App-004861

RENEWAL

ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED TOWNSHIP ESTABLISHMENT ON THE SUBDIVIDED PORTION 1-4 IN REHOBOTH

REHOBOTH

PRO BONO OMNIUM

FINAL SCOPING REPORT

September 2024

WINPLAN

TOWN & REGIONAL PLANNING CONSULTANTS

Project Title:	**REHOBOTH TOWNSHIP ESTABLISHMENT**
Type of Project:	**ENVIRONMENTAL SCOPING ASSESSMENT**
Project Location:	**THE REMAINDER OF REHOBOTH TOWNLANDS NO. 302**
Competent Authority:	**MINISTRY OF URBAN AND RURAL DEVELOPMENT** **NAMIBIA PLANNING AND ADVISORY BOARD / TOWNSHIPS BOARD** **PRIVATE BAG 13289** **WINDHOEK** **NAMIBIA**
Approving Authority	**DIRECTORATE OF ENVIRONMENTAL AFFAIRS** **MINISTRY OF ENVIRONMENT AND TOURISM** **PRIVATE BAG 13306** **WINDHOEK**
Proponent/Client:	**REHOBOTH TOWN COUNCIL** **PRIVATE BAG 2500, REHOBOTH** **REHOBOTH**
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ABBREVIATIONS

BID	Background Information Document
C°	Degrees Celsius
DEA	Directorate of Environmental Affairs
DWAF	Department of Water Affairs and Forestry
EA	Environmental Assessment
EAP	Environmental Assessment Practitioner
EC	Environmental Commissioner
ECC	Environmental Clearance Certificate
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EMA	Environmental Management Act
EMP	Environmental Management Plan
ESA	Environmental Scoping Assessment
Etc.	Etcetera
Ha	Hectare
I&APs	Interested and Affected Parties
Km	Kilometre
L	Litre
MAWF	Ministry of Agriculture, Water and Forestry
MET	Ministry of Environment and Tourism
mg	Milligram
mm	Millimetre
NHC	National Heritage Council
No	Number
OEC	Office of the Environmental Commissioner
Ptn	Portion
PPP	Public Participation Process
Re/	Remainder
RoW	Right of Way
SA	South Africa
SANS	South African National Standards
SELCo	Southern Electricity Company
ToR	Terms of Reference
TDS	Total Dissolved Solids

EXECUTIVE SUMMARY

Rehoboth is a town of approximately 37 000 inhabitants in the Hardap Region of Southern Central Namibia. Rehoboth is located 90km South of Windhoek. It is situated along the main road (B1) Between Windhoek and Mariental. The town falls under the jurisdiction of Rehoboth Town Council.

Rehoboth is unusually situated in that it lies largely over two distinct vegetation zones. These are almost perfectly demarcated by the B1 road. To the west lies the mountainous and rocky Highland Savanna, while to the east the Mixed Tree and Shrub Savanna of the southern Kalahari prevails. The protected Acacia erioloba (Camel

Thorn) dominates the area. Many of these trees are well established and provide shade and natural ambiance to the area and immediate surroundings.

According to the Rehoboth Town Council the potential for small and micro-enterprise development is high in Rehoboth. However, not withstanding, there is no eager capital. Similarly, Rehoboth lack a well organised private sector, which could develop alternative business support structures, including access to capital by tapping into emerging domestic and national delivery systems. Rehoboth has more than 190 registered businesses and two financial institutions.

The proponent (Rehoboth Town Council) is of the intention to expand the existing town by establishing 4 new extensions (extension numbers to be allocated by the office of the surveyor General) in the town of Rehoboth which will occupy a total size of approximately 80.8427 Ha located to the north of the existing town of Rehoboth. The layout of the proposed extensions will make provision for business, residential, general residential, institutional and public open space. The establishment of the new extensions will ease the shortage of housing in the town of Rehoboth and make more serviced land available.

SCOPE OF WORK AND ASSESSMENT APPROACH

In line with the environmental regulatory requirements and project registration, WINPLAN Town and Regional Planning Consultants was appointed by the Rehoboth Town Council to carry out an environmental scoping assessment for the proposed establishment of the 4 new extensions. The Townships includes certain activities that are listed as 'Listed Activities' according to Government Notice No. 29 of 6 February 2012, which requires that an Environmental Clearance Certificate (ECC) be obtained from the office of the Environmental Commissioner (EC), thus requiring that an Environmental Assessment (EA) be conducted. The following is a summary of 'Listed Activities' that need to be addressed in the Environmental Assessment:

- The construction of facilities for the transmission and supply of electricity
- Temporary storage of waste
- Removal of vegetation
- Establishment of land resettlement scheme
- The construction of water bulk supply pipelines
- The construction of public roads;

NEED AND DESIRABILITY ASSESSMENT

The proposed project offers benefits to the population of Rehoboth and the entire Hardap Region by offering direct and indirect employment opportunities and capacity building in the receiving communities. The following is a summary of the likely positive impacts that have been assessed for the different phases of the establishment of the 4 new extensions (Extension number to be allocated by the office of the Surveyor General) in Rehoboth:

Impact Description	Construction phase	Operational phase
Employment	High	High
Economic benefit to construction industry	High	-
Municipal rates & taxes	-	High
Land use change (from economic point of view)	-	Very High

The proponent also acknowledges that potential negative impacts especially during the construction phase might be incurred. These impacts can be avoided and mitigated with proper implementation of an Environmental Management Plan (EMP).

SITE SELECTION PROCESS

A site for the establishment of the 4 new extensions was selected by the project proponent (the proposed extensions is not yet approved by the council at it is still in progress. The proposed site was selected as most suitable in terms of its proximity to the town. The proposed project sites are currently undeveloped although the effects of human activity are clearly visible. The project area is mainly surrounded by open areas with residential component on the southern side of the proposed development.

SUMMARY OF THE IMPACT ASSESSMENT RESULTS

The following is a summary of the likely negative impacts that have been assessed for the different phases of the existing town at Rehoboth:

Impact Description	Construction Phase		Operational Phase	
	Pre-mitigation	Post-mitigation	Pre-mitigation	Post-mitigation
Erosion and sedimentation	Moderate	Low	Low	Very Low
Ground and Surface water pollution	Moderate	Low	Moderate	Low
Habitat destruction and loss of biodiversity	Moderate	Low	Moderate	Low
Visual aesthetics and sense of place	Moderate	Moderate	Low	Low
Dust and emissions	Very Low	Very Low	-	-
Traffic safety	Moderate	Low	Moderate	Low
Health, safety & security	Moderate	Low		
Noise & disturbance	-	-	Low	Low
Natural resources	Moderate	Low	-	-

CONCLUSION AND RECOMMENDATION

Based on the environmental assessment of both the identified positive and negative impacts undertaken for the proposed Township Establishment, the positive impacts of this project significantly outweigh the negative ones. Most of the negative impacts could be considered localised especially in terms of biodiversity loss as well as dust and noise pollution. Mitigation measures as detailed in the Environment Management Plan should be adhered to, to minimise these effects as much as possible. The land for the project is already legitimately owned by the proponent and had been obtained through following the proper channels.

It is hereby recommended that the establishment of the 4 new extensions for Rehoboth shall go ahead and that the project should be issued with an Environmental Clearance Certificate. The Environmental Management Plan (EMP) and the proposed mitigation measures must be adhered to and it is the responsibility of the proponent to implement them to enhance the positive impacts and reduce the negative effects to a minimal.

1. INTRODUCTION

The Rehoboth Town Council, had appointed WINPLAN Town and Regional Planning Consultants to undertake the following planning actions in Rehoboth:

- **SUBDIVISION OF THE REMAINDER OF REHOBOTH TOWNLANDS NO. 302 INTO 4 PORTIONS AND REMAINDER**
- **APPROVAL OF TOWNSHIP ESTABLISHMENT ON PORTION 1 OF THE REMAINDER OF REHOBOTH TOWNLANDS NO. 302**
- **APPROVAL OF THE LAYOUT PLAN ON PORTION 1**
- **APPROVAL OF TOWNSHIP ESTABLISHMENT ON PORTION 2 OF THE REMAINDER OF REHOBOTH TOWNLANDS NO. 302**
- **APPROVAL OF THE LAYOUT PLAN ON PORTION 2**
- **APPROVAL OF TOWNSHIP ESTABLISHMENT ON PORTION 3 OF THE REMAINDER OF REHOBOTH TOWNLANDS NO. 302**
- **APPROVAL OF THE LAYOUT PLAN ON PORTION 3**
- **APPROVAL OF TOWNSHIP ESTABLISHMENT ON PORTION 4 OF THE REMAINDER OF REHOBOTH TOWNLANDS NO. 302**
- **APPROVAL OF THE LAYOUT PLAN ON PORTION 4**
-

WINPLAN needs to submit an application to the Ministry of Urban and Rural Development (MURD). In order to finalise the above planning actions and as part of the application to the Minister, an Environmental Clearance Certificate needs to be obtained. The Environmental Management Act (No 7 of 2007) stipulates that an Environmental Scoping Assessment is required as the following 'Listed Activities' are involved:

Activity No.	Activity Description
Energy Generation, Transmission and Storage Activities	
Activity 1(b)	*The construction of facilities for the transmission and supply of electricity*
Waste Management, Treatment, Handling and Disposal Activities	
Activity 2.3	*Temporary storage of waste*
Forestry Activities	

Activity 4	*Removal of vegetation*
Land Use and Development Activities	
Activity 5.2	*Establishment of Land Resettlement Scheme*
Infrastructure	
Activity 10.1(a)	*The construction of water bulk supply pipelines*
Infrastructure	
Activity 10.1(b)	*The construction of public roads*

Table 1: *Applicable listed activities as per Government Notice 29 of 2012*

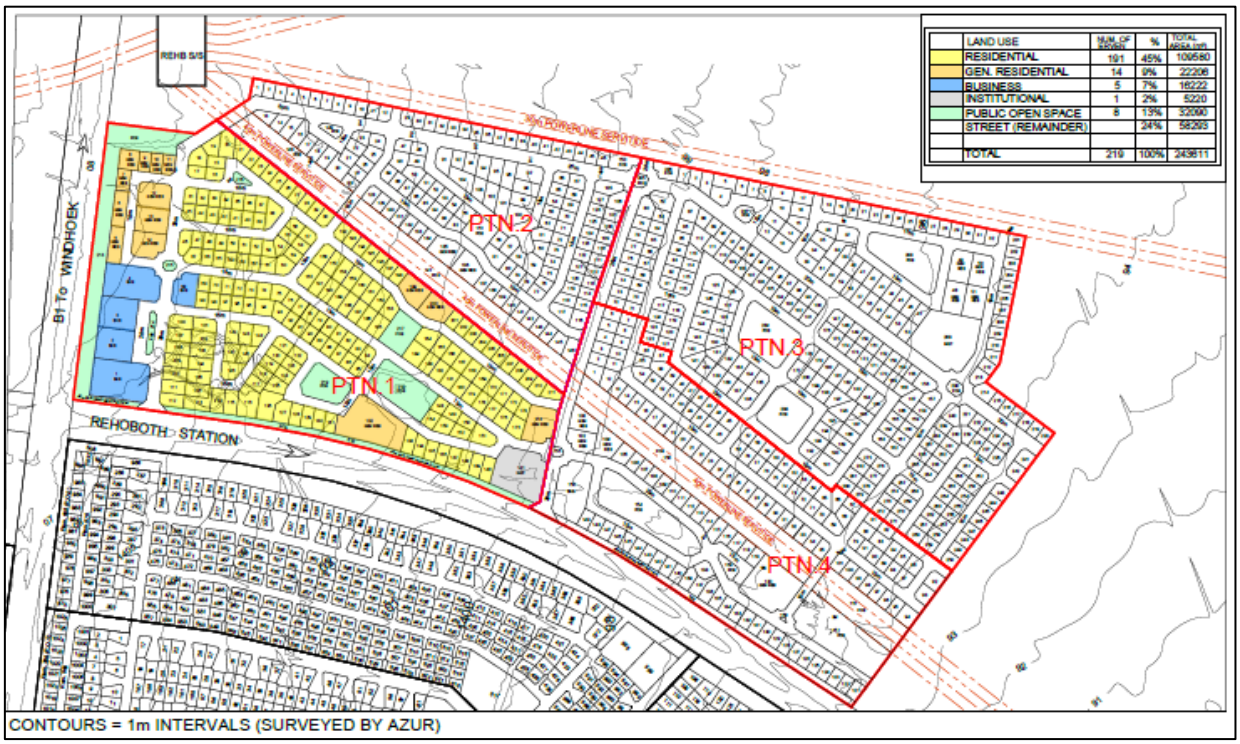
This Environmental Scoping Report contains information on the proposed project and the surrounding areas. It further contains the following:

- Information on the proposed development and related activities,
- Applicable legislation to the study conducted
- Methodology that was followed
- The public consultation that was conducted
- The receiving environment's sensitivity; and
- Any potential ecological, environmental and social impacts.

