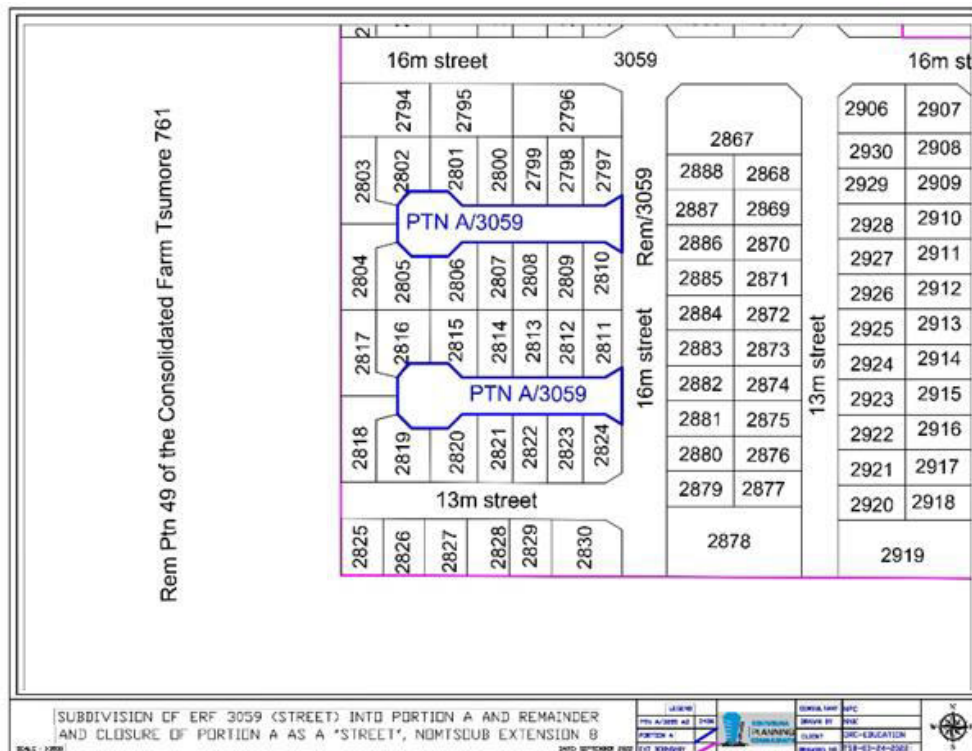


ENVIRONMENTAL IMPACT ASSESSMENT

FOR THE
CLOSURE OF PORTION A OF ERF 3059 (STREET) AS A "STREET", TSUMEB TOWN,
OSHIKOTO REGION.



OCTOBER 2022

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Client

Name	Position/ Role	Address
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LIST OF ABBRECIATIONS

TERMS	DEFINITION
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
DEA	Department of Environmental Affairs
MET	Ministry of Environment and Tourism
PPPPs	Projects, Plans, Programmes and Policies
NDC	Namibia Development Consultants
SANS	South African National Standards

I&APs	Interested and Affected Parties

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1. INTRODUCTION AND BACKGROUND

The Tsumeb Municipality has allocated Erven 2797-2824 and Portion A/3059 (Street), Nomtsoub Extension 8 to the Directorate of Education, Arts and Culture of Oshikoto Region for the construction of a primary school. In order for the construction of the school to commence the statutory town planning process of consolidation and closure of a portion of the street (Portion A/3059) should first be completed and any closure of streets requires an Environmental Clearance Certificate.

Thus, the Oshikoto Directorate of Education, Arts and Culture has appointed Nghivelwa Planning Consultants to conduct an Environmental Impact Assessment and Environmental Management Plan (EMP) for the Closure of the proposed Portion A of Erf 3059 (Street), Nomtsoub Extension 8, to be consolidated with Erven 2797-2824 for the construction of an educational institution on the consolidated property. The Environmental Impact Assessment has been conducted to meet the requirements of Namibia's Environmental Management Act, 2007 (Act No. 7 of 2007).

An EIA may be defined as: a formal process to predict the environmental consequences of human development activities and to plan appropriate measures to eliminate or reduce adverse effects and to augment positive effects.

EIA thus has three main functions:

- To predict problems,
- To find ways to avoid them, and
- To enhance positive effects.

1.1. Terms of Reference

The proposed project for the closure of proposed Portion A of Erf 3059 (Street) as a "Street" is a listed activity that cannot be undertaken without an Environmental Clearance Certificate. Therefore, as part of the commissioning process an Environmental Impact Assessment (EIA) is required. Thus the Oshikoto Directorate of Education, Arts and Culture appointed Nghivelwa Planning Consultant to provide consultancy services to undertake an environmental impact assessment to comply with the Environmental Management Act, 2007 (Act No. 7 of 2007).

