

ENVIRONMENTAL IMPACT ASSESSMENT SCOPING REPORT

FOR THE

SUBDIVISION OF ERF 34, OUTJO INTO ±67 ERVEN AND REMAINDER AND THE
SUBDIVISION OF CONSOLIDATED ERF 621, OUTJO INTO ±32 ERVEN AND
REMAINDER AND THE CREATION OF STREETS.



JUNE 2024

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LIST OF ABBREVIATIONS

| TERMS | DEFINITION |
|-------|---|
| EIA | Environmental Impact Assessment |
| EMP | Environmental Management Plan |
| DEA | Department of Environmental Affairs |
| PPPPs | Projects, Plans, Programmes and Policies |
| NDC | Namibia Development Consultants |
| SANS | South African National Standards |
| I&APs | Interested and Affected Parties |
| PM | Particulate Matter |
| NPC | Nghivelwa Planning Consultants |
| NHE | National Housing Enterprise |
| GRN | Government of the Republic of Namibia |
| MEFT | Ministry of Environment, Forestry and Tourism |
| OM | Outjo Municipality |

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1. INTRODUCTION AND BACKGROUND

The Outjo Municipality has resolved to subdivide Erven 34 and 621, Outjo in order to formalize the existing residential properties and to create new erven to be allocated and sold to the inhabitants of the town. Erf 34 and 621, Outjo currently measure 8, 1748 hectares and 1, 6381 hectares in extent respectively. The erven are both zoned “Undetermined”. The subdivision of Erf 34 Outjo into ±67 erven and Erf 621, Outjo into ±32 erven will result in the creation of streets that will be used for access to the new erven to be created. The subdivision of land and the creation of streets is a listed activity and thus, requires an Environmental Clearance Certificate.

There, the Outjo Municipality has appointed Nghivelwa Planning Consultants to conduct an Environmental Impact Assessment and Environmental Management Plan (EMP) for the Subdivision of Erf 34, Outjo into ±67 Erven and Remainder (Street) and the Subdivision of Consolidated Erf 621, Outjo into ±32 Erven and Remainder (Street) and the creation of streets. The statutory exercise is necessary to allow for the formalization of residential properties already constructed and the creation of new residential erven to be allocated to Outjo residents. 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 Subdivision of Erven 34 and 621, Outjo and the creation of streets 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 Outjo Municipality 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 impacts (EMP).
- The consultant will prepare recommendation on the project for its future use.

1.2. Acknowledgement

Nghivelwa Planning Consultant has prepared this EIA Scoping Report on behalf of Outjo Municipality 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 project entails the Subdivision of Erf 34, Outjo into ± 67 Erven and Remainder (Street), Subdivision of the Consolidated Erf 621, Outjo into ± 32 Erven and Remainder and the creation of streets, the properties are located in Outjo Town, Kunene Region in the north central part of Namibia. The purpose of the exercise is to formalize the residential properties already constructed on Erven 34 and 621, Outjo and to create new erven to be allocated to the Outjo residents.

The existing home owners and the Outjo Municipality are already responsible for the maintenance of the site, such as waste management from site, noise pollution control and safety as well as maintenance of the municipal services.

The layout of the site is shown in figure 1 and 2 below.



Figure 1: Subdivision plan for Erf 34, Outjo

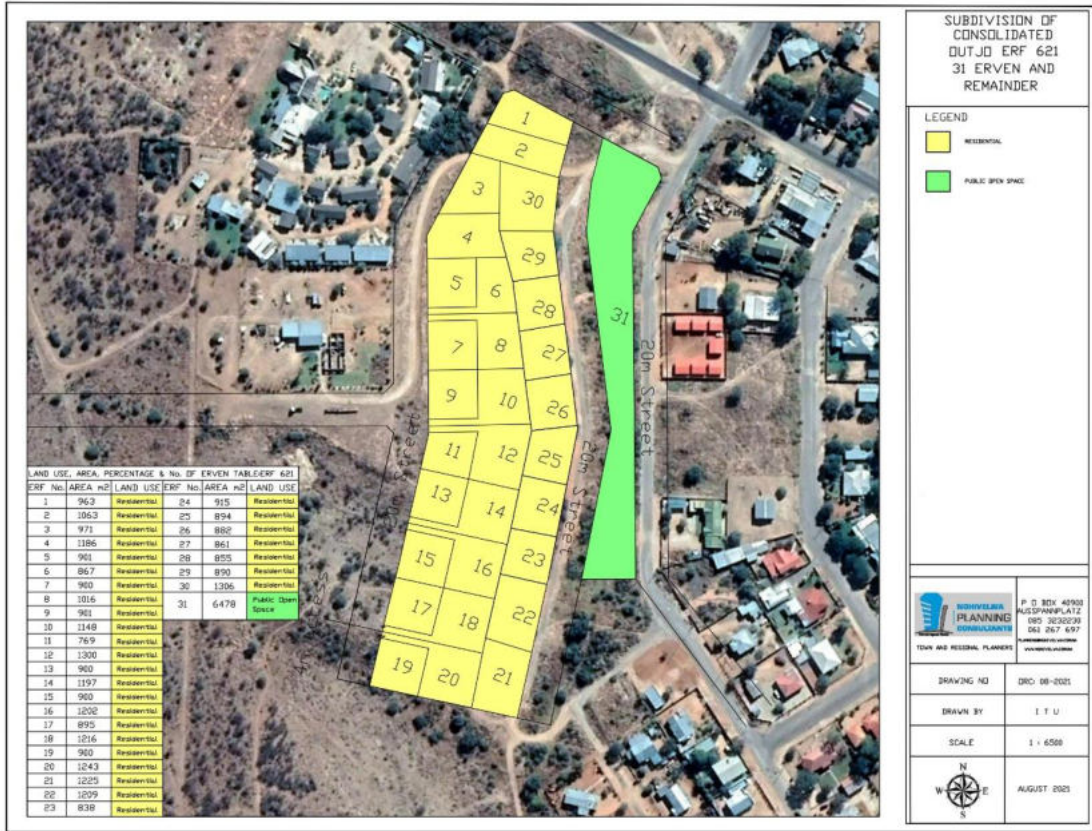


Figure 2: Subdivision plan for Erf 621, Outjo

2.1. Location of the site

Erven 34 and 621 are located in Outjo Proper, Outjo Town, Kunene Region in northern Namibia. The coordinates for the sites are Erf 34: 20° 6.661'S, 16° 9.491'E, Erf 621: 20° 6.401'S, 16° 8.679'E. The locality plans for the erven are shown below.

