

Courtesy: International Association for Public Participation (2007)

ELEMENT	DESCRIPTION
(a) Inform	Provided the general public with balanced and objective information to assist them in understanding the problem (housing shortage), alternatives, opportunities and/or solutions, which is the servicing of land.
(b) Consult	Obtained public feedback on analysis, alternatives and/or decisions.
(c) Involve	to work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered
(d) Collaborate	Partnered with the public in each aspect of the decision, including the development of alternatives and the identification of the preferred solution.
(e) Empower	Placed final decision making in the hands of the public.

The categories of stakeholders (I & APs) identified for involvement in a public participation process will directly have an influence on the method of engagement. Although the specific categories of stakeholders for a given engagement process was largely dependent on its goals and objectives, a typical generic profile of stakeholders in this project, and the Consultant's assessments was categorised into the following types:

Table 8: Categories of Consulted I& APs

CATEGORY	INSTITUTION
– State Owned Enterprises (SOEs) / Departments or Line Ministries	Ministry of Environment & Tourism (MET); Ministry of Industry & Trade; Ohangwena Regional Council; Roads Authority; NamWater;; NamPol; Ministry of Youths; Ministry of Works;
– Ohangwena Regional Council	Engineering Department: Planning, Projects and Housing Offices; Community Development Services: Local Economic Development, Youths Development; Public Relations Department ; Chief Executive Officer
– Industry or sector representatives	Business Community; SMEs; Cattle Farmers;
– Research (e.g. scientific, technical specialists) or academic institutions	Namibia Institute of Public and Environmental Affairs;
– Special interest groups	Youths; SMEs;
– Local Community Representatives	Local Councillors; Youths Leaders; Church leaders;
– Members of the General Public / Community	Community Leaders;

Regardless of the profile of stakeholder categories identified for involvement, the fundamental rationale for engaging stakeholders is creating ownership or 'buy-in' to the process and thus to its outcomes. This often is the key motivation for project or policy proponents to engage potential stakeholders as early as possible (IFC, 2007; Hamadziripi, 2013; 2017).

6.2 STEPS AND METHODS USED BY NAMLAND CONSULTANTS CC

A stakeholder engagement or public participation process typically involves the following steps (IFC, 2007).

Table 8: Stakeholder Engagement or Public Participation Process Steps

Stage	Description of activities
1. Preliminary Planning and Design	
	(a) Situation Analysis (b) Decision Process (c) Information Exchange (d) Stakeholder Identification and Analysis (e) Planning Team (f) Approvals
2. Develop the Stakeholder Engagement Plan	
	(a) Establish Objectives (b) Identify and address major issues (c) Identify and involve the key stakeholders (d) Determine public participation method (e) Prepare to provide and receive information (f) Develop critical path (g) Budget, staff, resources, logistics, roles and responsibilities (h) Prepare to give and receive feedback
3. Plan Implementation	
	(a) Follow the Critical Path (b) Apply Public Participation Method (c) Provide and receive information (d) Monitor the Process
4. Feedback	
	(a) Report to decision-makers (b) Report to participants (c) Evaluate the overall process

A key to a successful development and application of the EIA and EMP has been the liaison with the stakeholders during the entire project. The EIA regulations call for open consultation with all interested and affected parties at defined stages of the EIA process. This entails participatory consultation with members of the public by providing an opportunity to review and comment on the proposed project. Public Participation has thus been undertaken to fulfil the requirements of Namibia's legislation, but also takes account of other acceptable best and practical approaches used in other areas to ensure that beneficiaries and community affected by the project are informed and consulted prior to the implementation of the project.

The following activities were undertaken by the consultant to successfully complete this process:

- The project was communicated to the Local Officer –Ministry of Environment and Tourism (MET)
- All the key stakeholders, both public and private were identified
- Notices advertising the proposed project and inviting public to register as I&APs as well as to provide and register their concerns appeared in the Namibian newspaper mid October 2017, giving I & APs the whole month to comment on the project

- A written notification including the BID was hand-delivered and emailed to all relevant government offices at national, regional and local levels, including Police, School Heads, the nearest property owners and community members.

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

Targeted briefing and consultation meetings with key stakeholders were undertaken during the Open Sessions (period).