The Terms of Reference (ToR) for the consultants are, but not limited to the following:

- The collection of all possible data on the environmental, social and natural resource components and parameters of necessity;
- A description of the location of the proposed project including the physical area that may be affected by the project activities;
- Description of the design of the proposed project;
- Description of the activities that will be undertaken during the project construction, operation and decommissioning phases;
- Listing of the materials to be used, products and by products, including waste to be generated by the project and the methods of disposal;
- Identification of the potential environmental impacts of the proposed project and
- The mitigation measures to be taken during and after implementation of the project;
- Accidents during the project cycle;
- Establishment of a plan to ensure the health and safety of the workers and neighbouring communities;
- Identification of the economic and socio-cultural impacts of the proposed project;
- Economic and social analysis of the project including project risk and measures to mitigate them.
- Establishment of an action plan for the prevention and management of possible (EMP).
- The consultant will prepare recommendation on the project for its future use.

1.2. Acknowledgement

Nghivelwa Planning Consultant has prepared this EIA Report on behalf of Oshikoto Directorate of Education, Arts and Culture as the proponents of this project. The Project proponent has provided the necessary information during the EIA process and preparation of the Scoping Report. The Consultant (Nghivelwa Planning Consultant) gratefully acknowledges the contribution provided by the proponent as well as the support and interest shown by all the identified stakeholders.

2. PROJECT DESCRIPTION

The proposed development is for the closure of the proposed Portion A of Erf 3059 (Street), Nomtsoub Extension 8, Tsumeb Town, Oshikoto Region in the north central part of Namibia, to cater for the construction of a new primary school on the new property to be consolidated with Erf 2797 – 2824, Nomtsoub Extension 8.

The project involves the closure of a public street to be rezoned to institutional to allow for the consolidation and later construction of an educational institution. This Scoping report is for the closure of the proposed Portion A/3059 and does not include the construction of infrastructure of the proposed school.

The proponent will be responsible for the maintenance of the site during operational phase such as waste management from site, noise pollution control, safety as well as technical maintenance of the afore-mentioned services.

The layout of the site is shown in figure 1 below.

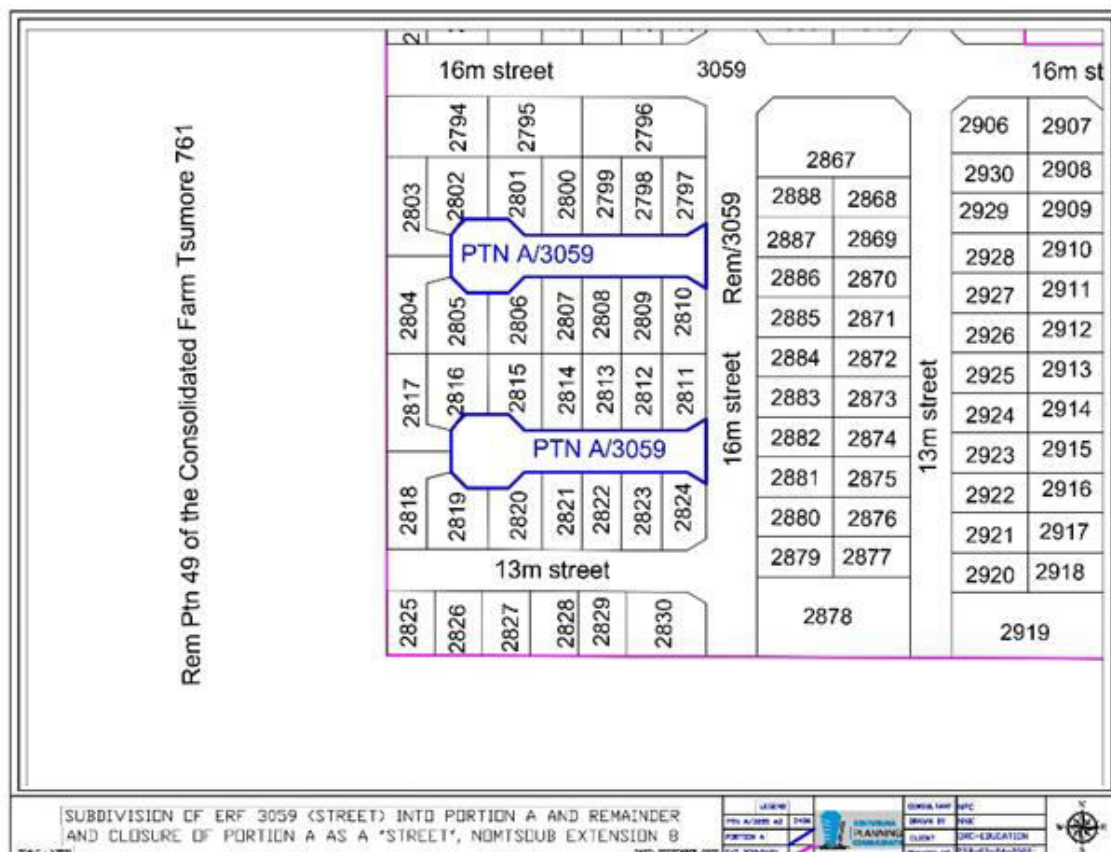


Figure 1. layout plan

2.1. Site Locality

Proposed Portion A/3059 is located in Nomtsoub Extension 8 on western side of Tsumeb Town, Tsumeb Urban Constituency, Oshikoto Region, Namibia.