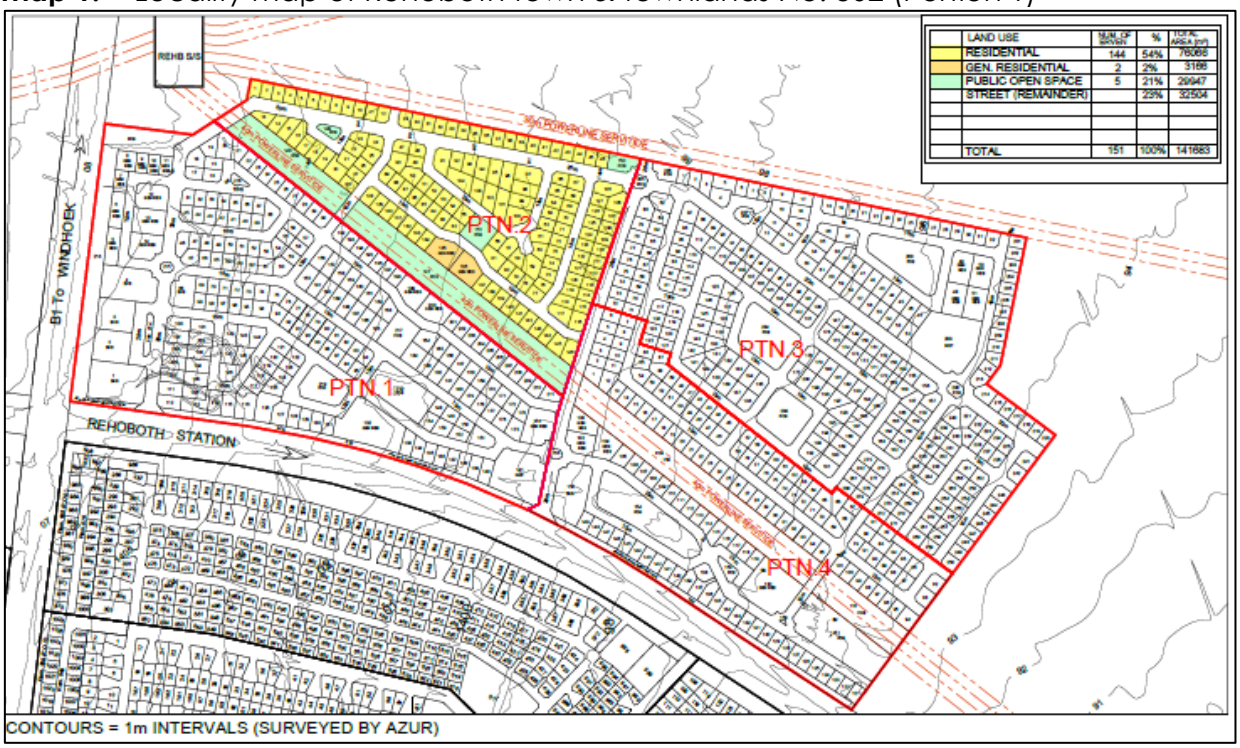
2. PROJECT LOCATION

The proposed project sites are located within the Townlands area of Rehoboth. These sites are currently undeveloped although there are anthropological activities clearly visible on the sites. Infrastructure and other services such as roads, water services, and bulk electricity supply will be provided. The proposed areas are mainly surrounded by open space with a small component residential erven and houses already developed. Since these open areas belong to the Rehoboth Town Council no compensation issues are present.

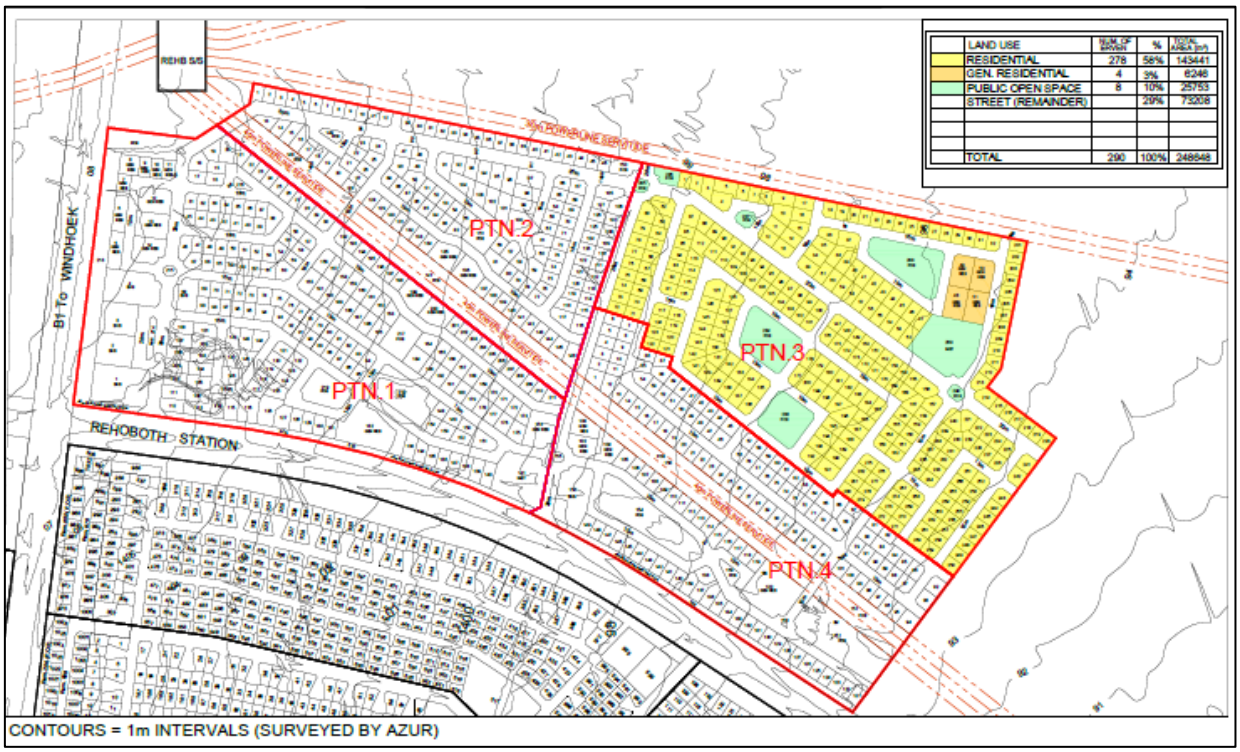
The proposed Township Establishment will include 4 new extensions within the Townlands of Rehoboth. The total area of the proposed sites is approximately 80.8427 Hectares and is located on the northern side of Rehoboth. The exact locations in relation to the built up area of Rehoboth can be seen in the maps below.



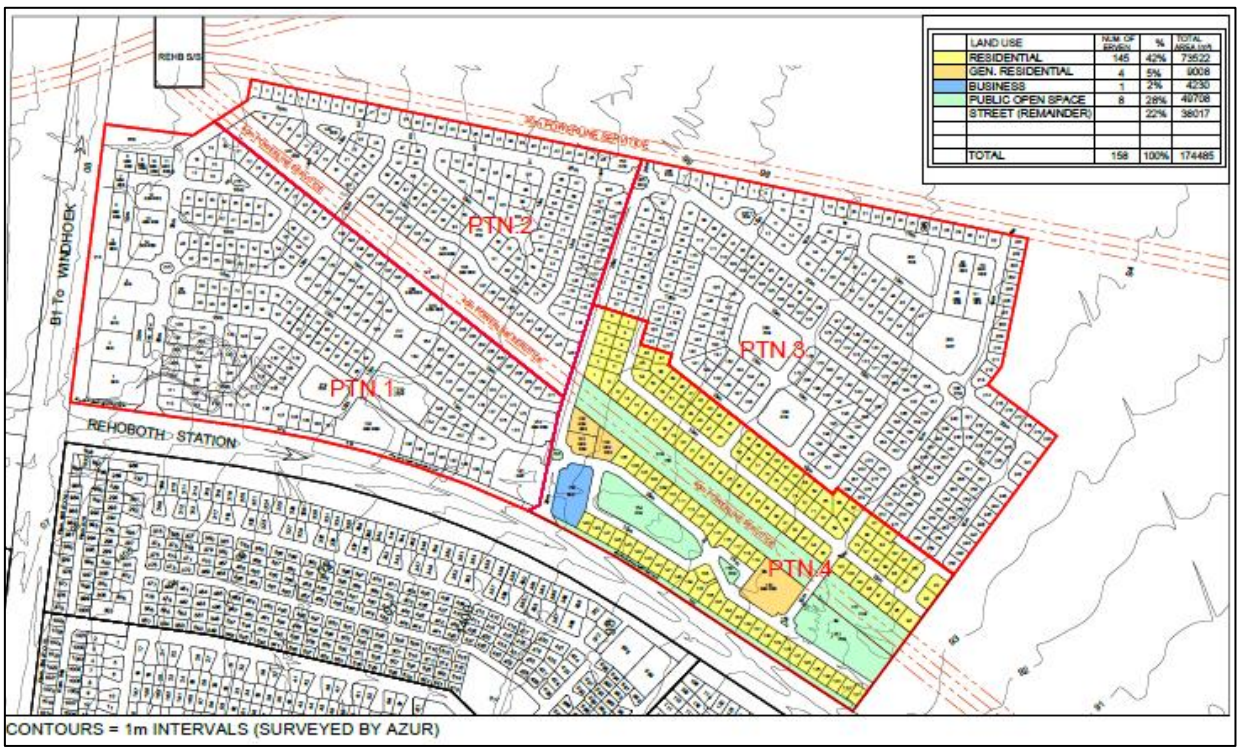
Map 1: Locality map of Rehoboth town & townlands No. 302 (Portion 1)



Map 2: Locality map of Rehoboth town & townlands No. 302 (Portion 2)



Map 3: Locality map of Rehoboth town & townlands No. 302 (Portion 3)



Map 4: Locality map of Rehoboth town & townlands No. 302 (Portion 4)

3. PROJECT BACKGROUND

An EIA was already conducted for the specific sit of 4 new extension situated on the north of Rehoboth. The EIA was concluded and an ECC was issued on the 19th of January 2022. The ECC expires on the 19th of January 2025, which is why Winplan need to apply for the renewal of this ECC.

The outputs of this project will ultimately, and among others, be to address the housing shortage over the whole spectrum of the property market currently experienced in Rehoboth as well as in the entire Hardap region. The results will not only enable property ownership through registration, but also to provide urban services in an orderly manner with the intention of enhancing the use of land while at the same time reducing cost of development.

Winplan Town and Regional Planning Consultants is fully confident that the layout plans as proposed for the 4 new Extensions will not only be instrumental in creating a better future for all who will benefit from this proposal through the provision of serviced land, but will also be hugely beneficial in terms of land delivery from a national point of view. To form a cohesively planned unit within the above framework, Winplan has considered existing land uses, existing and planned developments, existing and planned movement corridors and other existing infrastructure to propose a possible development framework to guide future development.

Furthermore, the layout proposal strive to promote a caring, diverse and well-functioning community of all ages and stages of life that celebrates life and enjoys a well-planned, progressive local authority that caters for a spectrum of land uses and a diversity of choice. With this approach, supporting the needs of the community is thus coupled with fulfilling social, environmental and commercial needs. The ultimate aim of the development concept aspires to provide access to better quality of housing and commercial opportunities within the context of greater Rehoboth.