Table 9: Public Participation Methods

METHOD	DESCRIPTION
Public meetings / Open Sessions	<ul style="list-style-type: none"> – Offers an opportunity for anyone with an interest in the subject of the consultation to express concerns and gain a broader perspective of concerns in a short period of time. – Sometimes it is expected that a decision will be made at a public meeting, and there will be some level of consultation occurring. In controversial situations it may be best for the public meeting to be facilitated by an independent body. – Public Meetings often begin with a technical overview of the situation and process, and then provide opportunity for members of the public to speak from the floor regarding their concerns or to ask questions of expert panellists.
Workshops	<ul style="list-style-type: none"> – Involve inviting stakeholders to attend a meeting to review information, define issues, solve problems or plan reviews. – Generally, workshops are expected to educate participants and solve a problem or develop a product such as an action plan. – Most workshops use facilitation.
Surveys	<p>Surveys are used to collect information, solicit opinions and build a profile of the groups and individuals involved. They provide information to the public and help focus public attention on specific issues and describe the view of a large number of citizens.</p>
Focus groups	<ul style="list-style-type: none"> – Focus groups are used to collect qualitative data, with a facilitated group discussion based on predetermined questions. Typically 6 to 12 people are questioned to uncover attitudes, feelings and beliefs about an issue or issues. Focus groups may be used to identify issues for inclusion in a survey or to better understand a specific issue. Participants are often chosen to get input from a variety of viewpoints. Focus groups require a skilled moderator and vocal participants. Focus groups can be used to identify issues early in the planning process, or to provide feedback on alternative strategies, or during plan monitoring and reassessment later in the process.
Direct mail / emailing	<ul style="list-style-type: none"> – Direct mail is a method of awareness building through mass mailing of written materials. Direct mail works best when you have a simple message and an easily identifiable audience. It requires little commitment by the citizens, and can reach a large number of people. Mailings can be used throughout the planning process, but will be most effective early in the project when a large number of people can be reached.
Newsletter / Articles in Local Media	<ul style="list-style-type: none"> – Newsletter / Articles in Local Media through monthly or quarterly updates will ensure that communication is kept open between stakeholders.
Invitations for Public Submissions	<ul style="list-style-type: none"> – Invitations for public submissions with comment opportunities represent a formal way of providing feedback to a report or proposal / potential variations on a project, program or policy. Typically this form of engagement occurs in conjunction with other engagement methods such as public meetings, workshops or committees. The specific choice of method will depend on the context and the type

	of stakeholders being engaged. A method which has worked well in one cultural context or with one particular set of stakeholders may be less effective elsewhere. Participatory methods can be particularly useful when trying to build integrated solutions to complex project issues or for engaging specific sub-groups within a community (e.g. women, youth, vulnerable groups, minorities or the elderly).
Participatory Techniques	– Participatory techniques can also be effective in situations where literacy and education levels are low, but also with educated and well-informed groups where there is controversy or complexity around issues, and a need to build consensus around possible solutions. In situations where the engagement process is complicated or special attention to cultural appropriateness is needed to ensure informed and meaningful participation, it is advisable to seek out experienced specialists to assist in designing and facilitating the process.

Table 10 below outlines an assessment matrix of typical public participation methods to be used by the Consultant for guiding preliminary choices of public participation methods. As there are a variety of ways in which any one method can be applied, it is not possible to definitively state whether a particular method is the correct choice for any given situation or context. The following section outlines a brief summary of the strengths and weaknesses of the public participation methods.

The approach employed throughout the whole project by Namland Consultants CC was the extensive use Public Meetings and Open Sessions, Surveys, direct bulk mailings / Emailing.

Table 10: Brief Summary of the Strengths and Weaknesses of the Public Participation Methods (**Source:** Adapted from Rowe and Frewer 2000, p.29)

METHOD	STRENGTHS AND WEAKNESSES (SUMMARY)
Public Meetings	Public meetings, which are the most widespread method for engaging the public, scores relatively low on both acceptance and process criteria. In the past, public meetings have been perceived as being quick, cheap, and simply administered means of satisfying any legal requirement for public participation and seen as giving the appearance of community involvement. However, there are many disadvantages of this method of engagement. For example, they are typically held during weekday working hours in locations that are “formidable” to the public (e.g. community halls, public schools, etc.), which may disadvantage low-income and minority citizens and have a negative impact on the representativeness of those attending (e.g. Checkoway, 1981). It has been suggested that the main aim of public meetings is to co-opt public support and to change decisions rather than to seek informed consent and expand democratic choice. Some evidence suggests that they have little influence on citizen behaviour or policy choices
Surveys and Focus Groups	Surveys and focus groups do reasonably well on acceptance criteria but not on process criteria. Although these methods may gain credibility with the public, the quality of the decisions that arise from their implementation may not be high, which would be of particular concern to a project proponent or sponsor. Thus, participants are generally representative of the population and independent of the sponsors, and their results and processes are generally simple and transparent. As surveys and focus groups may serve as the basis for subsequent policy formation, they may be implemented at an early stage of any decision-making process and hence score high on the criterion of early involvement. These approaches require little citizen time and fewer resources than many other procedures and are ranked relatively high on the criterion of cost-effectiveness (Rowe and Frewer 2000).