Figure 2: Locality Map

2.2. Land Zoning and Ownership

Proposed Portion A of Erf 3059 (Street), Nomtsoub Extension 8 is currently owned by the Tsumeb Municipality. However, the Tsumeb Municipality is in the process of selling the land to the Oshikoto Directorate of Education, Arts and Culture for the construction of an educational institution. Proposed Portion A of Erf 3059 (Street) is zoned for “Street” purposes.

2.3. Site Descriptions

Proposed Portion A/3059 currently measure 2 486m² in extent and is currently vacant. It is located in Nomtsoub Extension 8 on the western side of Tsumeb Town. There are residential erven near proposed Portion A/3059, thus the proposed development will blend in with the surrounding environment. There Erf is currently vacant and there are no buildings constructed on the property.



Figure 1: Undeveloped Portion A/3059

2.4. Proposed Activities

The proposed activities entail the following:

- Closure of proposed Portion A of Erf 3059 (Street), Nomtsoub Extension 8 as a “Street”.

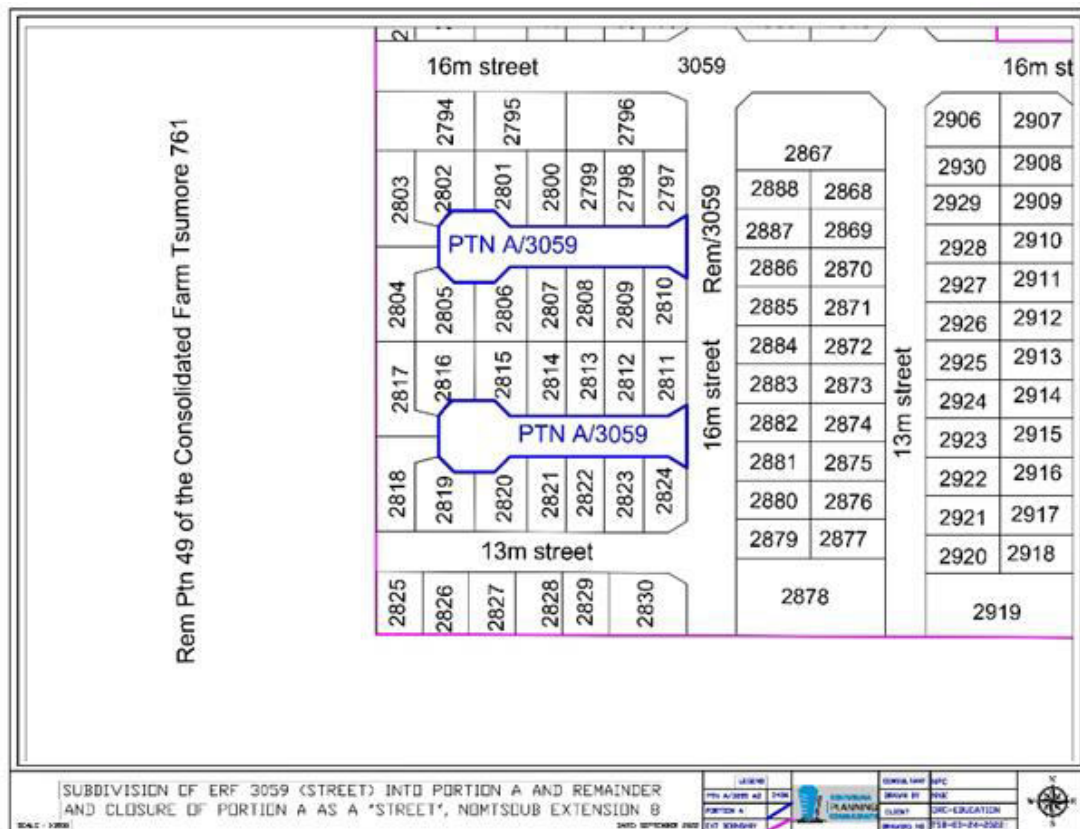


Figure 4: Layout Plan of the Site

After the successful implementation of the town planning and cadastral procedures, the new consolidated erf will be used for the construction of a school and no further subdivision or consolidation will be carried out.

2.5. Need and Desirability of the Proposed Project

The proponent is desirous to close proposed Portion A of Erf 3059 (Street), Nomtsoub Extension 8 as a “Street” and subsequent consolidation to allow them to develop a school on the new consolidated Erf. The Namibian Constitution guarantees the right to education to every Namibian child and the Central Government has made access to education a priority over the years. However, due to the lack of resources and poor coordination between central, regional and local government there is a significant shortfall in the provision of education in the country.

A new primary school in Tsumeb will cater for the rapidly growing population of town by providing additional schooling options and will ease the already existing overcrowded classrooms. The Oshikoto Region is one of the regions in Namibia with a low literacy rates,

the Oshikoto Directorate is thus desirous to develop additional schools to educate the young generations of the region and guarantee that they have a bright future ahead of them.