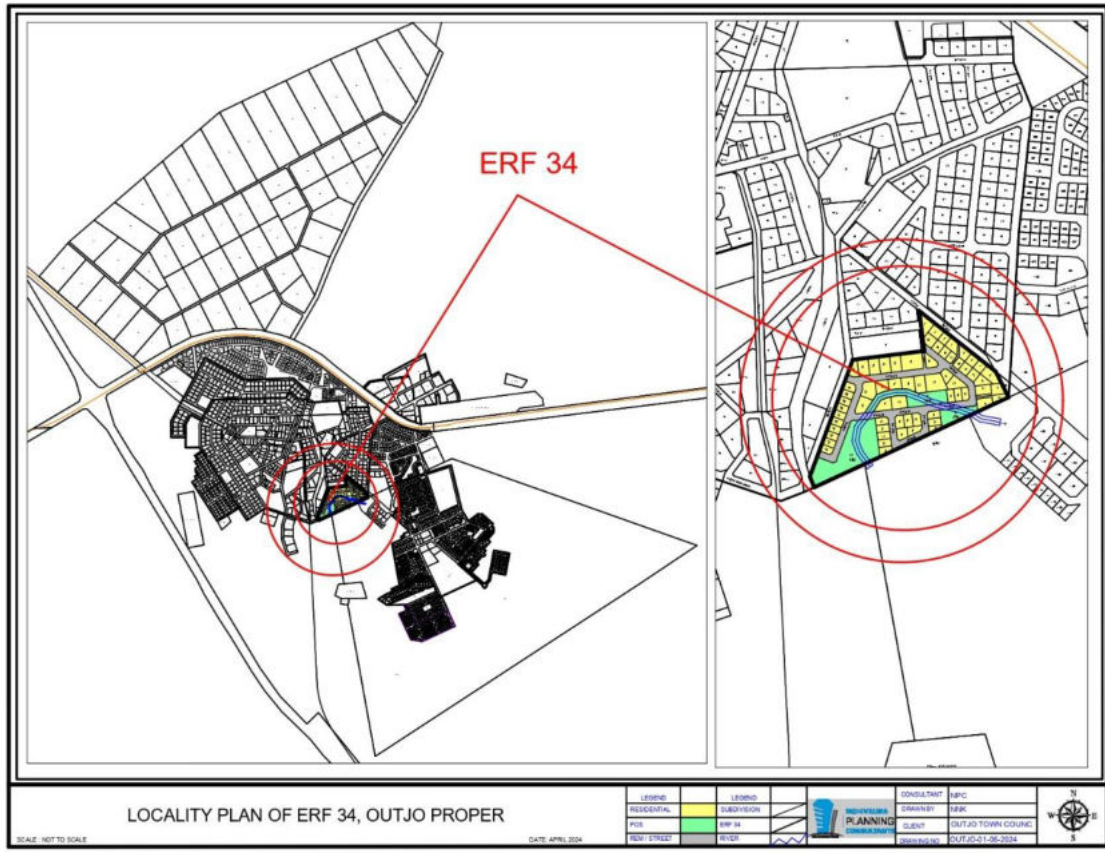


Figure 3: Locality Plan of Erf 34

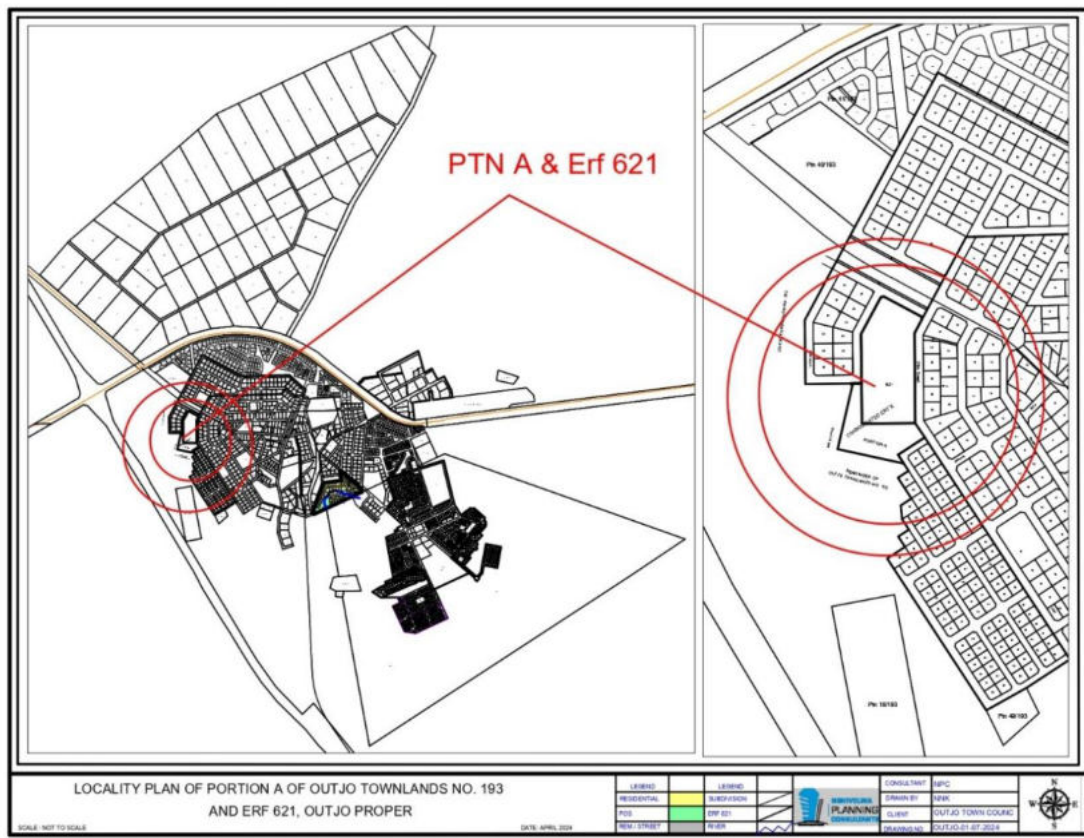


Figure 4: Locality plan of Erf 621, Outjo

The google images below shows the locality of Erven 34 and 621, Outjo.