The concept places focus on enhancing the quality of life of a neighbourhood and its social, environmental and economic sustainability. It is about balancing the needs of the present without compromising the ability of future generations to meet their own needs.

The layout of the proposed new extensions will make provision for Business, Residential, General Residential, public open spaces and Institutional erven. The following tables give more insight into the proposed township development.

Table 2 indicates the proposed number of erven that is planned on the respective portions as well as the size of the portion on which the township will be established.

LAND DESCRIPTION	APPROXIMATE SIZE (ha)	PRELIMINARY NUMBER OF ERVEN	PROPOSED EXTENSION NAME
Portion 1 of the Remainder of Rehoboth Townlands No. 302	24.3611 Ha	219	Extension number to be allocated by the office of the Surveyor

			General)
Portion 2 of the Remainder of Rehoboth Townlands No. 302	14.1683 Ha	151	Extension number to be allocated by the office of the Surveyor General)
Portion 3 of the Remainder of Rehoboth Townlands No. 302	24.8648 Ha	290	Extension number to be allocated by the office of the Surveyor General)
Portion 4 of the Remainder of Rehoboth Townlands No. 302	17.4485 Ha	158	Extension number to be allocated by the office of the Surveyor General)

Table 2: *Proposed number of erven on the respective portions*

LAND USE	NO OF ERVEN	%	TOTAL AREA (m²)
Residential	191	45%	109580
General Residential	14	14%	22206
Business	5	7%	16222
Institutional	1	2%	58293
Public Open Space	8	2%	32090
Street (Remainder		24%	58293
Total	**219**	**100%**	**243611**

Table 3: *Land Use Description for Portion 1 of Rehoboth*

LAND USE	NO OF ERVEN	%	TOTAL AREA (m²)
Residential	144	54%	76066
General Residential	2	2%	3166
Public Open Space	5	21%	29947
Remainder (Street)		23%	32504
Total	**151**	**100%**	**141683**

Table 4: *Land Use Description for Portion 2 of Rehoboth*

LAND USE	NO OF ERVEN	%	TOTAL AREA (m²)
Residential	*282*	*60%*	*149687*
Public Open Space	*8*	*10%*	*25753*
Remainder (Street)		*29%*	*73208*
Total	***290***	***100%***	***248648***

Table 5: *Land Use Description for Portion 3 of Rehoboth*

LAND USE	NO OF ERVEN	%	TOTAL AREA (m²)
Residential	*145*	*42%*	*73522*
General Residential	*4*	*5%*	*9008*
Business	*1*	*2%*	*4230*
Public Open Space	*8*	*28%*	*49708*
Remainder (Street)		*22%*	*38017*
Total	***158***	***100%***	***174485***

Table 6: *Land Use Description for Portion 4 of Rehoboth*

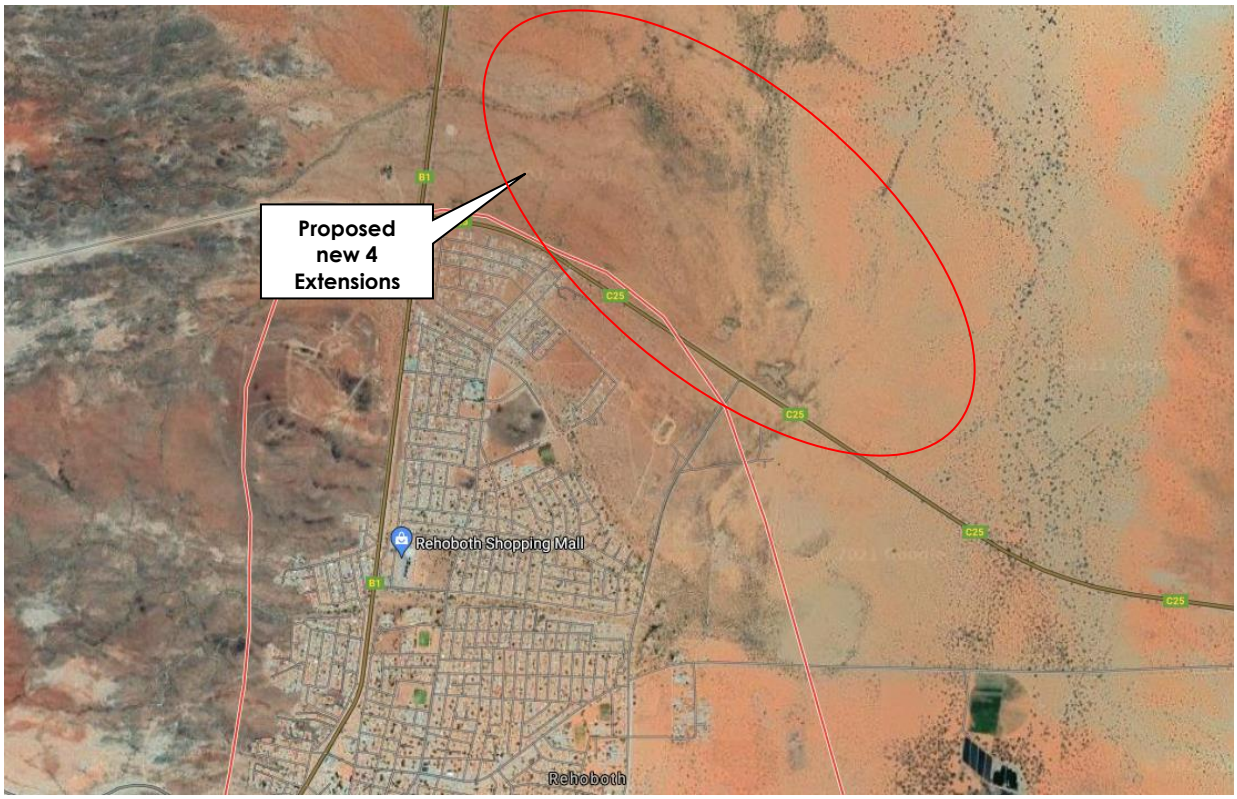


Figure 1: *Approximate location of the proposed 4 new Extensions to Rehoboth Townlands*