Table 11: Assessment Matrix of typical Public Participation (**Source:** Adapted from Rowe and Frewer 2000, p.19)

	Public Meetings	Workshops	Advisory Committees	Surveys	Focus Groups
ACCEPTANCE CRITERIA					
– Representativeness of participants	Low	Moderate to low	Moderate to low	High	Moderate
– Independence of true participants	Low	Moderate to High	Moderate to Low	High	High
– Early involvement	Low to Variable	Moderate to High	Variable to High	Moderate to High	Moderate to High
– Influence on final policy or decision	Moderate	Variable	Variable	Low to Variable	Moderate
– Transparency of process to the public	Moderate	Moderate to High	Low to Variable	Moderate	Low
PROCESS CRITERIA					
– Accessibility to resources	Low to Moderate	High	Variable to High	Low	Low
– Task definition	High	High	Moderate to High	Low	Moderate to High
– Cost effectiveness	Low	Moderate to High	Variable	Moderate to High	Moderate to High

6.3 NOTICE BOARD & NEWSPAPER ADVERTISING

Given the nature of the proposed development and the means of communication outlined above, it was deemed necessary to display a makeshift **Notice Board** near the identified site as well as at the Ohangwena Regional Council as laid out in the EIA Regulations (RN: MET, 2012: Reg 21(2)(a)). The Consultant advertised using the targeted approach by using the New Era Newspapers to reach out to I & APs, a widely circulated regional newspaper.

The main issues arising from the comments received during the commenting period meeting are summarized in **Table 12**. These comments, as well as those received during the course of the Public Consultation Process will be recorded in an **Issues and Responses Trail**.

Table 12: Issues raised by IAPs

THEME	NEGATIVE ISSUES RAISED BY IAPS	POSITIVE ISSUES
– Economic	– n/a	– n/a
– Social	<ul style="list-style-type: none"> – Illicit sexual Activities – Drug and Alcohol Abuse – Muggings at night – Burglaries and Robberies – Type of housing to be built in the area – Illegal routes of taxis and other private vehicles thereby endangering lives 	– n/a

– Environmental	– Open Defecation – Flies causing diseases (defecation) – Burning of tyres (air pollution) – Dumping of used condoms, beer bottles and cans, cigarettes, etc – Illegal dumping site	–
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7. NEED FOR THE PROPOSED ACTIVITY

It is a given fact that one of the development priorities of today lies in the provision of housing. Housing is defined as a basic need. A tremendous backlog in the provision of housing exists and has to be addressed as a matter of priority.

The Namibian government identified housing as a priority area in 1990 at independence and considers housing as both an enabler of economic growth and a tool for reducing poverty by creating sustainable communities. A National Housing Policy has been in place since 1991 and this was reviewed and updated in 2009. Despite the many components provided in the policy and the awareness of the issues within government, few elements of the policy have been taken forward and little has been achieved in the last twenty years to clear the backlog in housing. (Government of the Republic of Namibia, 2002)

Development pressure in housing provision has placed enormous pressure on the development of vacant land within the urban edge, and existing transport routes. The proposed development will contribute to the improvement of the services and infrastructure for the surrounding communities, as it will provide more social services within the area.

The proposed development promotes a safe and user friendly urban environment in the Ohangwena Region.

From a strategic planning point of view it is deemed both necessary and desirable to develop parcels of land within the municipal area and urban edge of the Ohangwena Regional Council, especially those that is highly accessible to necessary urban facilities and amenities.

The proposed township establishment will also create job opportunities for the local community which will improve their technical skills. The project will otherwise be a social and financial upliftment for the Ohangwena community and Namibia at large.