Figure 5: Locality Image of Erf 34, Outjo



Figure 6: Locality image of Erf 621, Outjo

2.2. Land Zoning and Ownership

Erven 34 and 621, Outjo are currently owned by the Outjo Municipality. However, there are individual residential properties that have already been constructed on both of the erven. Some of these properties were constructed before independence and there was no formalization process to transfer ownership to the individual owners. Erven 34 and 621, Outjo are both zoned for “Undetermined” purposes, this means that the land can be used for any other land use until the Outjo Municipality has determined the appropriate land use for the properties.

2.3. Site Descriptions

Erven 34 and 621, Outjo currently measure 8, 1748 hectares and 1, 6381 hectares in extent respectively. There are residential properties that are currently already constructed on both properties. As per the locality plans in figure 3 and 4, Erf 34 is located at the centre of Outjo Town while Erf 621 is located on the western side of the northern town. The areas around the subject properties are mostly used for residential purposes, thus the proposed development will blend in with the surrounding environment. The Outjo Municipality will have to extend the existing municipal services once the EIA and town planning process is completed.



Figure 7: Photographic evidence of Erven 34 and 621, Outjo

2.4. Proposed Activities

The proposed activities entail the following:

- Subdivision of Erf 34, Outjo into ±67 Erven and the Remainder (Street);
- Subdivision of Erf 621, Outjo into ±32 Erven and the Remainder (Street); and
- Creation and construction of streets that will offer access for the newly created 99 Erven.



Figure 8: Subdivision plans for Erven 34 and 621, Outjo

After the successful implementation of the town planning procedure, the subdivided erven will still be used for residential purposes and no further subdivision or consolidation will be carried with other properties will be carried out.

2.5. Need and Desirability of the Proposed Project

The Outjo Municipality has identified the existing houses that were previously owned by the then Department of Works before independence to be without proper municipal services. These residential properties also lack the access to basic municipal services and their owners are unable to register the properties in the names. The Outjo Municipality is also unable to levy full taxes from these residential properties as they are not located in individual plots of land.

In order for the owners to realize the full potential from their plots and the Outjo Municipality to levy proper taxes, The Municipality has resolved to formalize all existing residential properties in the town in order to fully provide complete municipal services of water, sewer and electricity to all its residents. The formalization of residential areas will culminate in the

extension of municipal services that includes formal streets that will provide access to these properties.

Therefore, Erven 34 and 621, Outjo Proper have been identified as viable candidates for this exercise as they meet the criteria as described above. The Municipality cannot afford to have ad-hoc properties located in the town as it does not offer security of tenure to the owners and it becomes challenging to offer municipal services to these isolated properties. The subdivision of Erven 34 and 621, Outjo is justified as it will offer municipal services and a better standard of living to the town's inhabitants. The formalization of residential properties will also promote orderly living and improves the aesthetics of the town of Outjo.

3. ANALYSIS OF ALTERNATIVES

In terms of environmental impact assessment best practice, assessment of potential impacts from the 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 sites. This could also entail acquiring land elsewhere to carry out the development. Due to land availability and the fact that the residential properties are already constructed and allocated to the beneficiaries, the proposed sites, Alternative 1, are the only sites that have been identified for the proposed development during the consultation process with the proponent (Outjo 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 sites are easily accessible and already connected to existing municipal services such as roads, electricity, water and sewerage connection.
- The erven are in residential zones, therefore no red data recorded on the land which might hinder the development on the land.
- There is adequate space for new and existing residential properties.
- There residential properties already constructed on the properties.

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 Subdivision of Erven 34 and 621, Outjo and the creation of streets does not take place and thus the residential properties already constructed on the property will not be formalized.

Should the proposed development not take place, negative consequences are expected to occur. From the environmental-socio-economic point of view, the no go project option is the least preferred option due to the following factors:

- The existing residential property owners will not be able to transfer the property into their name, thus leaving them without security of land tenure.
- The existing properties might have to be demolished, leading to a wastage of resources and promoting unsustainable construction activities.
- The Outjo Municipality will not make progress towards the provision of low cost housing to its residents.
- The current land use of the property will not conform to the Outjo Zoning Scheme.
- Loss of revenue to the Outjo Municipality and they will not be able to levy rates and taxes on the land.

This is therefore not a desirable alternative.

4. POLICY AND OTHER RELEVANT LEGISLATION

The following are the legal instruments that govern or advocate the subdivision of land and the creation of streets:

| SUBJECT | INSTRUMENTS AND CONTENT | APPLICATION TO THE PROJECT |
|--|---|--|
| 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 subdivision and the creation of streets is carried out within the parameters of the Act. |
| Environmental Impact Assessment (EIA) Regulations GN 28-30 (GG 487 | 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). | Ensure that Public participation was carried out in accordance with these regulations and the Urban and Regional Planning Act, 5 2018. |
| Forestry Act No 27 of 2004 | Provision for the protection of various plant species. | Some species that occur in the area are protected under the Forestry Act and a permit is therefore required to remove the species. |
| Hazardous Substances | Control of substances which may cause injury or ill-health or death of | The waste generated on site should be suitably |

| | | |
|---|--|--|
| Ordinance 14 of 1974: | human beings because their toxic, corrosive, irritant, strongly sensitizing or flammable nature. | categorised/classified and disposed of properly and in accordance with the measures outlined in the Ordinance and Bill |
| The Nature Conservation Ordinance (No. 4 of 1975) | 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 | 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 |
| 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 residential settlements in 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 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.” | The Outjo Municipality should ensure that all contractors involved during the construction, operation and maintenance of the proposed project, if any, should 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 permanent 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 | The proposed layout and land uses should be informed by environmental factors such as water supply, soil etc. as laid out in Section 3. |

| | | |
|--|---|--|
| | subdivision of land and the creation of streets (S3) | |
| Local Authorities Act no 23 of 1992 | Details the procedures to be followed for the permanent closure of public open spaces and streets in Local Authority Areas. | The public must be informed on the proposed development. |

Table 1: Legislation related to the permanent closure of public open spaces

5. BASELINE DATA

5.1. Climatic conditions

According to Weather Atlas, Outjo enjoys a subtropical steppe climate, categorized as BSh under the Köppen climate classification. The town, nestled in the north-western part of the country, experiences its climatic conditions underscored by a distinct variation of temperature, amount of sunshine, wind speed, and rainfall across the year.