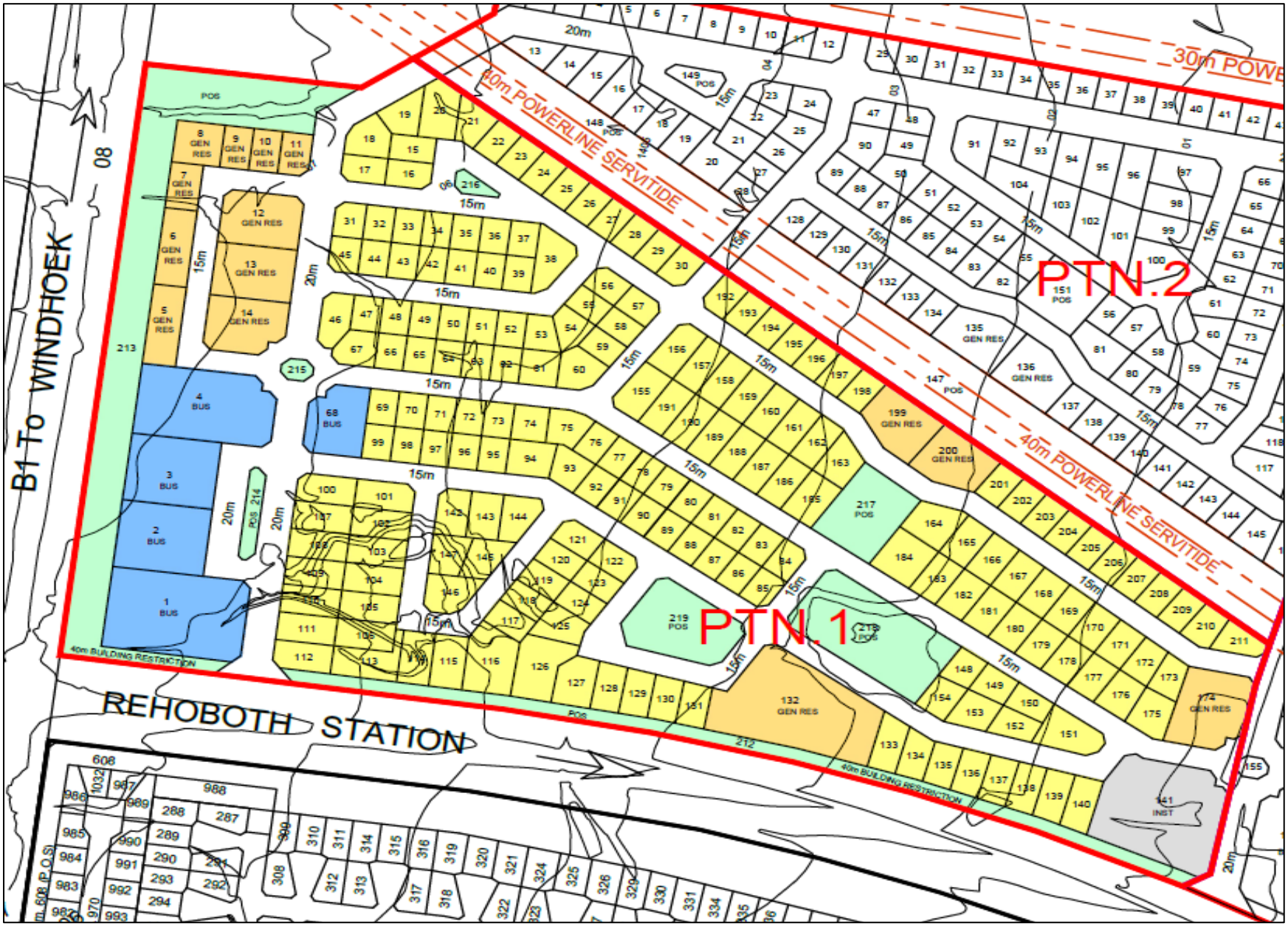


Figure 2: Proposed Layout Plan of Rehoboth Portion 1

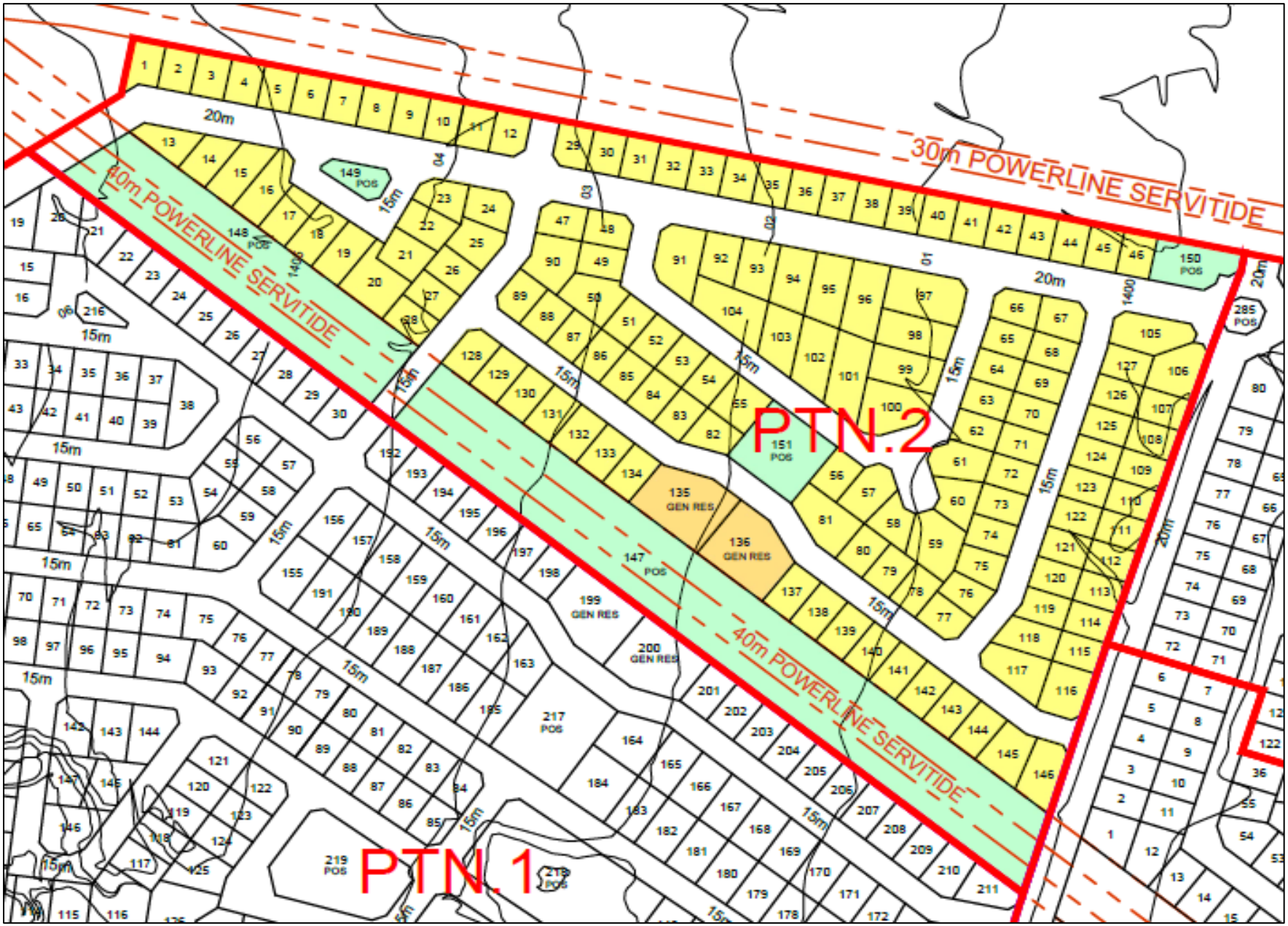


Figure 3: Proposed Layout Plan of Rehoboth Portion 2

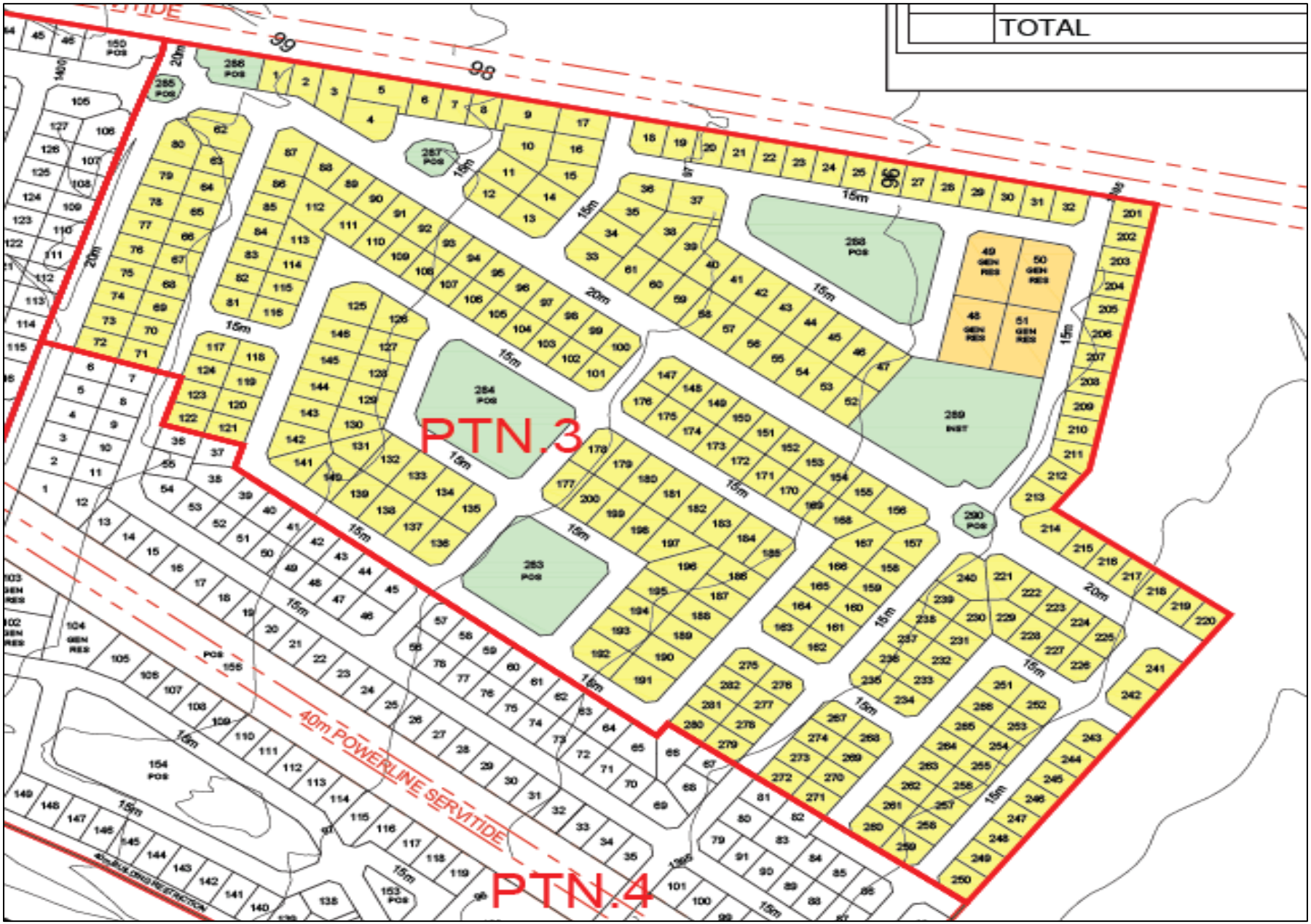


Figure 4: Proposed Layout Plan of Rehoboth Portion 3

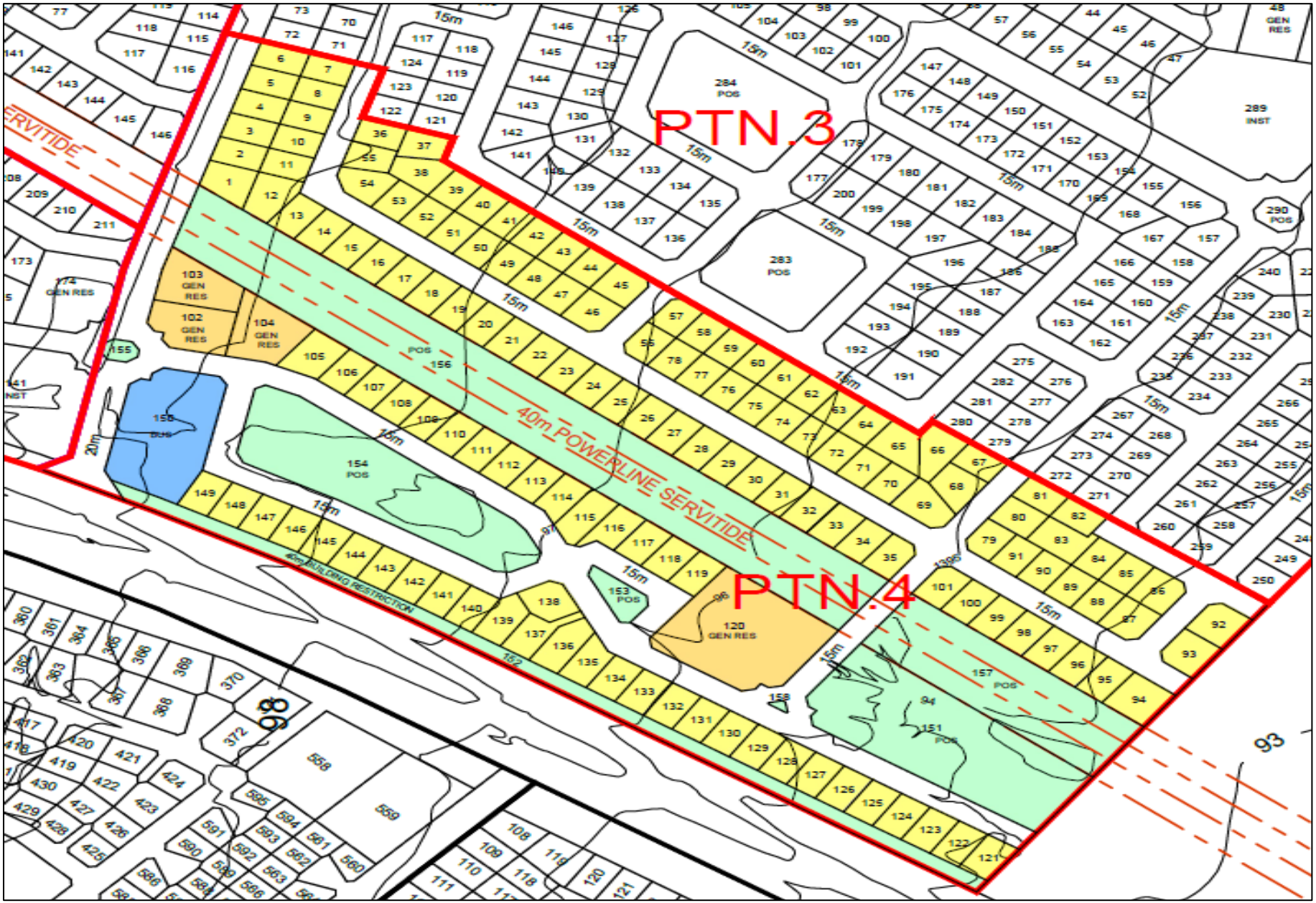


Figure 5: Proposed Layout Plan of Rehoboth Portion 3

4. TERMS OF REFERENCE

The proponent (Rehoboth Town Council) intends to create 4 new extensions to the north of Rehoboth. The proposed layout consist of predominantly residential erven to address the housing shortage within Rehoboth. The township establishment will consists of 4 new extensions (Extension Number to be allocated by the office of the Surveyor General. Figure 2,3,4 & 5 above depict the township establishment in question. The subdivision plan can be seen below

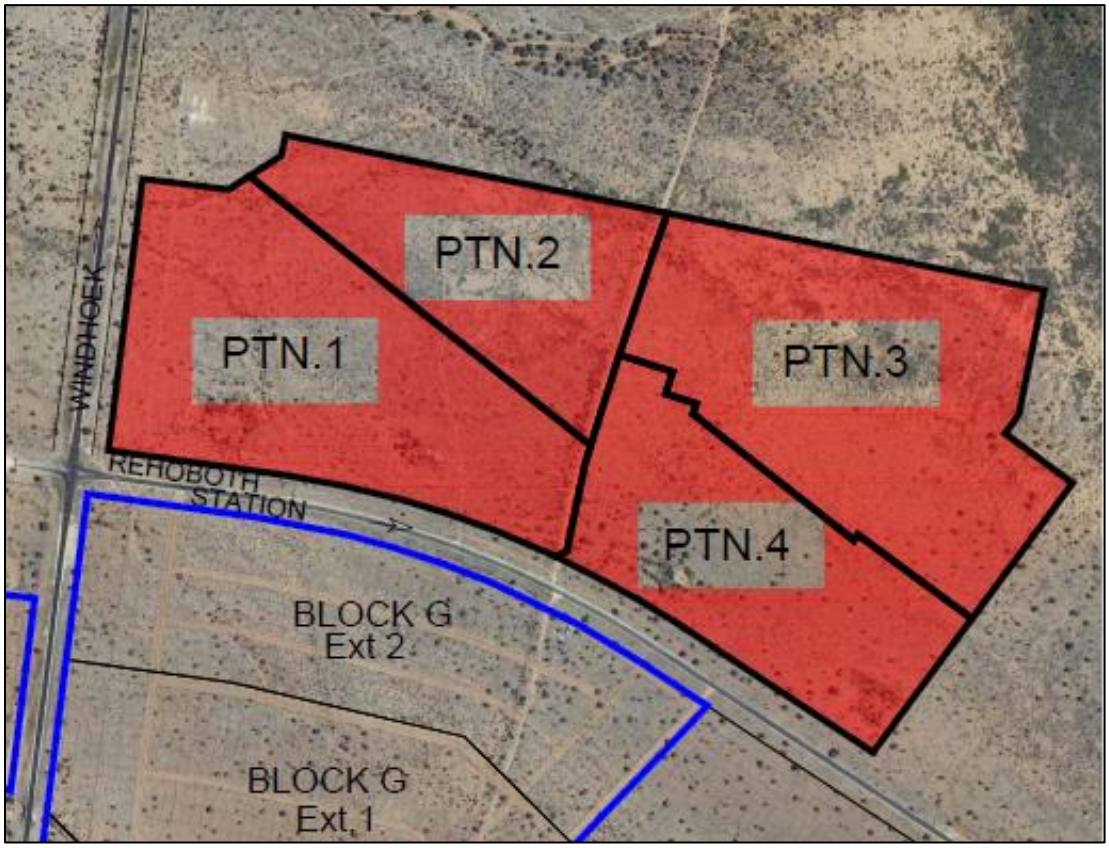


Figure 6: *Subdivision of the Remainder Rehoboth Townlands No. 302.*

5. THE EIA PROCESS

The diagram below illustrates the stages of the typical EIA process to its completion with the submission of the final Environmental Scoping Report to the Directorate of Environmental Affairs (DEA).