3. ANALYSIS OF ALTERNATIVES

In terms of environmental impact assessment best practice, assessment of potential impacts from a proposed activity must include the assessment of alternatives. Assessment of alternatives is undertaken to identify the option that will minimise harm to the environment and may include site, technology and other alternatives, but must always include the option of not implementing the activity, known as the “no-go” alternative.

3.1. Alternative Site

The proponent has the option of undertaking the proposed development in a different location other than the chosen site. This could also entail acquiring land elsewhere to carry out the development.

Due to land availability and the fact that this is the only portion of land the proponent was allocated by the Tsumeb Municipality, the proposed site, Alternative 1, is the only site that has been identified for the proposed development during the consultation process with the proponent and the Tsumeb Municipality. Therefore, no alternative site has been identified or considered during this study.

The following reasons justify the use of the proposed site for the development:

- The proponent owns the property and it will not make sense to purchase other land parcels for this project.
- The proposed site is easily accessible and close to existing municipal services such as roads, electricity, water and sewerage connection.
- The land is in a residential zone, therefore no red data recorded on the proposed land which might hinder the development on the proposed land.
- There is adequate space for the proposed development on the proposed land.
- It will create job opportunities for the local or Namibians in both construction and operational phases which will improve their skills.

3.2. The “No Project” Alternative

The No-Go Option is the option not to proceed with the proposed activity, implying a continuation of the current situation/ status quo. Therefore, the No-go Alternative would mean that the Closure of the proposed Portion A/3059, Nomtsoub Extension 8 does not take place and thus the school will not be constructed. Should the proposed development not take place, serious consequences can be expected. From the environmental-socio-economic point of view, the no project option is the least preferred option due to the following factors:

- Currently the site is undeveloped and may attract illegal activities such as dumping of waste therefore, leaving it in its current situation is not an option.
- No additional educational opportunities will be created for the residents of Tsumeb
- The local skills would remain underutilized.
- Tsumeb children will not be educated
- No employment opportunities will be created for the locals who would work on the project.
- Poverty will not be eradicated in terms of job creations.

This is therefore not a desirable alternative.

4. POLICY AND OTHER RELEVANT LEGISLATION

The following are the legal instruments that govern or advocate the closure of streets:

5. SUBJECT INSTRUMENTS	AND APPLICATION TO THE PROJECT	CONTENT
The Constitution of the Republic of Namibia	General human rights – eliminates discrimination of any kind The right to a safe and healthy environment Affords protection to biodiversity	Ensure these principles are enshrined in the documentation of the exploration project
Environmental Management Act EMA (No 7 of 2007)	Requires that projects with significant environmental impact are subject to an environmental assessment process (Section 27). Details principles which are to guide all EAs.	Ensure that the closure is carried out within the parameters of the Act.

<p>Environmental Impact Assessment (EIA) Regulations GN 28-30 (GG 487</p>	<p>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).</p>	
<p>Forestry Act No 27 of 2004</p>	<p>Provision for the protection of various plant species</p>	<p>Some species that occur in the area are protected under the Forestry Act and a permit is therefore required to remove the species</p>
<p>Hazardous Substances Ordinance 14 of 1974:</p>	<p>Control of substances which may cause injury or ill-health or death of human beings because their toxic, corrosive, irritant, strongly sensitizing or flammable nature</p>	<p>The waste generated on site and at the campsite should be suitably categorised/classified and disposed of properly and in accordance with the measures outlined in the Ordinance and Bill</p>
<p>The Nature Conservation Ordinance (No. 4 of 1975)</p>	<p>Prohibits disturbance or destruction of protected birds without a permit. Requires a permit for picking (the definition of “picking” includes damage or destroy) protected plants without a permit</p>	<p>Protected plants will have to be identified during the planning phase of the project. In case there is an intention to remove protected species, then permits will be required</p>

Forestry Act 12 of 2001 Nature Conservation Ordinance 4 of 1975	Prohibits the removal of any vegetation within 100 m from a watercourse (Forestry Act S22(1)). Prohibits the removal of and transport of various protected plant species.	Even though the Directorate of Forestry has no jurisdiction within townlands, these provisions will be used as a guideline for conservation of vegetation.
Convention on Biological Diversity, 1992	Protection of biodiversity of Namibia	Conservation-worthy species not to be removed if not absolutely necessary.
Water Act 54 of 1956 Water Resources Management Act 24 of 2004	The Water Resources Management Act 24 is presently without regulations; therefore, the Water Act 54 is still in force The Act provides for the management and protection of surface and groundwater resources in terms of utilisation and pollution	Obligation not to pollute surface water bodies
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 National Heritage Council for relocation
Labour Act 11 of 2007	Details requirements regarding minimum wage and working conditions (S39-47).	Employment and work relations
Health and Safety Regulations GN 156/1997 (GG 1617	Details various requirements regarding health and safety of labourers.	Protection of human health, avoid township establishment at areas that can impact on human health.
Public Health Act 36 of 1919	Section 119 states that “no person shall cause a nuisance or shall suffer	The Tsumeb Municipality should ensure that all

	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.”	contractors involved during the construction, operation and maintenance of the proposed project comply with the provisions of these legal instrument
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.
Urban and Regional Planning Act no 5 of 2018	Details the functions of the Urban and Regional Planning Board including their consideration when assessing an application for Closure of a street (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.
Local Authorities Act no 23 of 1992	Details the procedures to be followed for the closure of public streets in Local Authority Areas.	The public must be informed on the permanent closure of streets.