The temperature in Outjo exhibits a wide range, with the average high temperature fluctuating from 25.3°C in the colder months to 35.2°C during the peak of heat. Conversely, average low temperatures present a lesser variation, with the lowest average of 11.3°C and a peak of 22.7°C.

The amount of sunlight that graces the town throughout the year is relatively constant, with average sunshine hours ranging narrowly from 9.6 to 10 hours. Rainfall, on the other hand, sees marked fluctuations, with precipitation almost non-existent from May to August, but reaching up to 60mm in the rainiest months. The wind speed maintains a fairly steady pattern, with the average speed varying between 10.8km/h and 14.1km/h.

5.2 Geology, Topography and drainage

The Kunene Region’s physical geography is one of the virgin landscapes in the entire country. The natural mountainous landscape, rocks, minerals, soil, underground water, springs and

rivers represent the region's valuable resources. Rock formation presents some mining potential that could benefit the region economically.

The soil, underground aquifers, springs and perennial rivers have a major influence on agricultural production and tourism in the region. Kunene Region is a paradise of geological formations dating back to 250 million years, with interesting spectacular rock formations that are clearly exposed. The region consists of a great variety of rock formations, most of them exposed in landscapes of valleys, escarpments, mountains and open plains.

5.3 Soils

The **Ferralsols** (also known as laterite soils) in the Upper and Middle Kunene are deep, intensively weathered soils and have good physical properties (strong water retention) but are chemically poor. Their low natural fertility is a serious limitation for intensive agriculture. As liming and full fertilization are required for sustainable sedentary agriculture, Ferralsols in the basin are used mainly for shifting cultivation or for grazing.

Arenosols are the dominant soil in the Middle Kunene and are sandy soils that developed from residual rock weathering and have lost all primary minerals other than the coarse grained quartz. The texture is accountable for the high permeability and low water and nutrient storage capacity. However, their ease of cultivation, rooting and harvesting of root and tuber crops, makes them relative intensively cultivated. Under the conditions of the basin, these soils are best left under their natural vegetation as nutrient elements are all concentrated in the biomass in the top 20 cm of the soil.

Luvisols have a clay alluviation horizon formed by the translocation of clay from the surface soil. They have favourable physical properties and are generally fertile soils suitable for a wide range of agricultural uses.

Fluvisols cover only 2 % of the area in the Middle Kunene and are young, azonal soils in alluvial deposits, receiving fresh sediment during floods. The Fluvisols are confined to narrow strips of land adjacent to the actual riverbed. These soils are fertile and are intensively cultivated with food crops and orchards or used for grazing. Flood control, drainage and/or irrigation are often required.

Vertisols are heavy, clay soils with a high proportion of swelling clays and forming deep wide cracks when they dry out. Given their good chemical fertility, these soils have a considerable agricultural potential but appropriate management is a precondition for sustained production. Currently, large areas are still only used for extensive grazing, fuel wood gathering or charcoal burning.

Leptosols cover 75 % of the Lower Kunene. These are generally very shallow soils over hard rock, although they can also be deeper, and are extremely stony. These soils are not used for arable cropping, and have a limited potential for tree crop production or extensive grazing.

Cambisols are young soils with a beginning horizon differentiation derived from slight or moderate weathering of a wide range of rocks. The soils have limited use for agricultural production because of shallowness, stoniness and low base status.

5.4 Fauna

During the site inspection, no large animals were observed on the proposed site. However, borrows of small animals were observed and it is believed that a large number of them reside in the area. Most of these small animals adapt well to urban environments and it is expected that their populations will not be affected by the proposed development. On the contrary, the increase in the foraging food will boost the populations of these small animals.

5.5 Flora

The proposed site has minimal vegetation, apart from shrubs and grass that seasonally grows in the area. Based on the physical observations on the proposed site, it was observed that there was no visible number of vegetation apart from a few large camelthorn trees that will be preserved and incorporated into the town planning designs. The clearing of land to make way for the development will preserve the large trees that are found in the property. No red data or endangered species were noted / recorded during the site visit, thus an ecological study was not necessary for this project.

6. SOCIO-ECONOMIC ENVIRONMENT

Kunene Region is home to 120, 762 inhabitants (Census, 2023), representing 4% of the Namibian population. The region's population has grown by 70% since the 2011 census. A total of 44,968 (52%) inhabitants live in the northern parts of the region. This relative concentration of people in the northern constituencies is largely a result of communal land use and better conditions for animal husbandry and small-scale crop farming, compared to southern Kunene, which is predominately communal with some commercialized parts.

The population of Outjo town is estimated to be at 15 000 in 2024 up from 8445 people in 2011 (Census, 2011). This makes Outjo the most densely populated town in Kunene Region and the most urbanized. The Kunene region is predominantly young with a median age of 19, (Census, 2011). The same report indicates that the median age for the region's urban inhabitants is 24 years, which is higher than the rural population. This is due to the migration of the working age population to urban areas.

7. 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, Forestry and Tourism, 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.

7.1. 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.

7.2. 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:

- Outjo Municipality Council; and
- General public

7.3. 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. One Interested & Affected Party requested a copy of the background information document. See a copy of the BID attached.

7.4. 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.

7.5. 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: 19th and 26th April 2024). Proof of advertisements are attached.

7.6. 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 Outjo Municipality Notice Board and on site on the 19th of April 2024.

7.7. 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. A public meeting about the proposed development was scheduled to take place at Outjo Community Hall on the 7th of May 2024 at 10:00. However due to the lack of interest from the public no one showed up for the meeting.

7.8. Issues raised by interested and affected parties

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

8. ENVIRONMENTAL ASSESSMENT METHODOLOGY

An appraisal of the type of effect the proposed subdivision of Erven 34 and 621, Outjo and the subsequent creation of streets 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 |
|---|---|

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 |
|--|--------------------------------------|

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 the construction phase are:

Dust pollution and air quality impacts- These are expected to be minimal during the construction of bulk services because it's a low scale extension of services and the sandy soils in the area are not expected to produce a lot of dust during construction. The construction of the streets, sewer and water reticulation services will have an impact on the surrounding air quality because of the use of construction vehicles on the site and surrounding areas, however, it is expected to be at a small scale. The small shrubs will be cleared before construction commences and all large trees found in the area are accommodated within the planning designs.