8. ALTERNATIVES

In the planning process of the proposed project, Namland Consultants had several consultation meetings with the Local Authority in order to determine the best site for the proposed township establishment.

8.1 NO-GO ALTERNATIVE (DO NOTHING ALTERNATIVE)

Should the proposed development not go ahead as planned, serious consequences can be expected, as there will be a backlog in housing, which may lead to service protests as the community's needs are not addressed or met. Due to the location of the proposed site to the existing residential development, it could attract undesirable land use, e.g. become a hub for criminals, and there could be veld fires due to illegal burning of general waste, establishment of informal settlements.

8.2 SITE ALTERNATIVE

Due to land availability and service connections, the proposed site, Alternative 1, is the only site that has been identified for establishing a township during the consultation process with the Local Municipality. Therefore, no alternative site has been identified or considered during this study.

8.3 TECHNOLOGY ALTERNATIVE 1:

Due to the type of project, alternative technology can be considered.

8.4 SELECTION PROCESS

Consultation meetings were held with the Local Authority and relevant role-players to determine the most suitable area available for the establishment of a township.

9. IMPACT ASSESSMENT

9.1 APPROACH AND METHODOLOGY EMPLOYED FOR ASSESSMENT

9.1.1 The EIA Process

Environmental Impact Assessment (EIA) is a systematic process that identifies and evaluates the potential impacts (positive and negative) that a Project may have on the biophysical and socio-economic environment, and identifies mitigation measures that need to be implemented in order to avoid, minimise or reduce the negative impacts and also identifies measures to enhance positive impacts. The EIA is not fully a linear process, but one where several stages are carried out in parallel and where the assumptions and conclusions are revisited and modified as the project progresses. The following sections provide additional detail regarding the key stages in this EIA process. These stages are:

- 1) Scoping Phase;
- 2) Specialist Study Phase; and
- 3) Integration and Assessment Phase.

9.2 SCOPING PHASE

The first phase of the EIA process was a Scoping Study, with an emphasis on public involvement. The various tasks and consultation activities undertaken by the Consultant will be described and summarised below.

9.2.1 Initial Site Visit and Project Initiation

As part of the project initiation Namland Consultants carried out an initial site reconnaissance visit. The purpose of the site visit was to familiarise the project team with the project proposal and affected project area and to begin the environmental and social screening and scoping process. Three more site visits were carried out.

9.2.2 Public Participation

Table 13: Public Participation Tasks

ACTIVITY	DESCRIPTION AND PURPOSE
– Preparation of a preliminary stakeholder database	A preliminary database was compiled of authorities (local and provincial), Non-Governmental Organisations and other key stakeholders. This database of registered I&APs was expanded during the ongoing EIA process.
– Erection of site notices	Site notices were placed at the Site and at the Ohangwena Region al Council Notice Board
– Distribution of BIDs	Background Information Documents (BIDs) was distributed to all I&APs.
– Release of Draft Scoping Report for Public Comment	The Draft Scoping Report was released for public comment. All comments received are included in this Final Scoping Report.
– Newspaper Advertisement	The release of the Draft Scoping Report was advertised through the Facebook Pages, ECG website and bulk emailing
– Surveys / Open Sessions	The Consultant randomly targeted relevant stakeholders. All comments and responses from the Surveys and other engagement methods will be included in this Final Scoping Report, in the Comments and Responses Report

– Compilation of Comments and Responses Report	Through the public participation process a Comments and Responses Report was compiled
– Notification of submission Final Report	Notification of the submission of the final Scoping Report to the MET was sent to registered I&APs.
– Notification of issuance of Environmental Clearance Certificate	The I& APs were notified through the normal channels on the issuance of the Environmental Clearance Certificate. Newspaper adverts will also be utilised.

9.3 SPECIALIST STUDIES PHASE

During the Specialist Study phase, the Consultant gathered data relevant to identifying and assessing environmental impacts that might occur as a result of the Project. They assisted the project team in assessing potential impacts according to a predefined assessment methodology included in the Scoping Report. The Consultant also suggested ways in which negative impacts could be mitigated and benefits could be enhanced.

9.4 INTEGRATION AND ASSESSMENT PHASE

The final phase of the EIA is the Integration and Assessment Phase. The assessment of impacts proceeds through an iterative process considering three key elements:

- 1) **Prediction of the significance** of impacts that are the consequence of the Project on the natural and social environment.
- 2) **Development of mitigation measures** to avoid, reduce or manage the impacts.
- 3) **Assessment of residual significant impacts** after the application of mitigation measures.