Table 1: Legislation related to the closure of streets.

6. BASELINE DATA

6.1. Climatic conditions

The climate in Tsumeb is referred to as a local steppe climate. During the year, there is little rainfall in Tsumeb. The climate in Tsumeb is classified as BSh by the Köppen-Geiger system. Tsumeb has a subtropical climate, with very hot summers and mild winters. The mean

maximum temperature lies at 29 °C, while the mean minimum temperature is 14,4 °C. Occasional thunderstorms occur during the summer rainfall months, October to March. The average rainfall is 555 mm per annum.

6.2. Geology, Topography and drainage

According to NDS, the topography of the Oshikoto region is predominantly flat, gradually descending from north south towards the Etosha pan. In this region, there are no perennial rivers, but at least 3 seasonal rivers of which some forms part of the Cuvelai Drainage system from Angola in the North to Etosha Pan in the South of the region.

The quality of the groundwater within the region is variable due to the fact that some boreholes provide a good yield at the depths of 10m and 50m. The water quality in the region is varying from drinkable to highly saline water. With Ephemeral River in the region, the water source in the ephemeral can be accessed even by hand-dug pit. The interconnected Ephemeral pans and shallow river courses known as Oshanas are the reminders of the proto-Kunene and Cuvelai systems which are emptied into the inland pan known as the Etosha pan. However, these water systems do not pass through Tsumeb.

6.3. Soils

Oshikoto Region is covered by the Kalahari Sandveld which is mainly made up of an Aeolian sand mantle about 50m thick, covering calcretes and sediments. The high evaporation rate in the region makes the soils in the oshanas to be very saline with sodium and Gypsum found in these soils making the soils not suitable for agricultural projects.

6.4. Fauna

The Kalahari woodland in the region is mainly dominated by species such as Rhodesian teak, kiaat, mangetti and silver leafed tennianalia. The Ekata and Cuvelai Systems are more ecologically sensitive and support a diverse but depressed fauna as well as fish which are introduced to the system during good rainy years. During rainy season, the bird life picks up in

the western part of the Region. However, other places get high numbers of individual species such as Abdim's stork and Flamingo rather than a wide variety of species.

During the site inspection, no animals were seen. However, small burrowing species are expected to occur. The surrounding area is currently unused and there are only a few vehicular movement and footpaths. The site visit has revealed that it is unnecessary to appoint a specialist to assess the ecology of the area.

6.5. Flora

The proposed site was visited on the 30th September 2022 and examined for any possible traces of red data or endangered species. It was observed that the proposed site is already cleared and the streets already constructed, thus there was no vegetation located on the property. No red data or endangered species were noted / recorded during the site visit, therefore it was decided that it is unnecessary to include an ecological specialist study in the report.

7. SOCIO-ECONOMIC ENVIRONMENT

According to the Namibia 2011 Population and Housing Census the total population in Oshikoto Region was 181 173 (NPC, 2011). The population density is 4.7 persons per km² and the Human Poverty index (HPI) is 0.636 compared to National HPI of 20.35. Eighty-six (86 %) percent of the population lives in rural areas and fourteen (14%) percent live in urban areas. Life expectancy is 62 years for females and 52 years in males, resulting in most houses being head by females at 55% and the remainder by males at 45%. The population was divided into 20988, with an average size of 3.6 persons. Most (96%) of the households residing within the Oshikoto Region speaking Oshiwambo (NPC, 2011).

8. PUBLIC PARTICIPATION PROCESS (PPP)

This section of the report provides details of Public Participation Process (PPP) undertaken in the compilation of the EIA final report. Therefore, in terms of Section 26(1)(h) of the Namibian Environmental Assessment Regulations (2012), it is a requirement to provide details of the public participation process conducted in accordance with Section 32 of the Environmental Assessment Regulations. Furthermore, the Public Participation forms an important component of this EIA.

It has been defined by the Ministry of Environment and Tourism that an Environmental Assessment Regulations (2012) of the Environmental Management Act (2007), as a process in which potential interested and affected parties such as neighbouring landowners, local authorities, environmental groups, village councils and communities, to comment on the potential environmental impacts associated with the proposed activity and are given an opportunity to comment on, or raise issues relevant to the proposed project and its benefits to the nation and to Namibia's economy. Apart from the legal requirements, public and stakeholder consultations ensure that their comments and views are considered during the decision-making process.

8.1. Aim for Public Participation Process (PPP)

The aims for the Public Participation Process is but not limited to; -

- Informing Interested and Affected Parties (I&APs) of the proposed project;
- Identifying issues, comments and concerns as raised by I&APs;
- Promoting transparency and an understanding of the project and its consequences;
- Serving as a structure for liaison and communication with I&APs; and
- Providing local knowledge and input in identifying potential environmental (biophysical and social) impacts and “hotspots” associated with the proposed development.

