

# Environmental Management Plan for:

**Environmental Impact Assessment for the Rezoning of Portion A (A Portion of Erf No. 3785) Narraville Extension 7, Walvis Bay from “Public Open Space” to “Utility Services for the Construction of a Sub-Station\_ Walvis Bay, Erongo Region, Namibia.**

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# Table of Contents

<b>List of Figures</b> .....	3
<b>List of Tables</b> .....	3
List of Acronyms .....	4
1. INTRODUCTION .....	5
2. OBJECTIVES OF THE ENVIRONMENTAL MANAGEMENT PLAN .....	6
3. PROPOSED DEVELOPMENT .....	7
3.1. Locality .....	7
3.2. Ownership .....	7
3.3. Zoning .....	8
3.4. Development Description .....	8
2.5 Rezoning of Portion A of Erf 3785 from “Public Open Space” to “Utility Services” .....	10
4. ROLES AND RESPONSIBILITIES .....	11
4.1. The Area Superintendent .....	12
4.2. Project Manager .....	12
4.3. Erongo RED SHEW .....	13
4.4. Contractor .....	13
5. MANAGEMENT ACTIONS .....	14
5.1. Applicable Legislation .....	14
5.2. Planning And Design Phase .....	17
5.3. Construction Phase .....	17
5.4. Operation And Maintenance Phase .....	22
5.5. Decommission Phase .....	26
6. REPORTING, MONITORING AND AUDITING .....	26
7. NON-COMPLIANCE AND CONFLICT MANAGEMENT PROCEDURES .....	26
8. CONCLUSION .....	27
9. REFERENCES .....	28
10. ANNEXURES .....	28



## List of Figures

Figure 1, Locality Map of Portion A (A Portion of Erf 3785), Narraville Extension 7, Walvis Bay .....	8
Figure 2, depicts the Shack Dwellers Federation, the self-development housing project, and the dwelling units that require electrification on Extension 19.....	10
Figure 3, depicts the Public Open Space of Erf 3785, Narraville Extension 7 .....	10
Figure 4, Proposed Rezoning of Portion A of Erf 3785 to “Utility Services” .....	11

## List of Tables

Table 1: Legislation Applicable to the Proposed Development .....	14
Table 2: Planning and Design Management Actions.....	17
Table 3: Construction Phase Management Actions .....	18
Table 4: Description of Activities to be undertaken .....	22
Table 5: Operation and Maintenance Management Actions.....	23
Table 6: Decommissioning Phase Management Actions .....	26



## List of Acronyms

DEA:	Directorate of Environmental Affairs
EA:	Environmental Assessment
EM:	Environmental Management
ECC:	Environmental Clearance Certificate
EIA:	Environmental Impact Assessment
EMA:	Environmental Management Act
EMP:	Environmental Management Plan
GG:	Government Gazette
GN:	Government Notice
I&APS:	Interested and Affected Parties
SHEW:	Safety, Health, Environment and Wellness
SHE:	Safety, Health, Environment



# 1. INTRODUCTION

**Erongo RED (Pty) Ltd** hereinafter referred to as the proponent intends to undertake the following activity:

The proposed rezoning of the permanently closed Portion A (A Portion of Erf No. 3785), Narraville Extension 7, Walvis Bay, from “Public Open Space” to “Utility Services”, to allow for the construction of a substation for the transmission and supply of electricity.

**The listed activities that require an Environmental Clearance Certificate in terms of Sections 1 (a) and 5.1 (d) of the Regulations in Government Notice No. 30 of 6 February 2012, which reads as follows:**

## **Energy Generation, Transmission and Storage Activities**

1. *The construction of facilities for-*  
*(b) the transmission and supply of electricity.*

## **Land Use and development activities**

- 5.1 *The rezoning of land from:*  
*(d) Use for nature conservation or zoned open space to any other land use.*

The above developments are listed activities in terms of the Environmental Management Act (No. 7 of 2007) and Environmental Impact Assessment Regulations (Government Notice No. 30 of 2012).

Harmonic Town Planning Consultants is appointed to undertake an Environmental Scoping Assessment (ESA), formulate an Environmental Management Plan (EMP), and apply for an Environmental Clearance Certificate (ECC) to the Ministry of Environment, Forestry and Tourism and the Directorate of Environmental Affairs (DEA) for the rezoning of Portion A (A Portion of Erf 3785) and the subsequent construction of a sub-station on the newly rezoned Portion A of Erf 3785. In this respect, this document forms part of the application to be made to the DEA’s office for an Environmental Clearance Certificate for the proposed rezoning and construction of a substation for the transmission and supply of electricity according to the guidelines and statutes of the Environmental Management Act No.7 of 2007 and the Environmental Impact Regulations (GN 30 in GG 4878 of 6 February 2012).