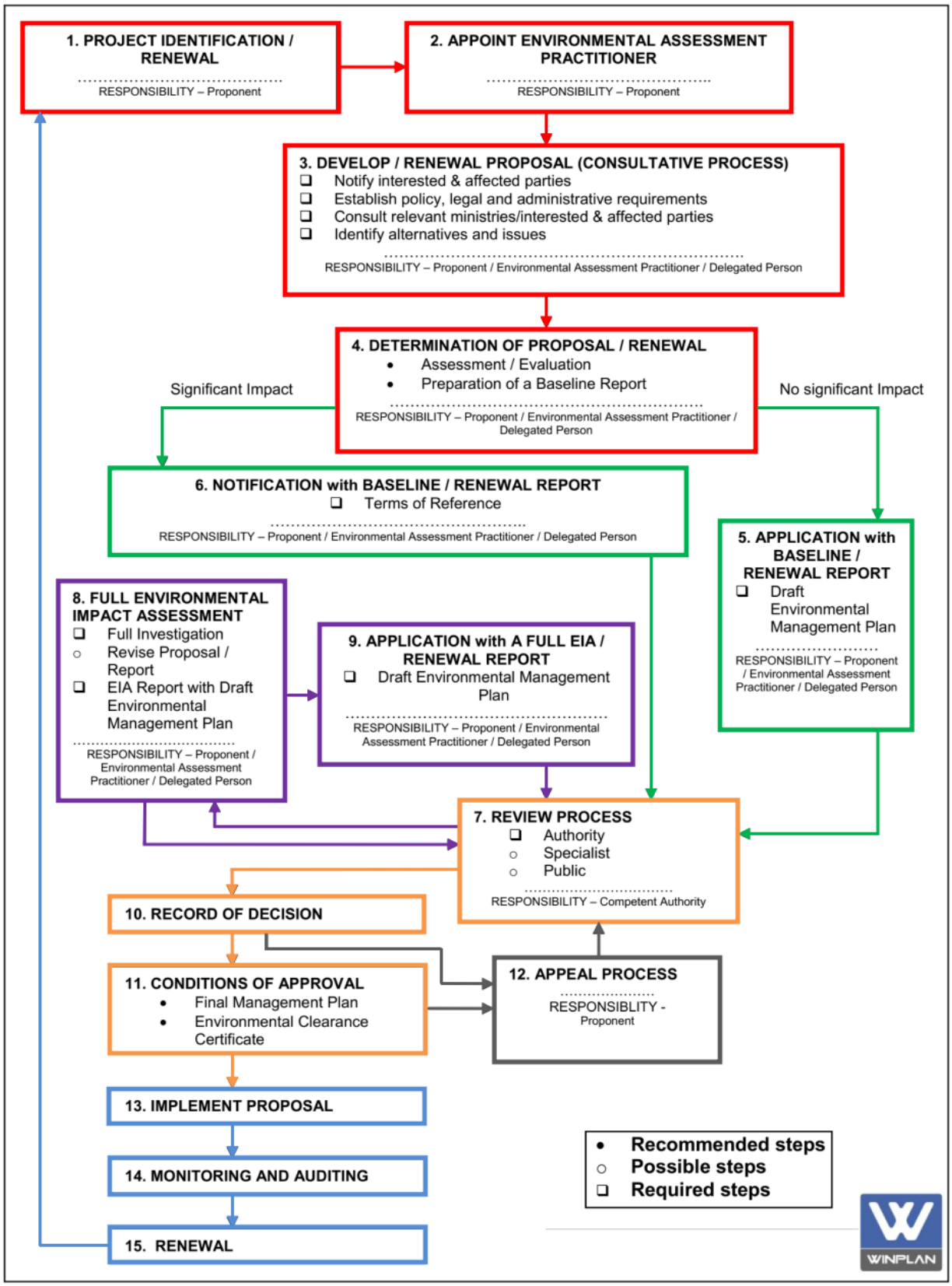


Figure 7: *Diagrammatic representation of Namibia's Environmental Assessment process*

6. THE PROPOSED DEVELOPMENT

This section will provide an in depth description of the proposed activities as per the terms of reference provided above.

6.1 EMPLOYMENT CREATION

The proposed development has good potential to create employment in the Hardap Region, particularly in the town of Rehoboth, during the planning, construction and operation phases. During the planning phase limited personnel will be employed to render assistance with surveying work and pegging, while a substantial number of people will be employed during the construction phase. Although construction work will be a short-term employment opportunity, the employed residents will gain valuable skills and experience that they will utilise post construction phase. Full time employment opportunities will be created for people working in the retail and administrative sectors as well as other informal employment such as domestic work. The ultimate aim of the development aspires to provide access to better quality housing and commercial opportunities within the context of greater Rehoboth.

6.2 BULK SERVICES AND INFRASTRUCTURE

All bulk services such as water, electricity and sewerage need to be provided for the proposed 4 new extensions. The bulk services will be linked with the existing town of Rehoboth. The instalment of these bulk services will also create temporary working opportunities for the Hardap Region.

6.2.1 Access

Access to all the proposed erven would be taken from the planned street access which will provide for the 918 Erven. Services will be linked to the bulk and internal services network of Rehoboth.

6.2.2 Water Supply

The Rehoboth Town Council (RTC) will supply water to the proposed new extensions through the existing Municipal Water Reticulation System. Rehoboth Town Council is currently being supplied with bulk water by NamWater.

6.2.3 Storm Water

The design of the internal street network will include provision for storm water and to accommodate the storm water generated by the townships. Underground storm water structures with catch pits complying with accepted engineering standards will be constructed.

6.2.4 Electricity Supply

Electricity will be sourced from the existing NamPower grid and distributed to the new extension by the Southern Electricity Company (SELCo). Apart from the NamPower power line, no there are no other electrical infrastructure such as sub stations on the proposed sites.

6.2.5 Sewage Disposal

The proposed new development will be provided with underground sewer systems consisting of pipes and pump stations which will be connected to the existing municipal sewer system.

6.2.6 Solid Waste Disposal

All type of solid waste that will be generated by the various residents and business in the proposed areas will be collected by the municipality through the existing municipal waste management system and disposed of at an approved waste disposal landfill.

7. CONSTRUCTION AND OPERATIONAL ACTIVITIES

The township development is generally associated with the following activities during both the construction- and the operational phase.

7.1 CONSTRUCTION ACTIVITIES

Activities associated with the construction phase, both during bulk infrastructure and construction of buildings, but not necessarily limited to, are:

- Setting-up of a temporary –
    - construction yard;
    - site office and parking area;
    - workshop and stores;
    - batching area;
    - ablution facilities;
    - solid waste disposal facility;
    - stockpile area; and
    - danger zones area for handling hazardous substances, wash bays, bulk storage and dispensing of fuel.
- Demolition of existing structures (if applicable).
- Clean up of existing dumpsites and smaller points of pollution currently on-site.
- Clearance of vegetation, stockpiling and removal from site.
- Removal of topsoil.
- Dumping of large quantities of unsuitable material.
- Access roads.

- Daily commuting of labour force to and from the site.
- Digging of trenches and construction of infrastructure (i.e. roads, electricity, water and wastewater).
- Generation of construction waste, temporary storage and removal from site.
- Usage of water for daily construction activities and generation of wastewater.

The impacts expected to occur during the construction phase are to a certain extent similar to that of the operational phase, although some impacts are exclusive to the construction phase and is short-lived.

The impacts likely impact to occur during the construction phase, and mitigations measures are detailed in the Environmental Management Plan (EMP) (See Appendix B).

7.2 OPERATIONAL ACTIVITIES

Activities associated with the operational phase, but not necessarily limited to, are:

- Traffic movement.
- Generation of dry and wet waste, the temporary storage thereof and removal.
- Street lighting.
- Noises associated with residential and business activities.
- Resource consumption (i.e. electricity; water).
- Use of pesticides and herbicides; paint, petrol & diesel spillages.
- Routine maintenance on bulk and internal services and servitude maintenance.

An Environmental Clearance Certificate (ECC) will only be obtained once the Environmental Scoping Assessment Report has been submitted, reviewed and approved by the Office of the Environmental Commissioner (OEC).

8. APPROACH TO THE STUDY

The Environmental Scoping Assessment Report (ESAR) incorporates the following activities: desktop studies, site assessment, public participation and scoping. In accordance with the Environmental Management Act (No 7 of 2007, an Environmental Scoping Assessment is an imperative component of this process to necessitate issuance of the ECC for the proposed township establishment and all the associated infrastructures.

The aim of this report is to present the relevant information on the socio-economic and bio-physical conditions in which these activities might occur, sensitise the residents and any interested and affected party affected by the envisaged development and to establish the significance of the associated impacts the planned activities will pose on the ecological and socio-economic environment of Rehoboth.

The aim of the Environmental Scoping Assessment is:

- To ascertain existing environmental conditions in the proposed area in order to determine its environmental sensitivity;
- To inform Interested and Affected Parties (I&APs) and relevant authorities of the likely impacts associated with the proposed development and permit opportunity to raise issues and concerns;
- To assess the significance of issues and concerns raised;
- To compile a report detailing all identified issues and possible impacts, stipulating the way forward and identify specialist area that require further investigations.

The tasks that were undertaken as part of the Environmental Scoping Assessment process included the evaluation of the following:

- Climate
- Water (Hydrology)
- Vegetation
- Soils
- Social Component
- Cultural Heritage
- Groundwater
- Biodiversity
- Sense of Place
- Socio-economic Environment
- Health, and
- Safety and Traffic

A number of site visits to the proposed sites were carried out to collect information on the ecological and socio-economic of the receiving environment. Consultation with the relevant stakeholders including the Rehoboth Town Council provides imperative information pertaining the need and desirability of the proposed development.

To ensure that the general public and any interested and affected party are informed on the proposed project public notices were placed in local newspaper to provide the public with an opportunity to comment and give inputs towards the planned project.

The identified impacts were rated to a degree of significance. The consequences of the impacts were determined in four categories: expected duration of impact, geographical extent of the event, probability of occurring and the expected intensity.

All other permits, licenses or certificates that are further required for the establishment of the proposed development should be applied for by the proponent.

9. ASSUMPTIONS AND LIMITATIONS

It is reputed that the information provided by the proponent (Rehoboth Town Council) is accurate and relevant to the date of compiling this report. The sites were visited several times and any activities on the project site after those visits are not included in this report. It is however assumed that there will be no significant alteration to the proposed sites and the environment will not be adversely affected between the compilation of the assessment and the implementation of the proposed activities. It is further assumed that all other secondary data (books, other specialist studies etc.) researched and collected data are factual and accurate.

10. ADMINISTRATIVE, LEGAL AND POLICY REQUIREMENTS

The administrative, legal and policy requirements are related to the methodology that needs to be followed when conducting an Environmental Scoping Assessment. When compiling and setting up an Environmental Scoping Assessment, a couple of steps need to be followed in order for it to comply with the legal requirements. In the first step, all notice about the endeavours on the sites needs to be placed in **two different local Newspapers for two consecutive weeks.** Letters stating the development on the project sites and the relevant line Ministries should be informed about the envisaged development, including the residents and all Interested and Affected Parties (I&AP's). Thereafter, a Background Information Document (BID) should be compiled and send to any person on request.