A synthesis of the studies, which addresses the key issues identified during the Scoping Phase, were documented in this ESIA. Relevant technical studies are included as appendices to this ESIA. The Draft ESIA was made available to I&APs for a public comment period and registered and identified I&APs were notified of the release of the Draft EIA and where the report can be reviewed.

Comments received on the Draft EIA are assimilated and the EIA project team provided appropriate responses to all comments. All registered I&APs were notified when an Environmental Authorisation has been issued by MET.

9.5 IMPACT ASSESSMENT METHODOLOGY

9.5.1 Impact Assessment Process

The impact identification and assessment process through scoping, screening and detailed impact assessment is detailed here:

9.5.2 Impact Assessment Methodology

The purpose of impact assessment and mitigation is to identify and evaluate the significance of potential impacts on identified receptors and resources according to defined assessment criteria and to develop and describe measures that will be taken to avoid or minimise any potential adverse effects and to enhance potential benefits.

Definition of Key Terminology

- **Project** - The features and activities that are a necessary part of the Project Proponent's development, including all associated facilities without which the Project cannot proceed. The Project is also the collection of features and activities for which authorization is being sought.

- **Project Site** - The (future) primary operational area for the Project activities. Private transport corridors (i.e., those dedicated for use solely by Project operational activities) are included as part of the Project Site.
- **Project Footprint** - The area that may reasonably be expected to be physically touched by Project activities, across all phases. The Project Footprint includes land used on a temporary basis such as construction lay down areas or construction haul roads, as well as disturbed areas in transport corridors, both public and private.

Table 14: Impact Types and Definitions

Nature or Type	Definition
• Positive	An impact that is considered to represent an improvement on the baseline or introduces a positive change.
• Negative	An impact that is considered to represent an adverse change from the baseline, or introduces a new undesirable factor.
• Direct impact	Impacts that result from a direct interaction between a planned project activity and the receiving environment/receptors (e.g. between occupation of a site and the pre-existing habitats or between an effluent discharge and receiving water quality).
• Indirect impact	Impacts that result from other activities that are encouraged to happen as a consequence of the Project (e.g. in-migration for employment placing a demand on resources).
• Cumulative impact	Impacts that act together with other impacts (including those from concurrent or planned future third party activities) to affect the same resources and/or receptors as the Project.

An impact is any change to a resource or receptor brought about by the presence of a project component or by the execution of a project related activity. The evaluation of baseline data provides crucial information for the process of evaluating and describing how the project could affect the biophysical and socio-economic environment.

Impacts are described according to their nature or type, as summarised in **Table 15**.

Table 15: Significance Criteria

IMPACT MAGNITUDE	
Extent	<p>On-site – impacts that are limited to the boundaries of the development site.</p> <p>Local – impacts that affect an area in a radius of 25km around the development site.</p> <p>Regional – impacts that affect regionally important environmental resources or are experienced at a regional scale as determined by administrative boundaries, habitat type/ecosystem.</p> <p>National – impacts that affect nationally important environmental resources or affect an area that is nationally important/ or have macro-economic consequences.</p>
Duration	<p>Temporary – impacts are predicted to be of short duration and intermittent/occasional.</p> <p>Short-term – impacts that are predicted to last only for the duration of the construction period.</p> <p>Long-term – impacts that will continue for the life of the Project, but ceases when the project stops operating.</p> <p>Permanent – impacts that cause a permanent change in the affected receptor or resource (e.g. removal or destruction of ecological habitat) that endures substantially beyond the project lifetime.</p>
Intensity	<p>BIOPHYSICAL ENVIRONMENT: <i>Intensity can be considered in terms of the sensitivity of the biodiversity receptor (i.e. habitats, species or communities).</i></p> <p>Negligible – the impact on the environment is not detectable.</p>