## 2. OBJECTIVES OF THE ENVIRONMENTAL MANAGEMENT PLAN

The aim of this EMP is to detail the management actions required to implement the mitigation measures identified thereby ensuring that any phases of the project are carried out in a manner that takes cognisance of sustainable development and is in line with National legislation. This EMP has the following objectives:

- ❖ To ensure that the construction and operational activities associated with the substation do not result in undue or reasonably avoidable adverse environmental impacts.
- ❖ Minimise negative impacts and enhance positive impacts associated with the proposed activities.
- ❖ Stipulate specific actions to assist in mitigating the environmental impact of the project.
- ❖ To identify key personnel who will be responsible for the implementation of the measures and outline functions and responsibilities.
- ❖ Create management structures that address the concerns and complaints of Interested and Affected Parties (I&APs) with regard to the construction and operation of the substation.
- ❖ To propose mechanisms for monitoring compliance and preventing long term or permanent environmental degradation.

These actions are required to minimise negative impacts and enhance positive impacts associated with the proposed project. It is important to note that an EMP is a working document and therefore may be updated and amended as new information (e.g., environmental data), policies, authority guidelines and technologies becomes available.

Positive and negative impacts as well as impacts which may affect both the social and natural environment have been considered to provide a complete picture of the impacts that the project may have on the receiving environment.



This EMP details the mitigation and monitoring actions to be implemented during the following phases of these developments:

***i. Planning and Design***

The period, prior to construction, during which preliminary legislative and administrative arrangements, necessary for the preparation of the development designs are carried out. The preparation of construction tender documents forms part of this phase.

***ii. Construction***

The period during which the proponent, having dealt with the necessary legislative and administrative arrangements, appoints a contractor for the development of any construction process(s) within the development areas.

***iii. Operation and Maintenance***

The period during which the services infrastructure will be fully functional and maintained. The operational phase is the most critical component of project implementation since it is more long-term. However, it is normally associated with less impact in comparison to the construction phase.

### **3. PROPOSED DEVELOPMENT**

***3.1. Locality***

Portion A of Erf 3785 is located in Narraville Extension 7. The Erf is predominately surrounded by “Single Residential” erven with “Municipal” and “Local Business” land uses in close proximity. See Figure 1 and Annexure A depicting the locality of Portion A (A Portion of Erf No. 3785) Narraville Extension 7, Walvis Bay.

***3.2. Ownership***

Erf No. 3785 Walvis Bay is owned by the Municipality of Walvis Bay and is currently registered in the name of the Municipality of Walvis Bay. However, Erongo RED has requested 120m<sup>2</sup> of Erf No.3785 Narraville Extension 7, Walvis Bay (Portion A of Erf 3785) from the Municipality, in order to construct a substation on the property of which provisional approval has been granted to the company.

Therefore, Portion A (A Portion of Erf 3785) Narraville Extension 7, Walvis Bay will be the transferred to **Erongo RED (Pty) Ltd.**



### 3.3. Zoning

Before its subdivision into Portion A and the Remainder, Erf No. 3785 Walvis Bay measured  $\pm 3\,737.11\text{ m}^2$  in extent and was zoned “Public Open Space” as per the Walvis Bay Zoning Scheme. The Erf is currently vacant.



Figure 1, Locality Map of Portion A (A Portion of Erf 3785), Narraville Extension 7, Walvis Bay

### 3.4. Development Description

The proponent wishes to subdivide Erf No.3785 into Portion A and the Remainder, to permanently close off Portion A of Erf 3785 and to rezone Portion A from “Public Open Space” to “Utility Services”. The proponent intends to establish a 260-kilowatt substation on the Erf.

Utility Services is the preferred land use as it can be defined as “land or building used for the provision of services (other than those provided by the Council) and includes communication services, electrical substations and other similar facilities that are uninhabited”. This rezoning aligns with the scheme’s provisions, ensuring that the intended use is compliant and appropriate for the proposed development.



Erongo RED proposes the construction of a substation as a permanent solution to the provision of electricity for dwelling units in the newly developed extension of Narraville. Currently, the company is temporarily utilizing the Eagle Substation on Erf 3644, Narraville Extension 7 to supply electricity to the adjacent erven within the block of Extension 19.