The Environmental Impact Assessment **Regulations (GN 30 in GG 4878, 6 February 2012)** of the **Environmental Management Act (No. 7 of 2007)** that came into effect in 2012 requires/recommends that an Environmental Impact/Scoping Assessment be conducted.

The **Constitution of the Republic of Namibia (1990)** states that the State shall promote and maintain "ecosystems, essential ecological processes and biological diversity of Namibia and to utilise natural resources on a sustainable basis for the benefit of all Namibians both present and future".

The **Water Resources Management Act (No. 24 of 2004)** stipulates conditions that ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures should be taken to ensure the prevention of surface and groundwater pollution and water resources should be used in a sustainable manner.

The **Nature Conservation Ordinance (No 4 of 1975)** covers game parks and nature reserves, the hunting and protection of wild animals, problem animals, fish and indigenous plant species. The Ministry of Environment and Tourism (MET) administer it

and also provides for the establishment of the Nature Conservation Board.

The **Forestry Act (No 12 of 2001)** specifies that there be a general protection of the receiving and surrounding environment. The protection of natural vegetation is of great importance, the Forestry Act especially stipulates that no living tree, bush, shrub or indigenous plants within 100m from any river, stream or watercourse, may be removed without the necessary license.

The **Soil Conservation Act (No 76 of 1969)** stipulates that the combating and preventing of soil erosion should take place; the soil should be conserved, protected and improved, vegetation and water sources and resources should also be preserved and maintained. When proper mitigation measures are followed along the construction and implementation phase of the project, the natural characteristics of the property is expected to have a moderate to low impact on the environment.

The **Labour Act (No 11 of 2007)** states regulations to ensure the health, safety and welfare of employees and to protect employees from unfair labour practices. The Act also states that the employees should be provided with a working environment which is without risk to their health.

11. AFFECTED RECEIVING ENVIRONMENT

11.1 BIODIVERSITY AND VEGETATION

The proposed project sites are currently vacant. The site is already showing signs of human inference. In particular, informal tracks exist as well as vegetation that was cleared in order to accommodate other uses. All large trees that exist on the project site would be incorporated in the development to enhance the aesthetic value of the area. No protected trees may be removed without a permit. Any removal of vegetation that arises naturally should be done within a properly managed, planned and responsible manner in order to avoid destruction of unnecessary ground cover. No animals were observed on the sites during the site visits. It is however strongly recommended that any animal if found on the sites whether large or small be safeguarded from the construction and operation activities that may be harmful.

Rehoboth falls within the Tree and Shrub Savanna Biome of Namibia which is recorded to have a main type of Vegetation namely the Kalahari Shrubland. This vegetation are characterized low shrubs and grasslands. (Loots, 2019)

The main farming activities that are occurring within the Rehoboth town and on surrounding properties are stock and cattle farming.

Vegetation type	Tree and Shrub Savanna
Vegetation structure type	Kalahari Shrubland
Diversity of higher plants	Low medium plus (Diversity rank = 5 [1 to 7 representing highest to lowest diversity])
Number of plant species	300 -399
Percentage tree cover	0.1-1
Percentage dwarf shrub cover	3.6
Dwarf shrub height (m)	0.5
Grass height (m)	0.5
Dominant plant species 1	Extremely diverse:
Dominant plant species 2	*Rhigozum trichotomum*-s2

Table 6: *General Flora Data (Atlas of Namibia, 2002)*

Mammal Diversity	61 - 75 Species
Bird Diversity	171 - 200 Species
Reptile Diversity	61 - 70 Species
Snake Diversity	20 - 24 Species
Lizard Diversity	> 35 Species
Scorpion Diversity	12 - 13 Species

Table 7: *General Fauna Data (Atlas of Namibia, 2002)*

It should be noted that none of the larger trees/shrubs, especially the protected and endemic species, are exclusively associated with the proposed project area. Furthermore, no animals or reptiles were recorded during the site visits. Various bird species do however exist in the general area.

11.2 VERTEBRATE FAUNA

The general project area is regarded as "low" in overall (all terrestrial species) diversity (Mendelsohn et al. 2009) while the overall terrestrial endemism in the area is viewed as "average" (Mendelsohn et al. 2009). The overall diversity and abundance of large herbivorous mammals (such as game) is viewed as "low-medium" with 5-6 species while the overall diversity of large carnivorous mammals (large predators) is determined at 3 species with brown hyena being a notable conservation-worthy species with "low" densities expected in the area (Mendelsohn et al. 2009).

11.3 AVIAN DIVERSITY

Although Namibia's avifauna is comparatively sparse compared to the high rainfall equatorial areas elsewhere in Africa, approximately 658 species have already been recorded with a diverse and unique group of arid endemics (Brown, et al., 1998, Maclean, 1985). Fourteen species of birds are endemic or near endemic to Namibia with the majority of Namibian endemics occurring in the savannas (30%) of which ten species occur in a north-south belt of dry savannah in central Namibia (Brown, et al., 1998).

Bird diversity is viewed as "low" in the project area with 171-200 species estimated with 1-3 species being endemic to the general area (Mendelsohn et al. 2009) with Simmons (1998a) confirming the 4-7 endemics expected in the area.

The most important (owing to conservation status) bird species potentially occurring in the project area are viewed as those classified as endangered (Ludwig's bustard, black harrier, booted eagle, martial eagle), vulnerable (lappet-faced vulture, secretary bird) and near threatened (kori bustard, Verreaux's eagle) under Namibian legislation (Simmons et al. 2015) and those classified as endangered (Ludwig's bustard, lappet-faced vulture), vulnerable (martial eagle, secretarybird) and near-threatened (kori bustard) by the IUCN (2019). However most of these species – e.g. Ludwig's and kori bustards, etc. – are not expected to occur in the area throughout the year, but rather frequent in the area after localised rainfall events.

It should be noted that none of the birds, especially the species with some conservation status, are exclusively associated with the project area.

12. TOPOGRAPHY, GEOLOGY AND SOILS

The topography of the majority of the project site consists of flat plains interspersed with rocky outcrops. The average elevation of the site area is approximately between 1200m² and 1500m² m above mean sea level. The area is typically characterised by dry riverbeds/drainage lines that runs-off for short periods during the rainy season.

The project sites incorporate geology from the Waterberg Basin, forming part of the Karoo Supergroup (Mendelsohn, et al, 2009). The main rocks associated with the Waterberg Basin are Sandstones and Shales.

The soil in the project area is Eutric Leptosols, being thin or shallow medium or fine-textured soils (Mendelsohn et al. 2009). These soils are characterised by their limited depth caused by the presence of continuous hard-rock, highly calcerous or cemented layer within 30cm of the surface. This soil type is further prone to water erosion during heavy rains (Mendelsohn et al. 2009).

13. CLIMATE

The proposed area is situated in the southern central part of Namibia in the Hardap Region, which has been classified as an arid desert. Mostly summer rain is experienced in this area.

The average annual rainfall for Rehoboth and surroundings is 250 – 300 mm, while the average evaporation rate is in the region of 2,240 – 2,380 mm a year (Mendelsohn, et al, 2009). It is obvious that evaporation exceeds rainfall by far, resulting in a water deficit, both on a month-to-month and annual basis.

During winter months the average minimum temperature is less than 2-4°C, while the average maximum day temperature during summer is 32-34°C (Mendelsohn, et al, 2009). Southerly to south-westerly winds dominate throughout the year causing wind erosion where soil cover is low. Average wind speeds are rarely higher than 5m/s.

Given the nature of the development, it is not expected that the climate will have any significant effect and vice versa. Winds may contribute to dust and noise nuisance, having a potential negative implication on the surrounding residential areas.

14. HYDROGEOLOGY

Limited volumes of groundwater are available in the basement rocks of the Hardap Region, since there are no productive aquifers. Lack of recharge and poor groundwater quality in most areas further aggravates the situation. However, groundwater is one of the most important resources, especially in the arid climate of Namibia and the protection thereof should be regarded as a high priority.

Although most of the surface water evaporates, runoff can be expected due to the impermeability of the soils (Grunert, 2003). Storage of any material or substance that may cause pollution to water sources should be safely handled and stored in accordance with appropriate legislation.

15. SOCIO-ECONOMIC COMPONENT

Due to the fact that the proposed new townships will be constructed within the townlands area, the social impact would be minimal, since the surrounding area is already inhabited by people. The majority of land use around the area consists out of open land as well as commercial and residential activities. The proposed new development would therefore not have a negative impact on the neighbours or the surrounding areas and could in actual fact be described as an extension of the existing town.

The construction and development of the proposed townships will have little disturbance to the environment and towards the individuals that are located in the area/town. Those people that would be affected by the development will be compensated and relocated as per the directives of the Ministry of Land Reform (MLR). In addition, it could be argued that residents living in the area will benefit from employment opportunity created during planning, construction and operation of the development.

16. CULTURAL HERITAGE

The proposed project area for the township establishment is not known to have any artefact or historical significance prior to or after independence in 1990. The area does not have any National Monuments and the proposed site has no record of any cultural or historical significance or on-site resemblance of any nature. No graveyard or related article was found on the proposed project sites. If any archaeological artefacts are to be found on the sites during the construction phase, it should be reported to the National Heritage Council (NHC) in Windhoek. Any human or other remains that are discovered should be reported to the Namibian Police for further investigation.

17. PUBLIC CONSULTATION PROCESS

Numerous environmental issues to be considered in the EIA has been given specific context and focus through consultation with authorities and IA&Ps. Included below is a summary of the parties consulted, the process that was followed, and the issues that have been identified.

The following Competent Authorities were identified:

- Ministry of Urban and Rural Development (MURD)
- Ministry of Environment and Tourism (MET)

The following I&AP's were identified:

- Residents of Rehoboth
- Rehoboth Town Council

The proposed project was advertised in the Republikein and The Namibian newspapers on , 4 October 2021 and again on the 11th of October 2021 respectively

18. ENVIRONMENTAL IMPACT EVALUATION

The potential impacts identified were evaluated in terms of duration, extent, intensity, probability, and status, in combination providing the expected significance. The means of arriving at the different significance ratings is explained in Table 7 below.

These criteria are used to ascertain the significance of the impact, firstly in the case of no mitigation and then with the most effective mitigation measure(s) in place. The significance of an impact is derived by taking into account the temporal and spatial scales and magnitude. Such significance is also informed by the context of the impact, i.e. the character and identity of the receptor of the impact.

CRITERIA	CATEGORY
Impact	This is a description of the expected impact.
Nature Describe the type of effect.	**Positive:** The activity will have a social/ economical/ environmental benefit. **Neutral:** The activity will have no effect. **Negative:** The activity will be socially/ economically/ environmentally harmful.
Extent Describe the scale of the impact.	**Site Specific:** Expanding only as far as the activity itself *(onsite)* **Small:** Restricted to the site's immediate environment within 1 km of the site *(limited)* **Medium:** Within 5 km of the site *(local)* **Large:** Beyond 5 km of the site *(regional)*
Duration Predicts the lifetime of the impact.	**Temporary:** < 1 year **Short-term:** 1 – 5 years **Medium term:** 5 – 15 years **Long-term:** >15 years (Impact will stop after the operational or running life of the activity, either due to natural course or by human interference) **Permanent:** Impact will be where mitigation or moderation by natural course or by human interference will not occur in a particular means or in a particular time period that the impact can be considered temporary.
Intensity Describe the magnitude (scale/size) of the Impact.	**Very low:** Affects the environment in such a way that natural and/or social functions/processes are not affected.