	<p>Low – the impact affects the environment in such a way that natural functions and processes are not affected.</p> <p>Medium – where the affected environment is altered but natural functions and processes continue, albeit in a modified way.</p> <p>High – where natural functions or processes are altered to the extent that they will temporarily or permanently cease.</p> <p>Where appropriate, national and/or international standards are to be used as a measure of the impact.</p> <p><i>Specialist studies should attempt to quantify the magnitude of impacts and outline the rationale used.</i></p>
	<p>SOCIO-ECONOMIC ENVIRONMENT: <i>Intensity can be considered in terms of the ability of people/communities affected by the Project to adapt to changes brought about by the Project.</i></p> <p>Negligible – there is no perceptible change to people’s livelihood.</p> <p>Low - people/communities are able to adapt with relative ease and maintain pre-impact livelihoods.</p> <p>Medium – people/communities are able to adapt with some difficulty and maintain pre-impact livelihoods but only with a degree of support.</p> <p>High - affected people/communities will not be able to adapt to changes or continue to maintain-pre impact livelihoods.</p>
Likelihood - the likelihood that an impact will occur	
Unlikely	The impact is unlikely to occur.
Likely	The impact is likely to occur under most conditions.
Definite	The impact will occur.

Once a rating is determined for magnitude and likelihood, the following matrix can be used to determine the impact significance.

Table 16: Significance Rating Matrix

		SIGNIFICANCE		
		LIKELIHOOD		
MAGNITUDE		Unlikely	Likely	Definite
	Negligible	Negligible	Negligible	Minor
	Low	Negligible	Minor	Minor
	Medium	Minor	Moderate	Moderate
High	Moderate	Major	Major	

Table 17: Significance Colour Scale

Negative ratings	Positive ratings
Negligible	Negligible
Minor	Minor
Moderate	Moderate
Major	Major

Table 18: Significance Definitions

SIGNIFICANCE DEFINITIONS	
Negligible significance	An impact of negligible significance (or an insignificant impact) is where a resource or receptor (including people) will not be affected in any way by a particular activity, or the predicted effect is deemed to be 'negligible' or 'imperceptible' or is indistinguishable from natural background variations.
Minor significance	An impact of minor significance is one where an effect will be experienced, but the impact magnitude is sufficiently small (with and without mitigation) and well within accepted standards, and/or the receptor is of low sensitivity/value.
Moderate significance	An impact of moderate significance is one within accepted limits and standards. The emphasis for moderate impacts is on demonstrating that the impact has been reduced to a level that is as low as reasonably practicable (ALARP). This does not necessarily mean that 'moderate' impacts have to be reduced to 'minor' impacts, but that moderate impacts are being managed effectively and efficiently.
Major significance	An impact of major significance is one where an accepted limit or standard may be exceeded, or large magnitude impacts occur to highly valued/sensitive resource/receptors. A goal of the EIA process is to get to a position where the Project does not have any major residual impacts, certainly not ones that would endure into the long term or extend over a large area. However, for some aspects there may be major residual impacts after all practicable mitigation options have been exhausted (i.e. ALARP has been applied). An example might be the visual impact of a development. It is then the function of regulators and stakeholders to weigh such negative factors against the positive factors such as employment, in coming to a decision on the Project.

Once the significance of the impact has been determined, it is important to qualify the **degree of confidence** in the assessment. Confidence in the prediction is associated with any uncertainties, for example, where information is insufficient to assess the impact. Degree of confidence can be expressed as low, medium or high.

Mitigation Measures and Residual Impacts

For activities with significant impacts, the EIA process is required to identify suitable and practical mitigation measures that can be implemented. The implementation of the mitigations is ensured through compliance with the regulatory Frameworks. After first assigning significance in the absence of mitigation, each impact is re-evaluated assuming the appropriate mitigation measure(s) is/are effectively applied, and this results in a significance rating for the residual impact.

9.6 IDENTIFICATION OF MITIGATION MEASURES

For the identified significant impacts, the project team, with the input of the client, will identify suitable and practical mitigation measures that are implementable. Mitigation that can be incorporated into the project design, in order to avoid or reduce the negative impacts or enhance the positive impacts, have been defined and require final agreement with the client as these are likely to form the basis for any conditions of approval by MET.

9.7 SPECIALIST STUDY METHODOLOGY

9.7.1 Botany, Terrestrial Ecology and Avifauna

A botany, terrestrial ecological and avifaunal specialist study was undertaken. As part of this study, a desktop study was carried out of publicly available scientific publications to investigate the ecology and biodiversity of the affected project area. A site visit will be undertaken where the different biodiversity features, habitat, vegetation and landscape units present at the site were identified and mapped in the field. This include generating a fine-scale vegetation map for the site which will identify and map the

different plant communities present. Walk-through-surveys was conducted across the site and all plant and animal species observed were recorded. Searches for listed and protected plant species at the site will be conducted and the location of all listed plant species observed was recorded. The impact assessment phase involved the determination of the nature of likely impacts of the development and recommendations on mitigation.