8.2. Compilation of stakeholder database

The first step in the Public Participation Process (PPP) is to identify key stakeholders. A stakeholder database was compiled and the target groups for this project were informed and requested to provide comments to this project:

- Tsumeb Municipality;
- Oshikoto Regional Council;
- Oshikoto Directorate of Education, Arts and Culture
- General public

8.3. Background Information Document

This document provides a short summary of the project and the EIA process. Therefore, a background information document (BID) was prepared and was ready to be distributed to Interested & Affected Parties. However, no Interested & Affected Party requested for it. See a copy of the BID attached.

8.4. Notification of I&APs

The requirements for the notification of potentially interested and affected parties of this application are set out in detail in section 32(2)(b) of the EA regulation. These requirements have been addressed and include; -

- Forwarding letters to government authorities and other identified relevant stakeholders;
- Fixing a notice board at a place conspicuous to the public
- Placing advertisements twice in at least two local newspapers.

8.5. Advertisement

The advertisement of the public participation and public meeting for the proposed project were placed in two local newspapers, the New Era and the Confidante (dated: 30th September and 7th October 2022). Proof of advertisements are attached.

8.6. Notice Board

An A3 size notice board detailing information about the project and the EIA process was erected at a recognised public area at the Tsumeb Municipality Notice Board and on site on the 30th of September 2022.

8.7. Public Meeting

In compliance with the EIA Regulations (2012), public (I&AP) and all stakeholders were notified as a requirement for EIA process to incorporate the varying needs of stakeholders and I&APs, as well as to ensure the relevant interactions between stakeholders and the EIA specialist team. Due to lack of interest and small scale nature of the project, it was decided that a public meeting was not necessary for this project.

8.8. Issues raised by interested and affected parties

No comments received on the project from interested and affected parties (stakeholders), although they were notified about the project.

9. ENVIRONMENTAL ASSESSMENT METHODOLOGY

An appraisal of the type of effect the proposed subdivision would have on the affected environment; rate as either positive (beneficial on the environment), neutral (no impact on the environment), or negative (adverse impact on at a cost to the environment).

Severity

Rating	Description
1	Negligible / non-harmful / minimal deterioration (0 – 20%)
2	Minor / potentially harmful / measurable deterioration (20 – 40%)
3	Moderate / harmful / moderate deterioration (40 – 60%)
4	Significant / very harmful / substantial deterioration (60 – 80%)
5	Irreversible / permanent / death (80 – 100%)

Table 2: Assessment and Rating of Severity

Duration

Rating	Description
1	Less than 1 month / quickly reversible
2	Less than 1 year / quickly reversible
3	More than 1 year / reversible over time
4	More than 10 years/ reversible over time/ life of project or facility
5	Beyond life of project or facility/ permanent

Table 3: Assessment and Rating of Duration

Extent

Rating	Description
1	Within immediate area of the activity
2	Surrounding area within project boundary
3	Beyond project boundary
4	Regional/ Provincial
5	National/ International

Table 4: Assessment and Rating of Extent

Consequence is calculated as the average of the sum of the ratings of severity, duration and extent of the environmental impact.

Determination of Consequence (C)	(Severity + Duration + Extent) / 3
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Table 5: Determination of Consequence

Frequency

Rating	Description
1	Less than once a year
2	Once in a year
3	Quarterly
4	Weekly
5	Daily

Table 6: Assessment and Rating of Frequency

Probability

Rating	Description
1	Almost impossible
2	Unlikely
3	Probable
4	Highly likely
5	Definite

Table 7: Assessment and Rating of Probability

Likelihood

Likelihood considers the frequency of the activity together with the probability of the environmental impact associated with that activity occurring.

Determination of Likelihood (L) =	(Frequency + Probability) / 2
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Table 8: Determination of Likelihood

Environmental Significance

Environmental significance is the product of the consequence and likelihood values.

Rating	Description
L (1 - 4.9)	Low environmental significance
LM (5 - 9.9)	Low to medium environmental significance
M (10 - 14.99)	Medium environmental significance
MH (15 - 19.9)	Medium to high environmental significance
H (20 - 25)	High environmental significance. Likely to be a fatal flaw

Table 9: Determination of Environmental Significance

8.1 Impacts Associated with Construction Phase

Potential effects on the environment and their mitigation measures during construction are:

Air Quality Impacts These are expected to be site specific and surrounding area, short-termed and will most probably pose a negligible nuisance and health threat to those residing nearby. The construction of the proposed school will have impact on the surrounding air quality as construction vehicles will be frequenting the site and surrounding.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	2	2	2	2	5	5	5	Negative	7(LM)
Mitigation measures:									
<ul style="list-style-type: none"> - Dust may be generated during the construction/decommissioning phase and might be aggravated when strong winds occur therefore, dust suppression during the construction process is advised when dust becomes an issue. - Vehicles travelling to and from the construction site must adhere to the speed limits so as to avoid producing excessive dust. A speed limit of 40 km/h should be set for all vehicles involved in the construction. - Loads of sand should be covered to avoid loss of material in transit, especially if material is transported off site. 									
Mitigated	1	1	1	1	1	1	1	Negative	2 (L)