| | Severity | Duration | Extent | Consequence | Frequency | Probability | Likelihood | Status | Confidence/ Significance |
|---|----------|----------|--------|-------------|-----------|-------------|------------|----------|-----------------------------|
| Unmitigated | 5 | 5 | 3 | 4.33 | 5 | 5 | 5 | Negative | 9.33(LM) |
| <p>Mitigation measures:</p> <p>Dust may be generated during the construction/decommissioning phase and might be aggravated when strong winds occur therefore; dust suppression measures should be employed during the construction process if it becomes an issue.</p> <p>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/hr should be set for all vehicles travelling over exposed areas.</p> <p>Sand carried in trucks should be covered to avoid loss of materials during transport, especially if material is transported to and from the site.</p> | | | | | | | | | |
| Mitigated | 2 | 2 | 1 | 1.66 | 1 | 2 | 1.5 | Negative | 3.16 (L) |

Employment Creation (Positive Impact) job creation and economic benefit to the local community since the construction activities associated with the construction of municipal services will provide employment to the local people.

| | Severity | Duration | Extent | Consequence | Frequency | Probability | Likelihood | Status | Confidence/ Significance |
|--|----------|----------|--------|-------------|-----------|-------------|------------|----------|-----------------------------|
| Unmitigated | 1 | 2 | 2 | 1.66 | 2 | 5 | 3.5 | Positive | 5.16 (LM) |
| <p>Mitigation measures:</p> <p>Various employment opportunities will be created during all phases of the development, ranging from highly skilled to unskilled. The development is expected to create more than 15 skilled and unskilled jobs. Preference should be given to locals and Namibian Citizens.</p> <p>When recruiting, the responsible contractor should ensure gender equality is taken into account and that both men and women are employed equally.</p> <p>Equity and transparency should be taken into account when hiring and recruiting and that Public Participation I.e. community leaders or community committees should also take part in the recruiting process.</p> <p>In terms of human resource development and capacity building, the contractor must enforce training programs that allows skilled workers to train unskilled workers when necessary, in order for them to enhance their performances and to gain experience necessary for future employment opportunities.</p> | | | | | | | | | |
| Mitigated | 1 | 2 | 5 | 2.66 | 3 | 5 | 4 | Positive | 6.66 (LM) |

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, electricity generators, pressure hammers, noise from construction workers and earthmoving equipment which will be utilized during the construction phase. There are businesses and houses that are currently constructed in the surrounding area, the disturbance to them will be kept at the minimum as construction will only be allowed during the day when most people are at work. The disturbance to residents due to the construction of the municipal services will be limited as the construction activities will be isolated from the existing properties. Therefore, the noise levels that are likely to occur during this phase are not assessed to be only a nuisance to the residents.

| | Severity | Duration | Extent | Consequence | Frequency | Probability | Likelihood | Status | Confidence/ Significance |
|--|----------|----------|--------|-------------|-----------|-------------|------------|----------|-----------------------------|
| Unmitigated | 4 | 5 | 2 | 3.66 | 5 | 5 | 5 | Negative | 8.66 (LM) |
| <p>Mitigation measures:</p> <p>Construction should be limited to normal working days and office hours from 08h00 to 17h00 and 7:30 – 13:00 on Saturdays.</p> <p>No construction activities may be undertaken on Sundays.</p> <p>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.</p> <p>Noise pollution should be addressed and mitigated at an early stage of construction phase.</p> | | | | | | | | | |
| Mitigated | 1 | 1 | 1 | 1 | 1 | 1 | 1 | Negative | 2 (L) |

Soil Loss and Erosion- Loss of topsoil during the construction period caused by the excavation of foundations, and earthworks may expose soils to wind and rain and could result in localized erosion.

| | Severity | Duration | Extent | Consequence | Frequency | Probability | Likelihood | Status | Confidence/ Significance |
|---|----------|----------|--------|-------------|-----------|-------------|------------|----------|-----------------------------|
| Unmitigated | 4 | 3 | 3 | 3.33 | 5 | 5 | 5 | Negative | 8.33 (LM) |
| <p>Mitigation measures:</p> <p>No work is to be conducted within 30 metres of all drainage lines;</p> <p>Topsoil should only be exposed for minimal periods of time and adequately stockpiled to prevent the topsoil loss and run-off.</p> <p>Planting more indigenous trees along the streets should be carried out.</p> <p>Reuse topsoil to rehabilitate disturbed areas.</p> | | | | | | | | | |
| Mitigated | 1 | 1 | 1 | 1 | 2 | 2 | 2 | Negative | 3 (L) |

Removal and use of local flora for firewood- collection of local flora for firewood may lead to the removal of the protected flora due to the lack of knowledge of the types of protected flora.

| | Severity | Duration | Extent | Consequence | Frequency | Probability | Likelihood | Status | Confidence/ Significance |
|---|----------|----------|--------|-------------|-----------|-------------|------------|----------|-----------------------------|
| Unmitigated | 2 | 3 | 3 | 2.66 | 4 | 5 | 4.5 | Negative | 7.16 (LM) |
| <p>Mitigation measures:</p> <p>No cutting down of trees for firewood.</p> <p>Utilise commercially sold wood or other sources of energy.</p> <p>Use electricity and gas in the construction sites camps for cooking</p> <p>Training of contractors on environmental awareness and the importance of flora.</p> | | | | | | | | | |

| | | | | | | | | | |
|-----------|---|---|---|---|---|---|-----|----------|---------|
| Mitigated | 1 | 1 | 1 | 1 | 1 | 2 | 1.5 | Negative | 2.5 (L) |
|-----------|---|---|---|---|---|---|-----|----------|---------|

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. During construction phase, there is a possibility of injuries to occur if no measures are taken into consideration.

| | Severity | Duration | Extent | Consequence | Frequency | Probability | Likelihood | Status | Confidence/ Significance |
|-------------|----------|----------|--------|-------------|-----------|-------------|------------|----------|-----------------------------|
| Unmitigated | 5 | 5 | 4 | 4.66 | 5 | 5 | 5 | Negative | 9.66 (LM) |

Mitigation measures:

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. Thus, 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 should further ensure that adequate emergency facilities are available on site.

The construction staff handling chemicals or hazardous materials must be trained in the use of these materials and the environmental, health and safety consequences if not properly handled.