9.7.2 Archaeology, Heritage and Palaeontology

A paleontological, archaeological and cultural heritage study were undertaken.

STUDY	DESCRIPTION
Palaeontology	A desktop paleontological study was undertaken for the identified site. The impact assessment phase involved the determination of the nature of likely impacts of the development and recommendations on mitigation.
Archaeology	A desktop study will be carried out of publicly available scientific publications to determine the archaeological history of the affected project area. In addition, an archaeological field survey was undertaken of the affected project area. Archaeological materials and structures were inventoried, with approximate age and descriptions recorded as necessary. The impact assessment phase will involve the determination of the nature of likely impacts of the development and recommendations on mitigation.
Heritage	Publications of the history of the affected project areas was investigated and informed the specialist study. A heritage field survey was undertaken in order to identify existing heritage structures in the affected project area. The impact assessment phase involved the determination of the nature of likely impacts of the development and recommendations on mitigation.

9.7.3 Landscape and Visual

A landscape and visual impact assessment study were undertaken. Site visits were undertaken where visual features and the landscape setting of the site were recorded. An assessment was also made as to what degree people who make use of these locations (e.g. a nearby holiday resort) would be sensitive to change(s) in their views, brought about by the Project. These receptors were then identified, as well as Key Observation Points (KOPs) (those sensitive receptors who had views of the Project) particularly those relating to intersections of major roads, arterial and scenic routes, as well as urban areas, settlements and farmsteads.

The landscape character will then be surveyed in terms of scenic quality (landscape significance) and receptor sensitivity to landscape change (of the site) in order to define the visual objective for the project site. Photomontages using panoramic photographs was used to determine the degree of visibility of the Project and change in views of the surrounding landscape. The impact assessment phase involved the determination of the nature of likely impacts of the development and recommendations on mitigation.

9.7.4 Agriculture

An agriculture impact assessment study was also considered, although in this whole project it was not of much impact or relevance considering the nature of the whole project

9.7.5 Socio-economic

The socio-economic study was undertaken. The study begun with the compilation of a baseline description. The baseline description was derived from a range of secondary data (including but not limited to census data, existing reports, development plans and other strategic planning documents) and primary data collection. The primary data used for the baseline is based on information provided by Ohangwena Regional Council and issues raised through the public consultation process.

The impact assessment will incorporate the identification and assessment of socio-economic impacts (direct, indirect and cumulative) that may result from the township development (construction and operation phases) of the project. Mitigation measures that address the local context and needs were recommended as the final phase of the study.

9.8 ASSUMPTIONS AND LIMITATIONS

Environmental Impact Assessment is a process that aims to identify and anticipate possible impacts based on past and present baseline information. There is, inevitably, always some uncertainty about what will actually happen in reality. Impact predictions have been made based on field surveys and with the best data, methods and scientific knowledge available at this time. However, some uncertainties could not be entirely resolved. Where significant uncertainty remains in the impact assessment, this is acknowledged and the level of uncertainty is provided.

In line with best practice, this ESIA has adopted a precautionary approach to the identification and assessment of impacts. Where it has not been possible to make direct predictions of the likely level of impact, limits on the maximum likely impact have been reported and the design and implementation of the project (including the use of appropriate mitigation measures) ensured that these are not exceeded. Where the magnitude of impacts cannot be predicted with certainty, the team of specialists have used professional experience and available scientific research from solar facilities worldwide to judge whether a significant impact is likely to occur or not. Throughout the assessment, this conservative approach will be adopted to the allocation of significance.

9.8.1 Gaps and Uncertainties

Inevitably knowledge gaps remain.

Gaps in Project Description

- Regarding the location of the site, the assessment is based on a refined layout / rezoning derived from revisions of earlier layouts, to accommodate environmental sensitivities. Although the final layout has been confirmed,

Gaps in Baseline Information

- **Ecological limitations;** a limitation associated with the sampling approach was the narrow temporal window of sampling. Ideally, a site should be visited several times during all the different annual seasons to ensure that the full complement of plant and animal species present were captured, as well as the temporary usage of the land by some local residents.

However, this is rarely possible due to time and cost constraints and therefore, the data captured will be representative of the species at the site.