	Low: Natural and/or social functions/processes are slightly altered. **Medium:** Natural and/or social functions/processes are notably altered in a modified way. **High:** Natural and/or social functions/processes are severely altered and may temporarily or permanently cease.
Probability of Occurrence Describe the probability of the Impact actually occurring.	**Improbable:** Not at all likely. **Probable:** Distinctive possibility. **Highly probable:** Most likely to happen. **Definite:** Impact will occur regardless of any prevention measures.
Degree of Confidence in Predictions State the degree of confidence in predictions based on availability of information and specialist knowledge	**Low:** Little confidence regarding information available (<40%). **Med:** Moderate confidence regarding information available (40-80%). **High:** Great confidence regarding information available (>80%).
Significance The impact on each component is determined by a combination of the above criteria.	**No change:** A potential concern which was found to have no impact when evaluated. **Very low:** Impacts will be site specific and temporary with no mitigation necessary. **Low:** The impacts will have a minor influence on the proposed development and/or environment. These impacts require some thought to adjustment of the project design where achievable, or alternative mitigation measures. **Moderate:** Impacts will be experienced in the local and surrounding areas for the life span of the development and may result in long term changes. The impact can be lessened or improved by an amendment in the project design or implementation of effective mitigation measures. **High:** Impacts have a high magnitude and will be experienced regionally for at least the life span of the development, or will be irreversible. The impacts could have the no-go proposition on portions of the development in spite of any mitigation measures that could be implemented.

Table 8: *Impact Assessment Criteria*

19. POTENTIAL IMPACTS IDENTIFIED AND ASSESSED

For the purpose of this assessment, issues and impacts identified are grouped according to the main project phases – i.e. the construction phase and operational phase. Section

19.1 and Section 19.2 give a broad overview of each potential impact expected during the two phases, as well as an assessment outcome. Proposed mitigation measures are discussed in detail in the attached Environmental Management Plan (See Appendix B).

19.1 CONSTRUCTION RELATED IMPACTS

The construction activities, which have been considered, include those activities applicable to both the construction of bulk services (i.e. roads; potable water; sewer; storm water; and electricity) and the construction of buildings (i.e. houses & businesses).

Construction impacts are mostly temporary in nature, but may have a permanent and lasting result if not addressed in time and in an effective manner. Details with regards to the potential impacts expected during the construction phase are briefly discussed below.

Detailed mitigation measures and environmental requirements having direct relevance to the expected construction impacts are presented in the tables below and in the Environmental Management Plan (See Appendix B).

Table 8 below presents the potential impacts expected to occur during the construction phase of the development, while **Table 9** to **Table 18** presents the assessment and outcome of each of the key impacts, with mitigations.

IMPACT	CAUSE
Erosion & Sedimentation	Vegetation clearance
	Trenches & excavated areas
Ground and Surface Water Pollution	Waste disposal
	Hazardous material & liquid disposal
Habitat Destruction and Loss of Biodiversity	Vegetation clearance & removal of trees
	Erosion & sedimentation
	Poaching
Visual Aesthetics and Sense of Place	Vegetation clearance
	Poorly planned construction sites
	Insensitive infrastructure design and scale
Socio-Economic	Income generation and skills transfer (Employment)
	Economic benefit to the construction industry
	Dust and emissions
	Traffic safety
	Health, safety and security
Natural Resources (water & energy)	Unacceptable high levels of consumption
	Wastage

Table 9: *Key issues and potential impacts expected during the construction phase*

19.1.1 Erosion and Sedimentation

Erosion and sedimentation will take place in the event that soils are exposed to the natural elements (i.e. winds and rains) through clearing of vegetation or steep excavations, which in turn could result in seasonal (rain season) degradation of habitats and visual downgrade. The amount of erosion and sediment transport is directly related to what time of the year the construction activities occur and the duration thereof. If clearing and grading activities take place during the wetter months of the year (November to March), substantially more erosion would result.

Considering the natural conditions (i.e. topography, soil composition and vegetation cover) erosion and sedimentation can be expected if not effectively managed and mitigated. Due to the fact that the project area falls within a average rainfall area, it is not expected to be vulnerable to erosion and sedimentation.

Given the environment's natural characteristic and township layout, the potential occurrence of erosion and resulting sedimentation is rated as **probable** before mitigations and **low** following proper mitigation measures (see Table 9).

Impact Description	Erosion and sedimentation
Nature	Negative
Extent	Site specific
Duration	Long Term
Intensity	Low
Probability	Probable
Degree of Confidence	Definite
Significance Pre-mitigation	Moderate
Significance Post-mitigation	**Low**

Table 10: *Significance of Erosion and Sedimentation*

19.1.2 Ground- and Surface Water Pollution

Construction activities are associated with a variety of potential pollution sources (i.e. cement, oils, diesel, chemicals, paints, etc.), either having a direct and immediate impact or indirect and longer-term impact. As a single incident, in order for ground water to be contaminated, very large quantities of pollutants have to be released into the environment, of which volumes are not associated with this type of development. Although, however small these potential sources of pollution might still requires special attention (i.e. planning, control and management) to avoid any potential pollution of the immediate environment.

The groundwater of the area is not regarded as being of good quality and is not expected to be negatively affected by any pollution, but should be avoided. The proposed area contains no standing permanent water ponds / artificial wetlands, but can potentially be expected during the rainy season. However no flooding of the project area will be expected.

Given the environment's natural characteristics, construction pollution is expected to have a **moderate** impact before mitigation and a **low** impact following proper mitigation measures. It is therefore unlikely that groundwater contamination will occur and the proposed construction phase is not likely to have any detrimental impacts on the groundwater resources of the area.

Impact Description	Groundwater and surface water pollution
Nature	Negative
Extent	Medium (short term) / Large (long term)
Duration	Long Term
Intensity	High
Probability	Probable
Degree of Confidence	Probable / medium

Significance Pre-mitigation	Moderate
Significance Post-mitigation	**Low**

Table 11: *Surface and Groundwater Pollution*

19.1.3 Habitat Destruction and loss of Biodiversity

The proposed change in land use will permanently change the present landscape and result in the displacement of existing vegetation and faunal populations, including invertebrates and other living organisms.

Removal of the natural vegetation cover to make way for the roads, buildings and other infrastructure is inevitable. This should however be done within a responsible manner to avoid unnecessary removal of ground cover or any protected species, as per the Forest Act (No. 12 of 2001, as amended).

The proposed townships will be situated in already disturbed areas, which is free of any conservation worthy fauna and flora. Given the environment's natural characteristic and expected scale of habitat disturbance, the impacts are expected to be **moderate** before mitigations and **low** following proper mitigation measures and continuous monitoring.

Impact Description	Habitat destruction and loss of biodiversity
Nature	Negative
Extent	Site specific
Duration	Long Term
Intensity	Low
Probability	Probable
Degree of Confidence	Definite
Significance Pre-mitigation	Moderate
Significance Post-mitigation	**Low**

Table 12: *Habitat destruction and loss of biodiversity significance*

19.1.4 Visual Aesthetics and Sense of Place

Although temporary, construction activities are known to have a visual impact due to the nature of the activity. The surrounding land uses to the proposed project sites are typical uses like institutional, business, and residential uses which are normally associated with a town. The activities to be accommodated on the proposed project area are in line with these.

The proposed project sites are by no means untouched, as a result of the human interference. Given the expected size (small) of the larger construction site, the natural vegetation present on-site as well as the already disturbed nature of the two sites, the visual impact is expected to be **moderate**. By applying the proposed mitigations, the impacts during construction can be slightly reduced, but will remain as a permanent feature.

Impact Description	Visual aesthetics and sense of place
Nature	Negative
Extent	Small
Duration	Permanent
Intensity	Medium
Probability	High Probable
Degree of Confidence	Definite
Significance Pre-mitigation	Moderate
Significance Post-mitigation	**Low**

Table 13: *Visual aesthetics and sense of place significance*

19.1.5 Socio-Economic Implication

Construction activities are associated with a variety of impacts that has either a direct or indirect implication on the surrounding residents' living conditions and/or socio-economic status. These implications are covered below.

i) Income Generation & Skills Transfer (Employment)

Construction makes use of larger numbers of unskilled labour, as well as skilled labour although to a lesser extent, which does not only contribute to income generation and a security of better livelihoods, but contributes to skills transfer as well.

It is important that local people be employed and that the necessary opportunities exist for unskilled labour to undergo on the job training and skills enhancement.

Impact Description	Income generation and skills transfer
Nature	Positive
Extent	Large
Duration	Temporary
Intensity	High to the unemployed
Probability	Definite
Degree of Confidence	Definite
Significance Pre-mitigation	High to the unemployed
Significance Post-mitigation	**High** to the unemployed

Table 14: *Income generation and skills transfer*

ii) Economic Benefit to the Construction Industry

The construction of the bulk and internal services, as well as buildings will have a direct positive implication on the currently struggling construction industry, which is considered to be one of the most important employers in the country. It is crucial that local contractors be appointed and that as many as possible of the locally available construction material be used throughout the development.

Impact Description	Economic benefit to the construction industry
Nature	Positive
Extent	Large
Duration	Temporary
Intensity	Medium
Probability	Definite
Degree of Confidence	Definite
Significance Pre-mitigation	Moderate
Significance Post-mitigation	**Moderate**

Table 15: *Economic benefit to the construction industry*

iii) Dust & Emissions

The air quality in the area is considered good, based on the potential impact that current activities in the area are likely to have on air quality. Dust and emissions are associated with construction activities (i.e. digging; clearing; excavating etc.) of which the severity is directly related to the extent of the development and the nature of the receiving environment. Given the activities within the immediate surroundings, dust is expected to be more of a nuisance than emissions, as a result of construction activities.

Considering the prevailing winds throughout the year and the surrounding receptors, dust nuisance is not expected to be of any significance. However, dust control is considered important and requires effective mitigations.

With regards to the proposed project sites, dust nuisance in general holds a **very low** significance.

Impact Description	Dust and emissions
Nature	Negative
Extent	Small
Duration	Temporary
Intensity	Low
Probability	Highly probable

Degree of Confidence	Definite
Significance Pre-mitigation	Low
Significance Post-mitigation	**Very low**

Table 16: *Dust and emissions*

iv) Traffic Safety

Construction activities are associated with an increase in vehicles of different kinds (i.e. workers' busses, delivery vehicles and construction vehicles) to and from the project site, which inevitably increase risk and conflict. It is important that all vehicle drivers be informed of their potential impact on the environment and on the roads, and that the necessary measures are taken to prevent any accidents as a result of increased traffic.

The potential pre-mitigation impact is regarded as **moderate**, which can be reduced to **low** through applying proper mitigations.

Impact Description	Traffic safety
Nature	Negative
Extent	Small
Duration	Temporary
Intensity	High
Probability	Probable
Degree of Confidence	Probable
Significance Pre-mitigation	Moderate
Significance Post-mitigation	**Low**

Table 17: *Traffic safety*

v) Health, Safety & Security

Areas within which construction activities takes place is usually associated with criminal activity, posing a security risk to those residing in the area. It is not to say that these criminal activities are as a result of the construction staff, but is known to happen in the vicinity of construction sites.

These potential impacts hold **moderate** significance and can with appropriate mitigations reduce its impact to **low**.

Impact Description	Health, safety & security
Nature	Negative
Extent	Small

Duration	Temporary
Intensity	Medium
Probability	Probable
Degree of Confidence	Probable
Significance Pre-mitigation	Moderate
Significance Post-mitigation	**Low**

Table 18: *Health, Safety and Security*

19.1.6 Natural Resources

The construction phase requires both water and electricity of which water is currently the source under pressure. The construction of roads would require the highest volume of water followed by dust suppression.

Alternative water resources (such as treated wastewater) should be used during the construction phase. A very small part of the construction phase would require potable water. These potential impacts hold moderate significance and can with appropriate mitigations reduce its impact to low.

Impact Description	Natural resources
Nature	Negative
Extent	Large
Duration	Permanent
Intensity	Medium
Probability	High Probable
Degree of Confidence	Definite
Significance Pre-mitigation	Moderate
Significance Post-mitigation	**Low**

Table 19: *Natural resources*

19.2 OPERATIONAL-RELATED IMPACTS

These impacts are usually more permanent in nature or at least until decommissioning of the proposed project. Details with regards to the potential impacts expected during the operation phase are briefly discussed below. Detailed mitigation measures and environmental requirements having direct relevance to the expected operational phase impacts are presented in the attached EMP.