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 caused by the construction activities. 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 on the proposed development or appropriate signs are not displayed.

| | Severity | Duration | Extent | Consequence | Frequency | Probability | Likelihood | Status | Confidence/ Significance |
|--|----------|----------|--------|-------------|-----------|-------------|------------|----------|-----------------------------|
| Unmitigated | 5 | 5 | 3 | 4.33 | 5 | 3 | 4 | Positive | 8.33 (LM) |
| Mitigation measures: | | | | | | | | | |
| No diversion of traffic or closure of the road is expected. | | | | | | | | | |
| Traffic signs indicating that there is construction work in the area should be displayed in the adjacent street. | | | | | | | | | |
| Traffic signallers and controllers should be employed to regulate traffic of construction vehicles. | | | | | | | | | |
| The responsible contractor must ensure that all drivers employed on site are licenced for the type of vehicle they operate and that they have experience in driving those types of vehicles. | | | | | | | | | |
| The contractor must ensure that there is always a supervisor on site to ensure that no driver operates a construction vehicle while under the influence of alcohol or narcotics. | | | | | | | | | |
| The construction vehicle's speed limit should be 40km/h and must consider other road users. | | | | | | | | | |
| Mitigated | 2 | 1 | 1 | 1.33 | 1 | 2 | 1.5 | Positive | 2.83 (L) |

Waste Impacts- The construction phase of the proposed development is likely to generate waste from the builder's rubble, general construction refuse and minor hazardous waste including paint cans, 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 | 5 | 5 | 3 | 4.33 | 5 | 5 | 5 | Negative | 8 (M) |
| Mitigation measures: | | | | | | | | | |
| Ensure that no excavated soil, refuse or building rubble generated on site are placed or disposed of in the surrounding environment. | | | | | | | | | |

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.

The proponent and contractor should identify an appropriate area that is suitable to be used as a temporary disposal site. Strictly, no burning of waste on site or at the disposal site is allowed as it possess environmental and public health impacts; No construction waste should enter the surrounding environment.

To avoid contaminating the soil and underground ecosystem, wastewater should not be disposed on open soil onsite.

| | | | | | | | | | |
|-----------|---|---|---|---|---|---|---|----------|-------|
| Mitigated | 1 | 1 | 1 | 1 | 4 | 2 | 3 | Negative | 4 (L) |
|-----------|---|---|---|---|---|---|---|----------|-------|

Surface water contamination (Nearby water ponds) – Leakages from equipment, accidents from fuel tankers may occur during the construction phase and the waste can end up the nearby water ponds during the rainy season.

| | Severity | Duration | Extent | Consequence | Frequency | Probability | Likelihood | Status | Confidence/ Significance |
|-------------|----------|----------|--------|-------------|-----------|-------------|------------|----------|-----------------------------|
| Unmitigated | 5 | 5 | 5 | 5 | 5 | 4 | 5 | Negative | 9.5 (LM) |

Mitigation measures:

The construction vehicles are not allowed to be parked within 20-meters of the banks of the water ponds after working hours.

The construction site camp should be constructed more than 20-meters from the banks of the water pond.

No dumping of solid or liquid waste in standing water.

The temporary waste disposal site should be constructed at least 20-meters away from standing water.

No blockage of any kind that will prevent the storm water from draining naturally is allowed along the adjacent streets.

| | | | | | | | | | |
|-----------|---|---|---|------|---|---|---|----------|-----------|
| Mitigated | 3 | 1 | 1 | 1.66 | 5 | 3 | 4 | Negative | 5.66 (LM) |
|-----------|---|---|---|------|---|---|---|----------|-----------|

Groundwater Contamination – Leakages from equipment and machinery might occur during the construction phase or mixing of cement and the use of ablution facilities will lead to the contamination of the groundwater.

| | Severity | Duration | Extent | Consequence | Frequency | Probability | Likelihood | Status | Confidence/ Significance |
|---|----------|----------|--------|-------------|-----------|-------------|------------|----------|-----------------------------|
| Unmitigated | 5 | 5 | 5 | 5 | 5 | 4 | 5 | Negative | 9.5 (LM) |
| <p>Mitigation measures:</p> <p>Chemicals used during construction e.g. paint and paint remover are a risk. Care must be taken to avoid contamination of soil and groundwater.</p> <p>Ensure no cement or cement containers should be left lying around.</p> <p>Mixing of cement should be done at specifically selected areas on mortar boards or similar structures to contain surface run-off.</p> <p>Proper ablution facilities should be installed at the construction site and at the camping site and arrangements to be made with the Municipality.</p> <p>The contractor shall ensure that there is no spillage when the ablution facilities are cleaned or during normal operation and that the contents are properly disposed of.</p> <p>Cleaning of cement mixing equipment should be done on proper cleaning trays.</p> <p>Prevent spillage of contaminants or of water potentially contaminated by cement, chemicals, sewage</p> <p>Fuel (diesel and petrol) and oil containers shall be in good condition and placed in a bunded area or on plastic sheeting covered with sand (temporary bunding).</p> | | | | | | | | | |
| Mitigated | 3 | 1 | 1 | 1.66 | 5 | 3 | 4 | Negative | 5.66 (LM) |

Increased spread of communicable diseases- migrant workers with HIV/AIDS or Covid -19 may infect local people leading to a high rate of HIV/AIDS, covid-19 and other communicable diseases.

| | Severity | Duration | Extent | Consequence | Frequency | Probability | Likelihood | Status | Confidence/ Significance |
|--|----------|----------|--------|-------------|-----------|-------------|------------|----------|-----------------------------|
| Unmitigated | 5 | 5 | 5 | 5 | 5 | 5 | 5 | Negative | 10(M) |
| <p>Mitigation measures:</p> <p>The spending power of locals and expatriates working for the developer and/or its contractors are likely to increase, and this might be a perfect opportunity for sex workers to explore. Migrant labourers from other regions and expatriates are normally vulnerable and may use the services rendered by the sex workers. A key initiative should be to educate workers. See section 9 (Socio-economic Environment) for details on region statistics.</p> <p>External construction workers should be housed in secure camp and are to abide by rules of the EMP to prevent public disruption (i.e. Spread of HIV/AIDS, crime, public disturbance).</p> <p>Contractors should be encouraged to source labour from surrounding areas to prevent the spread of HIV/AIDS and Covid – 19 from external workers.</p> <p>Condoms as a contraceptive should be distributed to construction employees.</p> <p>All government protocols on Covid – 19 (i.e., wearing masks and social distancing) should be practiced on site.</p> | | | | | | | | | |
| Mitigated | 2 | 1 | 4 | 2.33 | 2 | 3 | 2.5 | Negative | 4.8(L) |

Crime Impacts – The influx of workers and equipment to carry out the construction of municipal services might increase incidents of crime.