To address the long-term electricity needs of the area, Erongo RED seeks approval to establish a 260-kilowatt substation on a portion of Erf No. 3785. This substation will serve to electrify 68 dwelling units in the adjacent Narraville Extension 19. Furthermore, it will provide essential support to the Shack Dwellers Federation of Namibia, a self-development housing organization currently constructing residential units across Erf 3785 (see attached image). The construction of this substation will also facilitate the electrification of the entire new block of Narraville Extension 19, which presently lacks electricity access.

The establishment of a substation in this area is critical, as it will offer multiple benefits, including:

- *Safety and Security:*  
The provision of street lighting powered by electricity will enhance nighttime visibility, deter criminal activity, and improve overall safety for residents.
- *Economic Development:*  
Reliable electricity will enable local businesses, such as home shops and salons, to operate efficiently, fostering job creation and stimulating economic growth.
- *Water Accessibility:*  
Electricity is essential for operating electric pumps, which will ensure a steady supply of clean water, thereby enhancing sanitation and hygiene.
- *Communication and Connectivity:*  
Access to electricity will support communication technologies, including mobile phones and the Internet, facilitating connectivity and access to information.

The proposed development aligns with the existing character of the neighbourhood. Only a designated portion (Portion A) of Erf No. 3785 will be allocated for utility services, ensuring minimal impact on the area. The majority of Rem/3785 will remain zoned as a Public Open Space, preserving the integrity of the surrounding environment





Figure 2 depicts the Shack Dwellers Federation, the self-development housing project, and the dwelling units that require electrification on Extension 19.



Figure 3, depicts the Public Open Space of Erf 3785, Narraville Extension 7

### ***2.5 Rezoning of Portion A of Erf 3785 from “Public Open Space” to “Utility Services***

As depicted in Figure 4 below, Portion A of Erf 3785 (measuring 120 m<sup>2</sup>) is to be rezoned from “Public Open Space” to “Utility Services”. The rezoning is required to enable the proponent to construct a substation on the newly rezoned portion of Erf No. 3785.

A substation is a facility containing electrical equipment used to control, transform, and distribute electricity by stepping voltage levels up or down to ensure the safe and efficient transmission and supply of power to consumers.



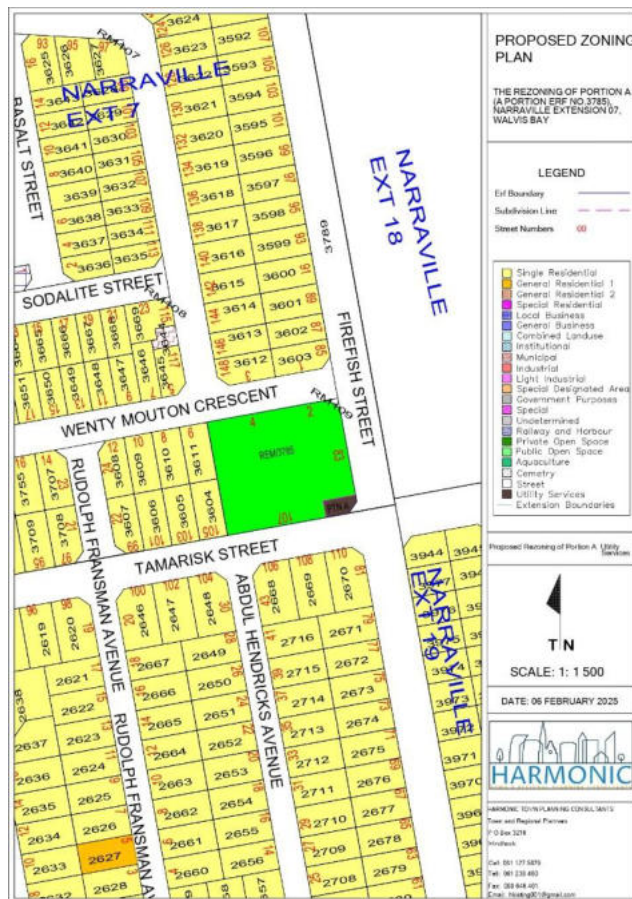


Figure 4, Proposed Rezoning of Portion A of Erf 3785 to “Utility Services”

## 4. ROLES AND RESPONSIBILITIES

The implementation of this EMP requires the involvement of several stakeholders, each fulfilling a different but vital role to ensure sound environmental management during each phase. The proponent is ultimately responsible for the implementation of the EMP, from the planning and design phase to the decommissioning phase (if these developments are decommissioned, in the future). The proponent will delegate this responsibility as the project progresses through its life cycle. The delegated responsibility for the effective implementation of this EMP will rest on the following key individuals:

- The Area Superintendent;
- Project Manager;
- Erongo RED SHEW (Safety, Health, Environment and Wellness); and
- Contractor (Construction and Operations and Maintenance).