Noise caused by construction activities- Noise levels are expected to rise during the construction phase of the development. Construction activities that can cause noise include construction vehicles, electric generators, pressure hammers, earthmoving equipment that are normally utilized during the construction phase.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	3	4	3	3.33	5	3	4	Negative	8.33 (LM)
Mitigation measures: <ul style="list-style-type: none"> - Construction should be limited to normal working days and office hours from 08h00 to 17h00 and 07:30 – 13:00 on Saturdays. - Provide ear plugs and ear muffs to staff undertaking the noisy activity or working within close proximity thereof or alternatively, all construction workers should be equipped with ear protection equipment. - Noise pollution should be addressed and mitigated at an early stage of construction phase. 									
Mitigated	1	1	1	1	1	1	1	Negative	2 (L)

Employment Creation (Positive Impact) employment created and economic benefits to the local community because of the installation of services and infrastructure which will require labour from the locals.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	1	3	3	2.33	2	5	3.5	Positive	5.83 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - Various employment opportunities will be created during all phases of the development, ranging from highly skilled to unskilled. Preference should be given to Namibian Citizens residing in Tsumeb. - When recruiting, the responsible contractor should ensure gender equity is taken into consideration. - No employment applications may take place at the entrance to the site, formal employment channels must be used. - In terms of human resource development and capacity building, the contractor must enforce training programs that skilled workers should always train unskilled workers when necessary, in order for them to enhance their performances and to gain more knowledge that they might demonstrate at other levels in future. 									
Mitigated	1	2	5	2.66	3	5	4	Positive	6.66 (LM)

Health and Safety- Health and Safety Regulations pertaining to personal protective clothing, first aid kits being available on site, warning signs, etc. should be adhered to. There is a possibility for accidents to occur during the construction phase if proper care is not taken.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	5	5	2	4	5	3	4	Negative	8 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - A health and safety plan is to be developed and implemented as soon as land clearing commences. - During construction, earthmoving equipment will be used on site. This increases the possibility of injuries and the responsible contractor must ensure that all staff members are briefed about the potential risks of injuries on site. - Ensure the appointment of a Safety Officer to continuously monitor the safety conditions during construction. - The contractor is further advised to ensure that adequate emergency facilities are available on site. - The construction staff handling chemicals or hazardous materials must be trained in the use of the substances and the environmental, health and safety consequences of incidents. - All construction staff must have the appropriate PPE. 									
Mitigated	2	1	2	1.66	1	2	1.5	Negative	3.16 (L)

Traffic - Potential impact due to increase in traffic because the site is in the urban area that is already inhabited. Construction related activities are expected to have a minimal impact on the movement of traffic along the road. Accidents might occur if unqualified drivers are employed.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	4	3	4	3.66	5	4	4.5	Positive	8.16 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - No diversion of traffic or closure of the road is expected and the construction the site will be cordoned off. - The responsible contractor must ensure that all drivers employed have valid driver's licenses and adequate experience for the type of vehicles they are going to operate. - The contractor must ensure that there is always a supervisor on site to ensure that drivers do not operate vehicles while intoxicated. - Construction Vehicles speed limit should be 40 km/h and should consider other road users. 									
Mitigated	1	1	1	1	1	2	1.5	Positive	2.5 (L)

Waste Impacts- The construction phase of the development is likely to generate waste from builder's rubble, general construction refuse and minor hazardous waste including paint tins, cleaning acids, asphalt's and oils. The development could therefore impact on the environment by generating solid waste pollution.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	3	3	3	3	5	4	4.5	Negative	7.5 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - Ensure that no excavated soil, refuse or building rubble generated on site are placed or dumped on surrounding properties or land. - Contaminated waste in the form of soil, litter, building rubble and other material must be disposed of at an appropriate disposal site. - The contractor and developer should ensure that all the waste generated by the development is appropriately disposed of at the recommended waste disposal sites close to the area. - Strictly, no burning of waste on the site or at the disposal site is allowed as it possess environmental and public health impacts; 									
Mitigated	1	1	1	1	4	2	3	Negative	4 (L)

Safety and Security- During the construction and decommissioning phase, earthmoving equipment will be used on site. This increases the possibility of injuries. Presence of equipment may encourage criminal activities (theft).