| | Severity | Duration | Extent | Consequence | Frequency | Probability | Likelihood | Status | Confidence/ Significance |
|---|----------|----------|--------|-------------|-----------|-------------|------------|----------|-----------------------------|
| Unmitigated | 5 | 5 | 5 | 5 | 2 | 1 | 1.5 | Negative | 6.5 (LM) |
| <p>Mitigation measures:</p> <p>Criminals might be attracted to the try their luck and steal the construction equipment, personal valuables of a construction workers, etc.</p> <p>The contractor must ensure that there is sufficient security personnel at the construction site camp.</p> <p>The contractor should ensure that the site camp is in an enclosure and there is a controlled entrance.</p> <p>Emergency contact numbers including those of the Namibian Police should be displayed throughout the camp site.</p> <p>Inform the local police of the construction activities and for them to be on the lookout for criminals.</p> <p>Educate construction workers on the human and women rights.</p> | | | | | | | | | |
| Mitigated | 1 | 1 | 1 | 1 | 1 | 2 | 1.5 | Negative | 2.5 (L) |

Heritage Impacts – There are no known heritage sites or artefacts that were identified on the site. However, there is a potential damage or destruction to undiscovered artefacts in the area

| | Severity | Duration | Extent | Consequence | Frequency | Probability | Likelihood | Status | Confidence/ Significance |
|-----------------------------|----------|----------|--------|-------------|-----------|-------------|------------|----------|-----------------------------|
| Unmitigated | 5 | 5 | 5 | 5 | 2 | 1 | 1.5 | Negative | 6.5 (LM) |
| <p>Mitigation measures:</p> | | | | | | | | | |

There were no sites or objects of archaeological finds, Graves, historical and cultural significance identified, however, if during construction any possible finds are made, the operations must be halted and a qualified archaeologist be contacted for an assessment of the findings. Work may only commence once approval is given from the heritage agency.

No specific mitigation measures are required at the moment.

| | | | | | | | | | |
|-----------|---|---|---|---|---|---|-----|----------|---------|
| Mitigated | 1 | 1 | 1 | 1 | 1 | 2 | 1.5 | Negative | 2.5 (L) |
|-----------|---|---|---|---|---|---|-----|----------|---------|

Ecological Impacts: No known conservation worthy vegetation are located on the site.

| | Severity | Duration | Extent | Consequence | Frequency | Probability | Likelihood | Status | Confidence/ Significance |
|-------------|----------|----------|--------|-------------|-----------|-------------|------------|----------|-----------------------------|
| Unmitigated | 1 | 1 | 1 | 1 | 1 | 1 | 1 | Negative | 1 (L) |

Mitigation measures:

There is no vegetation on site and no known conservation worthy vegetation are located on the site.

| | | | | | | | | | |
|-----------|---|---|---|---|---|---|---|----------|-------|
| Mitigated | 1 | 1 | 1 | 1 | 1 | 1 | 1 | Negative | 1 (L) |
|-----------|---|---|---|---|---|---|---|----------|-------|

8.2 Impacts Associated with Operational Phase

Water pollution: Storm water usually runs off the area and flow into the water bodies without any kind of treatment. This can pollute the water bodies like creeks, lakes and rivers and have adverse effects on their chemical as well as biological nature. The construction of streets also blocks storm water from following their natural courses and thus accumulate and cause damage to the properties nearby. Therefore, the engineering street plans must include storm water drainage to accommodate the storm water during the rainy season.

| | Severity | Duration | Extent | Consequence | Frequency | Probability | Likelihood | Status | Confidence/ Significance |
|--|----------|----------|--------|-------------|-----------|-------------|------------|----------|-----------------------------|
| Unmitigated | 4 | 5 | 3 | 4 | 2 | 5 | 3.5 | Negative | 7.5 (LM) |
| <p>Mitigation measures:</p> <p>Storm water drains to be constructed along the Erf boundaries and be channelled through the street storm water networks, natural water courses, excess storm water to be collected for consumption and recreational use.</p> <p>Storm water will be collected through network of storm drains from gardens, parking areas, paved and unpaved areas, and roadways.</p> <p>The storm water drainage system should have the capacity to prevent flooding of the site and surrounding areas.</p> <p>All buildings to be constructed above the 50-year flood line to avoid flooding of properties.</p> <p>All engineering plans for streets to meet the minimum municipal services requirements.</p> | | | | | | | | | |
| Mitigated | 1 | 1 | 2 | 1.33 | 1 | 2 | 1.5 | Negative | 2.83 (L) |

Contribution to housing - The project will contribute to the housing and economic development efforts of Outjo Municipality. The potential impact on housing is of a positive nature and will go a long way to benefit both the residents and Outjo Municipality.

| | Severity | Duration | Extent | Consequence | Frequency | Probability | Likelihood | Status | Confidence/ Significance |
|--|----------|----------|--------|-------------|-----------|-------------|------------|----------|-----------------------------|
| Unmitigated | 1 | 1 | 1 | 2 | 5 | 5 | 5 | Positive | 7 (LM) |
| Mitigation measures: | | | | | | | | | |
| No mitigation measures required as this is a positive impact. | | | | | | | | | |
| This project aims to formalize residential properties and provide new residential erven. | | | | | | | | | |
| The residential property owners will be empowered through security of land tenure. | | | | | | | | | |
| The residential property owners will benefit from the provision of municipal services such as water, sewerage and electricity. | | | | | | | | | |
| The Outjo Municipality will collect additional lease fees to enable them to develop additional areas. | | | | | | | | | |
| The project will improve job creation opportunities for the locals during the construction and operational phases. | | | | | | | | | |
| Residents to be provided with all the basic amenities and utilities required by the community for them to live in a high quality life style. | | | | | | | | | |
| Mitigated | 1 | 2 | 1 | 1.33 | 5 | 3 | 4 | Positive | 5.33 (LM) |