Table 19 below presents the potential impacts expected to occur during the operational phase of the proposed development, while **Table 20** to **Table 27** presents

the outcome of each.

IMPACT	CAUSE
Erosion & Sedimentation	Vegetation clearance
Ground and Surface Water Pollution	Waste disposal
	Hazardous material and liquids disposal
Habitat Destruction and Loss of Biodiversity	Vegetation clearance
	Erosion & sedimentation
	Poaching
Visual Aesthetics and Sense of Place	Vegetation clearance / altered vegetation
	Architectural design & scale of buildings
	Land use change
Socio-Economic	Income generation and skills transfer (Employment)
	Municipal rates and taxes
	Noise and disturbance
	Traffic & safety
	Land use change
Natural Resources (water & electricity)	Unacceptable high level of consumption
	Wastage
	No sustainable practises

Table 20: Key potential impacts expected during the operational phase

19.2.1 Erosion and Sedimentation

Erosion and sedimentation during the operational phase is highly unlikely, as provision will be made for storm water management, which reduces the occurrence of erosion and sedimentation. It will however take place in the event where open areas are cleared of vegetation, for whatever reason, which would then result in erosion and sedimentation. Open areas should therefore be kept within a natural state and no vegetation removal should be tolerated.

Given that storm water management will be done as part of the engineering designs, the potential occurrence of erosion and resulting sedimentation is rated as **low** before mitigations and **very low** following proper mitigation measures.

Impact Description	Erosion and sedimentation
Nature	Negative

Extent	Site specific
Duration	Long Term
Intensity	Low
Probability	Improbable
Degree of Confidence	Definite
Significance Pre-mitigation	Low
Significance Post-mitigation	**Very Low**

Table 21: *Erosion and sedimentation significance*

19.2.2 Ground- and Surface Water Pollution

Ground and surface water pollution can have a negative effect on the receiving environment. Sources of potential pollution include, but are not limited to hazardous liquids (i.e. diesel/petrol/cleaning liquids) stored at homes or businesses; leakages from wastewater network; pesticides; improper storage of domestic waste and dumping of waste within open areas. Increased run-off created as a result of the proposed development (i.e. roofs and other hard surfaces) could enhance pollutant transportation, as well as increase the distance pollutants can be transported from its source.

There are no permanent standing water bodies on the project sites that had been identified during the site visits. As mentioned previously, in order for groundwater to be contaminated, large amounts of pollutants will have to seep through the soil over a period of time. It is therefore our opinion that the significance of potential damage to water resources as a result of the proposed development is low**.** Care should however still be taken to protect the environment and to prevent any possible pollution created as a result of waste production.

It is important to note that it is not only the quality of the surface water that can be negatively affected, but also the aesthetic component of the natural environment. With the correct attitude and with precautionary measures in place, groundwater contamination and waste pollution in general, can easily be prevented.

Possible pollution by way of the wastewater network (and others) is initially considered to be low, but has proven to increase in risk over the years as the infrastructure and equipment degrade. Should proper management practices not be in place and monitoring be from the side of the Local Authority, the risk factor can be regarded as high, but can be avoided and reduced to **low** following proper mitigation measures and constant monitoring.

Impact Description	Groundwater and Surface Water
Nature	Negative
Extent	Medium (short term) / Large (long term)
Duration	Long Term

Intensity	High
Probability	High probable
Degree of Confidence	Probable / medium
Significance Pre-mitigation	Moderate
Significance Post-mitigation	**Low**

Table 22: Surface and ground water pollution significance

19.2.3 Habitat Destruction and Loss of Biodiversity

The most destructive disturbance to the local habitat takes place during the construction phase, when the land is prepared for the intended infrastructure. The risk of further habitat destruction during the operational phase depends on the mind-set and environmental awareness of the residing community.

The introduction of human activities on a daily basis can place an increased strain on the fauna and flora species if not managed sensitively. Impacts during the operational phase are predominantly associated with the daily operations of humans and poor management practices and irresponsible behaviour (e.g. uncontrolled access to sensitive areas; collecting of plants or animals; killing of snakes, use of general poison, etc.). Given the environment's natural characteristic and expected scale of habitat disturbance, the impacts are expected to be **moderate** before mitigations and **low** following proper mitigation measures and constant monitoring.

Impact Description	Habitat destruction and loss of biodiversity
Nature	Negative
Extent	Site specific
Duration	Long Term
Intensity	Low
Probability	Probable
Degree of Confidence	Definite
Significance Pre-mitigation	Moderate
Significance Post-mitigation	**Low**

Table 23: *Habitat destruction and loss of biodiversity significance*

19.2.4 Visual Aesthetics and Sense of Place

The operational phase consisting of various buildings and infrastructure will have an urban sense of place. The lasting visual aesthetics is determined by the architecture and scale of buildings, emphasised by the receiving environment's topography and

vegetation cover. As mentioned previously, as a result of human interference, the study area is by no means untouched. Given the scale and nature of the proposed development, the lack of natural vegetation present on-site as well as the topography, visual impact and change in sense of place is expected to be **low**. Very little mitigation exists to decrease the impact apart from applying sensible and sensitive architecture (i.e. design, scale, etc.).

Impact Description	Visual aesthetics and sense of place
Nature	Negative
Extent	Small
Duration	Permanent
Intensity	Very low
Probability	Probable
Degree of Confidence	Definite
Significance Pre-mitigation	Low
Significance Post-mitigation	**Low**

Table 24: Visual aesthetics and sense of place significance

19.2.5 Socio-Economic Implication

The operational phase of any type of development is associated with a variety of impacts that has either a direct or indirect implication to the residents and surrounding residents. These impacts and the implications thereof are discussed in more detail below.

i) Income Generation & Skills Transfer (Employment)

Employment in the form of domestic workers, cleaners and gardeners are the ones most common during the operational phase. Considering the current socio-economic standing of the Region, a serious need for employment opportunities and improved living conditions is desperately needed. It is important that local people be employed and that the necessary opportunities exist for unskilled labour to undergo on the job training and skills enhancement.

Impact Description	Income generation and skills transfer
Nature	Positive
Extent	Large
Duration	Permanent
Intensity	High to the unemployed
Probability	Definite
Degree of Confidence	Definite

Significance Pre-mitigation	High to the unemployed
Significance Post-mitigation	**High** to the unemployed

Table 25: Income generation and skills transfer

ii) Municipal Rates & Taxes

The development, falls within the jurisdictional area of the Rehoboth Town Council and will bring additional revenue to the local authority coffers, which is pretty much needed for service delivery throughout the Local Authority Area.

Impact Description	Municipal Rates and Taxes
Nature	Positive
Extent	Large
Duration	Permanent
Intensity	Low to Medium
Probability	Definite
Degree of Confidence	Definite
Significance Pre-mitigation	Moderate
Significance Post-mitigation	**Moderate**

Table 26: Municipal rates and taxes

iii) Noise & Disturbance

Apart from vehicle movement, no other noise of significance are associated with the operational activities. Noise nuisance from the C15 main road running through the town is to be expected.

Urban developments of this scale and nature are not associated with activities generating unhealthy noise levels, such as industrial activities or agricultural activities. The increase in vehicle movement to and from the proposed developments will have a slight increase in traffic noise compared to the current status, but is expected to be of low significance.

The predicted noise levels from the operations of the proposed development and that of the nearby traffic onto the development is considered **low**.

Impact Description	Noise
Nature	Negative
Extent	Small
Duration	Permanent

Intensity	Low
Probability	Definite
Degree of Confidence	Definite
Significance Pre-mitigation	Low
Significance Post-mitigation	**Very low**

Table 27: Noise

iv) Traffic & Safety

Operational activities in this respect are associated with vehicle movement of residents' and visitors' to and from the proposed developments. The potential pre-mitigation impact is regarded as **moderate**, which can be reduced to **low** through applying proper mitigations.

Impact Description	Traffic & safety
Nature	Negative
Extent	Small
Duration	Permanent
Intensity	Low
Probability	High Probable
Degree of Confidence	Definite
Significance Pre-mitigation	**Moderate**
Significance Post-mitigation	**Low**

Table 28: Traffic & safety

v) Land Use Change

The increase in residential density and addition of a few business activities will result in a land use alteration, which is considered to have both a negative and positive implication. Therefore the proposed development would result in a substantial increase in the value of land and more importantly a supply in much needed serviced urban land contributing in addressing the housing shortage experienced in Rehoboth.

From a negative perspective, the change in land results in large open areas being transformed into developed areas, which results in a direct loss of natural vegetation and loss of openness. However, due to the lack of natural vegetation in the project area, and the visible sign of human activity, this would not be of big significance. The change in land use is therefore expected to have a **low negative** impact from an environmental perspective, while from an economic point of view a **high positive** impact.

19.2.6 Natural Resources (Demand vs. Supply)

i) Water Demand

Water to the 4 new extensions will be supplied from the Rehoboth Town Council and from boreholes in the Townlands area. The Oanob Dam also supply a big amount of water to Rehoboth. Given the nature of the proposed development, water forms one of the main 'ingredients' and is thus directly dependent on the availability and continuous supply of water.

To alleviate pressure on the water resources, it is recommended that sustainable practises and principles be applied during the construction and operational phases. These methods and principles include the following:

- The recycling and reuse of treated wastewater for purpose of flushing of toilets and gardening, which can bring a saving of 35% of the daily potable water consumption;
- Harvesting of rainwater for the purpose of household consumption;
- Restricting gardens to indigenous plants and limited in size; and
- Water wise technologies within the household.

ii) Electricity Demand

Given the nature of the proposed development, electricity forms an equal important commodity as water and is thus directly dependent on the availability and continuous supply thereof. However alternative source of energy such as solar power supply is suggested considering the abundance and intensity of sunshine in the area.

20. CONCLUSION

In order to adhere to the Environmental Management Act (No. 7 of 2007), it was necessary to conduct an Environmental Scoping Assessment for the proposed township establishment and subdivisions and the layout approvals on the different portions as indicated. These may not be undertaken without and Environmental Clearance Certificate and hence this application. It is the intent to use the proposed sites for the construction of the proposed townships. We are of the opinion that the two different sites as indicated have the full potential to be used for the intended activities. In the aftermath of this assessment it is our opinion that the proposed activities will not have a significant negative impact on the environment. In addition, no objections were received during the public participation process. It is further believed that this project can largely be of economic benefit to the town of Rehoboth and its residents and in addressing the shortage of housing in the town.

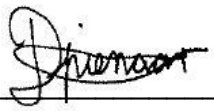
Therefore the proposed new township establishment for the 4 new extensions on Portion 1-4 is feasible for the intended project. Most of the potential impacts that were identified during Environmental Scoping Assessment were characterised as having a low or moderate impact on the receiving environment. Hence if the mitigation measures will be followed, the impacts will be of low significance or could in fact be totally avoided.

21. RECOMMENDATION

It is therefore recommended that an Environmental Clearance Certificate should be issued for the proposed township establishment, subject to the following recommendations:

- All required permits, licenses and approvals for the proposed development are obtained before construction commences.
- Pollutants of different sorts should be managed and treated in such a manner not to cause any pollution of the immediate and surrounding receiving environments.
- An Environmental Control Officer (ECO) should be appointed during the construction phase of the development to make sure all the requirements in the Environmental Scoping Report and Environmental Management Plan (Appendix B) are adhered to.
- In the event that road construction material is sourced from nearby quarries it is required that the necessary approval (i.e. environmental clearance certificate) either exists or is obtained by the appointed contractor.
- That various Green Building Designs and Principles be applied to ensure sustainable development over the long term. It is recommended that alternative and renewable sources of energy be explored and introduced to reduce dependency on natural resources.
- That the entire construction site be cleared of any rubbish and removed to the designated landfill in Rehoboth.
- Continued public participation should form part of the construction phase.

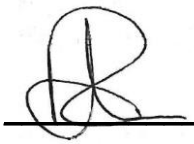
- A fire management plan or disaster management plan should be drafted for the construction phase.



Deon Pienaar Environmental Practitioner

Signature of Applicant **Full name in Block Letters** **Position**

For Winplan cc



Ronald Robert Windswaai Acting CEO

Signature of Proponent **Full name in Block Letters** **Position**

22 September 2024

Date

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