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	3	3	3	3	5	4	4.5	Negative	7.5 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - The site must be fenced off to prevent unauthorized access during construction. - All visitors must report to the site office. - Ensure that the contact details of the police or security company and ambulance services are available on site. - The contractor and developer should ensure that all the waste generated by the development is appropriately disposed of at the recommended waste disposal sites close to the area. - Strictly, no burning of waste on the site or at the disposal site is allowed as it possess environmental and public health impacts; 									
Mitigated	1	1	1	1	4	2	3	Negative	4 (L)

8.2 Impacts Associated with Operational Phase

Increased employment opportunities-

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	2	3	5	3.33	3	3	3	Positive	6.33 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - It is recommended to consider local people when hiring or recruiting people to benefit unskilled and semi-skilled people from the local community that can gain valuable skills during this project. - Jobs for the maintenance of infrastructure and services will be created following the completion of the development. These jobs will increase the labour force of Tsumeb and thus stimulate its development. - Equity, transparency, should be taken into account when hiring and recruiting and that committees should also take part in the recruiting process. 									
Mitigated	1	4	4	3	2	5	4	Positive	6.5 (LM)

Improved aesthetic look of the area- The development is essential to improve the visual and aesthetics view of the area. This potential impact of the infrastructure on the economic structure is positive.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	3	4	1	2.66	5	4	4.5	Positive	7.16 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - No mitigation required as it's a positive impact. However, the developer should create awareness among the administrative staff about energy conservation, waste management, water conservation and other resources. - It should provide accessibility to the services provided in the building. - Parking areas will be provided with 1 parking bay per 25m². - Ensure proper and regular maintenance of the area. - No illegal dumping of waste should be allowed 									
Mitigated	1	4	2	2.33	5	5	5	Positive	7.33 (LM)

Water demand- Namibia is a water scarcity country, therefore, the additional development like this one will increase the water demand.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	5	5	5	5	5	5	5	Negative	10 (M)
Mitigation measures:									
<ul style="list-style-type: none"> - This development will create employment to people from different backgrounds and with different perceptions on using water. Therefore, awareness should be created to inform people on the importance of saving water to reduce water consumption. 									
Mitigated	1	2	1	1.33	1	2	1.5	Negative	2.83 (L)

Power usage- Namibia is experiencing power shortage; therefore, electricity should be used wisely in order to sustain the future generation.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	2	5	5	4	5	3	4	Negative	8 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - Power should be off in areas that are not in use/avoid unnecessary lights - Avoid unnecessary printings - Unplug unused electronics - Ditch the desktop computers - Encourage use of renewable energy i.e. Solar lights at parking to supplement the electricity supply 									
Mitigated	1	1	1	1	3	2	2.5	Negative	3.5 (L)

Waste management- Generation of domestic waste and sewage waste generated from bathrooms.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	4	3	3	3.33	5	3	4	Negative	7.33 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - During the operations phase, the Tsumeb Municipal waste management team will manage the waste disposal from the site while the proponent will ensure that waste is stored correctly. - Tsumeb Municipality to follow their existing formal waste collection strategy and that the waste is to be collected regularly by disposed of at authorized dumping site or disposal site. - Ensure maintenance of sewage system - Illegal dumping should be prohibited. 									
Mitigated	1	1	1	1	4	2	3	Negative	4 (L)

Improved education opportunities- The development is essential to improve the educational opportunities of young people in Tsumeb.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	3	4	1	2.66	5	4	4.5	Positive	7.16 (LM)
Mitigation measures:									
<ul style="list-style-type: none"> - No mitigation required as it's a positive impact. - The proposed school will add more capacity to the number of learners that will receive education in Tsumeb. - The proposed school will provide additional employment to teachers in the area. - The proposed school will capacitate the young people and help keep them off the streets by keeping them in school. - Additional schools will help with achieving the Namibian Governments targets for education and development. 									
Mitigated	1	4	2	2.33	5	5	5	Positive	7.33 (LM)

8.3 Impacts Associated with Decommissioning Phase

At this point, there is no plan to for the project to enter into a decommissioning phase. However, plans should be put in place in case that this becomes necessary in the future. Should the decommissioning of this project become necessary an Environmental Impact Assessment (EIA) will be required and the disposal of decommissioned equipment and hazardous contaminated materials should be disposed following the disposal of hazardous material legislation.

9 CONCLUSION

The Tsumeb Municipality has allocated Erven 2797-2824 and Portion A/3059 (Street), Nomtsoub Extension 8 to the Directorate of Education, Arts and Culture of Oshikoto Region for the construction of a primary school. In order for the construction of the school to commence the statutory town planning process of consolidation and closure of a portion of the street (Portion A/3059) should first be completed and any closure of streets requires and Environmental Clearance Certificate.

Thus, the Oshikoto Directorate of Education, Arts and Culture has appointed Nghivelwa Planning Consultants to conduct an Environmental Impact Assessment and Environmental Management Plan (EMP) for the Closure of the proposed Portion A of Erf 3059 (Street), Nomtsoub Extension 8, to be consolidated with Erven 2797-2824 for the construction of an educational institution on the consolidated property. The Environmental Impact Assessment has been conducted to meet the requirements of Namibia's Environmental Management Act, 2007 (Act No. 7 of 2007).

The potential environmental issues associated with the proposed activities have been identified and assessed. Therefore, they are considered sufficient and no additional specialist study is required. Furthermore, a number of potential impacts were assessed and mitigation measures are provided. The area is generally suitable for the proposed development and there were no objections or critical issues have been raised by I&AP's. Hence, all environmental risks can

be minimised and managed through implementing preventative measures and sound management systems. Therefore, the approval of this application would not compromise the integrity of the existing environmental management priorities for the area.

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