#### 4.1. *The Area Superintendent*

The Area Superintendent responsibilities are as follows:

- Is responsible for the enforcement of the EMP;
- To ensure that environmental requirements are adequately covered in any external service providers contracts;
- To ensure that SHE requirements are included in the tender documents sent to the contractors. A copy of this EMP should also form part of the tender documents;
- To ensure that corrective actions are implemented for non-compliances;
- To ensure that appropriate records and information regarding compliance with environmental requirements are maintained;
- To ensure that the substation remains in compliance with the requirements of this EMP, through regular communication and monitoring; and
- To ensure that all incidents, accidents and complaints are reported by the project manager. The contractor to ensure that incidents and accidents are investigated to prevent re occurrence.

#### 4.2. *Project Manager*

The Project Manager's responsibilities are as follows:

- Is responsible for the enforcement of the EMP;
- Must make sure that SHE (Safety, Health and Environment) requirements are included in the tender documents sent to the contractor;
- Must ensure that a SHEW clause is included in the contract document and communicated to the contractor before the inception of the project; and
- Must ensure that the contractor remains in compliance with the requirements of this EMP, through regular communication and monitoring.



#### 4.3. *Erongo RED SHEW*

The Erongo RED SHEW's responsibilities are as follows:

- To ensure that all requirements with regards to this EMP are fulfilled;
- To assist the Project Manager in ensuring the contractor remains in compliance with this EMP;
- Provides SHEW inductions for the contractors and their employees;
- Organise and implement monitoring and audit functions, in consultation with the Project Manager;
- Document and communicate monitoring, audit and inspection findings to project manager and area superintendent; and
- Report back to the Project manager on the final report and on the contractor compliance with the EMP before the project close-off and final payment is made to the contractor.

#### 4.4. *Contractor*

The Contractor's responsibilities are as follows:

- Is responsible for the implementation of the EMP;
- To appoint a SHE Officer responsible for the implementation of this EMP;
- Ensuring all tasks undertaken under the scope of work, are in accordance both with Erongo RED's SHEW policies and procedures as well as to the requirements of this EMP;
- Putting in writing a system of communication, in which all incidents and accidents are reported to the SHEW section;
- Ensuring that all employees receive a SHEW induction before the start of the project;
- Ensuring that the work being done does not create a nuisance to any being working, residing or living on adjacent properties or within the immediate surroundings of the site.



The tables in the following chapter detail the management measures associated with the roles and responsibilities that have been laid out in this chapter.

## 5. MANAGEMENT ACTIONS

Mitigating measures for negative impacts during all phases of the project will be outlined in this section.

The aim of the management actions in this chapter of the EMP is to avoid potential impacts where possible. Where impacts cannot be avoided, measures are provided to reduce the significance of these impacts. The following tables provide the management actions recommended to manage the potential impacts rated in the scoping-level EA conducted for these developments. These management actions have been organised temporally according to the project phase:

- ❖ Applicable Legislation (Table 1);
- ❖ Planning and Design Phase Management Actions (Table 2);
- ❖ Construction Phase Management Actions (Table 3); and
- ❖ Operation and Maintenance Phase Management Actions (Table 4 & 5); and
- ❖ Decommissioning Phase Management Actions (Table 6).

The proponent should assess these commitments in detail and should acknowledge their commitment to the specific management actions detailed in the tables below.

### 5.1. Applicable Legislation

Legal provisions that have relevance to various aspects of these developments are listed in Table 1 below.

Table 1: Legislation Applicable to the Proposed Development

<b>Legislation</b>	<b>Section (s)</b>	<b>Implications</b>
<b>Environmental Management Act No. 7 of 2007</b>	Section 3	<p>All activities performed should be in line with the following principles:</p> <ul style="list-style-type: none"> <li>○ Interested and affected parties should have an opportunity to participate in decision making</li> <li>○ Listed activities should be subject to an EIA</li> <li>○ Polluter should pay for rehabilitation</li> <li>○ Pollution should be minimised</li> </ul>