All impacts included in the table below fall within the scope of this project and responsibility of the Proponent. Each of the potential impacts was screened and subjected to the criteria stipulated above. The significance of each potential impact is determined based on the criteria in the **Table below**.

Detailed descriptions of mitigation measures for impacts that require mitigation are contained in the EMP (**Appendix B**).

Impacts for which insufficient information is available are discussed at the end of this section.

Table 19: Screening and Assessment of impacts

POTENTIAL IMPACT	DESCRIPTION	EXTENT	DURATION	INTENSITY	PROBABILITY	CONFIDENCE/ SUFFICIENT INFORMATION AVAILABLE?	SIGNIFICANCE	SIGNIFICANT MITIGATION DEEMED POSSIBLE?	NEXT STEP
Aesthetic Issues	The change in the existing landscape may be an eye sour to existing residents due to blockage of open space view.	Immediate area	Temporary	Low	Improbable	Yes	Low	Yes	EMP
Employment Creation	The construction activities associated with the project is due to create local employment opportunities.	Local	Temporary	Medium	Definite	Yes	Low	Yes	EMP
Noise (construction phase)	Construction activities including blasting can create noise for local nearby residents.	Local	Temporary	Low	Highly probable	Yes	Low	Yes	EMP
Dust (construction phase)	The ingress and egress of construction vehicles can create dust.	Local	Temporary	Low	Highly probable	Yes	Low	Yes	EMP
Traffic (Operational phase)	Increase in traffic in the area is expected due to	Local	Permanent	Medium	Definite	Yes	Low	Yes	EMP

POTENTIAL IMPACT	DESCRIPTION	EXTENT	DURATION	INTENSITY	PROBABILITY	CONFIDENCE/ SUFFICIENT INFORMATION AVAILABLE?	SIGNIFICANCE	SIGNIFICANT MITIGATION DEEMED POSSIBLE?	NEXT STEP
	construction activities and township extension.								
Effluent generation	Once the township is extended / established, effluent will be generated from the households	Local	Long-term	Medium	Definite	Yes	Low	Yes	EMP
Impact on scarce water resources	The Ohangwena Regional Council has to make provision for providing additional water to the extended township	Local	Long-term	Low	Improbable	Yes	Low	Yes	EMP
Increase generation of domestic waste	Township establishment will generate domestic waste.	Local	Long-term	Medium	Definite	Yes	Medium	Yes	EMP
Impact on existing properties	The proposed development (township establishment) is believed to impact on exiting property values in the area.	Local	Long-term	Low	Probable	Yes	Low	Yes	EMP

POTENTIAL IMPACT	DESCRIPTION	EXTENT	DURATION	INTENSITY	PROBABILITY	CONFIDENCE/ SUFFICIENT INFORMATION AVAILABLE?	SIGNIFICANCE	SIGNIFICANT MITIGATION DEEMED POSSIBLE?	NEXT STEP
Public open space encroachment	The proposed development may encroach in public space area.	Local	Temporary	Low	Probable	Yes	Low	Yes	EMP

10. CONCLUSIONS AND RECOMMENDATIONS

As discussed earlier, the purpose of project, township development, and subsequent construction of residential units is hinged on the Ohangwena Regional Council Structure Plan, meant to guide the Council in future decision making with regards to planning decisions such as development control.

The unexpected high growth of Ohangwena's population in recent years has created a number of challenges for the Council in terms of providing land for the increased population, servicing land with the provision of infrastructure and creating the conditions for economic growth and thereby employment opportunities for this growing population.

Potential impacts associated with the proposed project have been identified and their significance determined. None of the potential impacts identified had "high" impact significance. All identified impacts can be mitigated so as to reduce the significance of these impacts to an acceptable level. Mitigation measures are described in greater detail in the EMP. Hence, the project, as proposed in this report, can be implemented with no significant impacts if executed according to the EMP.

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LIST OF ANNEXURES

ANNEXURE	DESCRIPTION
Annexure A	Environmental Management Plan
Annexure B	List of Interested and Affected Parties
Annexure C	Newspaper Adverts
Annexure D	Proof of Registered Mail
Annexure E	Layout Maps
Annexure F	Locality Map
Annexure G	Public Meeting Minutes
Annexure H	Background Information Document
Annexure I	CVs of Environmental Impact Assessment Practitioners
Annexure J	Land Allocation Letter