Improved aesthetic look of the area- The development is essential to improve the aesthetics of the area while turning it into an environmentally friendly township with improved infrastructure services. This potential impact of the infrastructure on the economic structure is of a positive nature. The construction should be completed without delays to avoid the site becoming an eyesore;

| | Severity | Duration | Extent | Consequence | Frequency | Probability | Likelihood | Status | Confidence/ Significance |
|--|----------|----------|--------|-------------|-----------|-------------|------------|----------|-----------------------------|
| Unmitigated | 2 | 2 | 2 | 2 | 1 | 1 | 1 | Positive | 3 (L) |
| <p>Mitigation measures:</p> <p>No mitigation required because it's a positive impact. However, the developer should create awareness among the residents about energy conservation and other resources as well as to implement measures to prevent or minimize any adverse effects on the environment.</p> <p>This development should provide a good quality of life that can be expected in an urban area in relation to the utilities, convenience, amenities and security.</p> <p>This project will provide quality business opportunities to the previously disadvantaged youths from the middle to low income segments of the settlement.</p> | | | | | | | | | |
| Mitigated | 1 | 5 | 4 | 3.33 | 3 | 5 | 4 | Positive | 7.33 (LM) |

Increased employment opportunities- the construction of services and formalization of existing businesses can increase the opportunities of employment for locals.

| | Severity | Duration | Extent | Consequence | Frequency | Probability | Likelihood | Status | Confidence/ Significance |
|---|----------|----------|--------|-------------|-----------|-------------|------------|----------|-----------------------------|
| Unmitigated | 2 | 3 | 5 | 3.33 | 3 | 3 | 3 | Positive | 6.33 (LM) |
| <p>Mitigation measures:</p> <p>The principles of gender equality, maximising local employment should be implemented in the provision of jobs.</p> | | | | | | | | | |

Priority should be given to local people when recruiting, therefore unskilled labourers from the local community should be employed. Jobs for security personnel to patrol the construction site and the surrounding areas will also be created. Equity, transparency, should be taken into account when hiring and recruiting and that the public be included in the recruitment process if possible.

| | | | | | | | | | |
|-----------|---|---|---|---|---|---|---|----------|----------|
| Mitigated | 1 | 4 | 4 | 3 | 2 | 5 | 4 | Positive | 6.5 (LM) |
|-----------|---|---|---|---|---|---|---|----------|----------|

Traffic - Potential impact due to increase in traffic because the increase in residents after the formalization process is completed.

| | Severity | Duration | Extent | Consequence | Frequency | Probability | Likelihood | Status | Confidence/ Significance |
|-------------|----------|----------|--------|-------------|-----------|-------------|------------|----------|-----------------------------|
| Unmitigated | 5 | 5 | 3 | 4.33 | 5 | 3 | 4 | Positive | 8.33 (LM) |

Mitigation measures:

Sidewalks for pedestrians should be provided along the new properties.

Appropriate road signs and markings should be provided in the adjacent streets.

Signs should be provided at intersections particularly at higher order intersections.

Speed humps should be installed to control the speed of traffic.

Traffic circles to be utilized at high intensity intersections.

| | | | | | | | | | |
|-----------|---|---|---|------|---|---|-----|----------|----------|
| Mitigated | 2 | 1 | 1 | 1.33 | 1 | 2 | 1.5 | Positive | 2.83 (L) |
|-----------|---|---|---|------|---|---|-----|----------|----------|

Waste management- the residential properties will require a more formalized form of waste management and Outjo Municipality should be responsible for this.

| | Severity | Duration | Extent | Consequence | Frequency | Probability | Likelihood | Status | Confidence/ Significance |
|---|----------|----------|--------|-------------|-----------|-------------|------------|----------|-----------------------------|
| Unmitigated | 5 | 3 | 3 | 3.66 | 5 | 5 | 5 | Negative | 8.66 (LM) |
| <p>Mitigation measures:</p> <p>During the operations phase, the Outjo Municipality should be responsible for waste management.</p> <p>Outjo Municipality to incorporate the new development into their formal waste collection strategy and that the waste is to be collected regularly and to be disposed of at an authorized dumping or disposal site.</p> <p>Illegal dumping of waste in any form is prohibited.</p> | | | | | | | | | |
| Mitigated | 1 | 1 | 1 | 1 | 1 | 2 | 1.5 | Negative | 2.5 (L) |

Land use -The proposed development will result in a slight change in land use as some portions will be used for streets and public open spaces in addition to residential erven.

| | Severity | Duration | Extent | Consequence | Frequency | Probability | Likelihood | Status | Confidence/ Significance |
|--|----------|----------|--------|-------------|-----------|-------------|------------|----------|-----------------------------|
| Unmitigated | 1 | 5 | 4 | 3.33 | 1 | 5 | 3 | Positive | 6.33 (LM) |
| <p>Mitigation measures:</p> <p>The change in land use will contribute to the efficient use of land in Outjo by converting unutilized, non-functional open spaces and streets into residential properties that will benefit the people of the town.</p> | | | | | | | | | |
| Mitigated | 1 | 2 | 1 | 1.33 | 5 | 3 | 4 | Positive | 5.32 (LM) |

8.3 Impacts Associated with Decommissioning Phase

At this point in time, it is difficult to visualise and assess the decommissioning phase, although the procedures for decommissioning phase should be the same as for the construction phase. However, there will be possible pollution during the decommissioning phase of the project. Furthermore, during the decommissioning phase, 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. CONCLUSIONS

In conclusion, The Outjo Municipality has resolved to subdivide Erven 34 and 621, Outjo in order to formalize the existing residential properties and to create new erven to be allocated and sold to the inhabitants of the town. Erf 34 and 621, Outjo currently measure 8, 1748 hectares and 1, 6381 hectares in extent respectively. The erven are both zoned “Undetermined”. The subdivision of Erf 34 Outjo into ± 67 erven and Erf 621, Outjo into ± 32 erven will result in the creation of streets that will be used for access to the new erven to be created. The subdivision of land and the creation of streets is a listed activity and thus, requires an Environmental Clearance Certificate.

There, the Outjo Municipality has appointed Nghivelwa Planning Consultants to conduct an Environmental Impact Assessment and Environmental Management Plan (EMP) for the Subdivision of Erf 34, Outjo into ± 67 Erven and Remainder (Street) and the Subdivision of Consolidated Erf 621, Outjo into ± 32 Erven and Remainder (Street) and the creation of streets. The statutory exercise is necessary to allow for the formalization of residential properties already constructed and the creation of new residential erven to be allocated to Outjo residents. The Environmental Impact Assessment has been conducted to meet the requirements of Namibia’s Environmental Management Act, 2007 (Act No. 7 of 2007).

We further conclude that the proposed development has more positive than negative impacts to the natural environment and will not only provide much needed development in the form of

residential properties to the residents of Outjo but will help the Namibian Government to fulfil its promise to provide shelter to all citizens.

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