<b>Legislation</b>	<b>Section (s)</b>	<b>Implications</b>
<b>Environmental Management Act No. 7 of 2007</b>	Section 27  Section 33 onwards	<ul style="list-style-type: none"> <li>• Environmental assessments should be carried out for listed activities. The proposed activity can be classified under the following range of activities: <ul style="list-style-type: none"> <li>○ the transmission and supply of electricity; and</li> <li>○ use for nature conservation or zoned open space to any other land use</li> </ul> </li> <li>• These sections detail the process to be followed in order to obtain a clearance certificate.</li> <li>• All existing listed activities must obtain a clearance certificate within one year of the law coming into effect (February 2013). Therefore, all existing activities which can be considered a listed activity should apply for clearance.</li> </ul>
<b>EMA Regulations GN 28-30 (GG 4878) (February 2012)</b>	Listed activity: 5.1 6. – 9; 13; 15; 21 - 24	<ul style="list-style-type: none"> <li>• This activity can be considered as the rezoning and the transmission and supply of electricity.</li> <li>• These sections detail the process to be followed in terms of producing an Environmental Assessment and this process should be adhered to during the generation of information for this document.</li> </ul>
<b>Labour Act No. 11 of 2007</b>	Section 3 Section 4 Section 9 Section 39 - 42	<ul style="list-style-type: none"> <li>• Children under the age of 16 may not be employed Forced labour may not be used during any construction activities.</li> <li>• Basic conditions of employment as stipulated by the law must be met.</li> <li>• The employer shall ensure the health and safety of all employees and non-employees on site. Employees must fulfil their duties in order to ensure their own health and safety and that of other employees and persons. Employees may leave the work site if reasonable measures to protect their health are not taken.</li> </ul>
<b>Electricity Act No. 4 of 2007</b>	Section 33	<ul style="list-style-type: none"> <li>• Installations used for the provision of electricity should be operated with due compliance with the requirements of laws relating to health, safety and environmental standards. Therefore, any company involved within the Electricity Supply Industry must adhere to the laws covering the previously stated aspects or stand to lose their licenses to operate.</li> </ul>
<b>Water Act No. 54 of 1956</b>	Sections 21 and 22 Section 23	<ul style="list-style-type: none"> <li>• Conditions in terms of the disposal and management of effluent are to be adhered to.</li> <li>• Any person causing pollution to a water source shall be guilty of an Offence</li> </ul>



<b>Legislation</b>	<b>Section (s)</b>	<b>Implications</b>
<b>Water Resources Management Act No. 24 of 2004</b>	Section 56	<ul style="list-style-type: none"> <li>No discharge of effluent may take place without a permit.</li> <li>Effluent is defined under this Act as any liquid discharge that occurs as a result of domestic, commercial, industrial or agricultural activities.</li> </ul>
<b>Public Health Act No. 36 of 1919</b>	Section 122	<ul style="list-style-type: none"> <li>It is an offence to cause any form of a nuisance which includes water pollution</li> </ul>
<b>Hazardous Substances Ordinance 14 of 1974</b>	Section 27	<ul style="list-style-type: none"> <li>To provide for the control of substances which may cause injury or ill-health to or death of human beings, by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances;</li> <li>to provide for the division of such substances into groups in relation to the degree of danger;</li> <li>to provide for the prohibition and control of the importation, manufacture, sale, use, operation, application, modification, disposal or dumping of such substances; and to provide for matters connected therewith.</li> </ul>
<b>Forest Act No. 12 of 2001</b>	Section 22 Section 41	<ul style="list-style-type: none"> <li>Vegetation may not be removed within 100 m of a river, stream or water course</li> <li>A person shall be liable for damage caused by any fire which arises as a result of activities carried out on site without having taken reasonable measures to prevent a fire.</li> </ul>
<b>Nature Conservation Ordinance No. 4 of 1975</b>	Section 74	<ul style="list-style-type: none"> <li>Protected plants may not be removed or damaged without a permit.</li> </ul>
<b>Soil Conservation Act No. 76 of 1969</b>	Section 4 Section 13 Section 21	<ul style="list-style-type: none"> <li>Institutions may be ordered by the relevant Minister to construct soil conservation works when and where necessary.</li> <li>Fire protection schemes may be implemented to regulate the prohibition of veld burning as well as the prevention, control and extinguishing of veld and forest fires</li> <li>It is illegal to damage, destroy / fail to maintain any soil conservation works; fire belts; works constructed in terms of a fire protection scheme</li> </ul>
<b>National Heritage Act No. 27 of 2004</b>	Sections: 46, 48 & 55	<ul style="list-style-type: none"> <li>All heritage resources are to be identified and either protected or removed/mitigated with a permit from the National Monuments Council, before any development may take place;</li> <li>A chance find procedure should be followed in case of discovery of a heritage resource</li> </ul>



## 5.2. Planning And Design Phase

The table below outlines key management actions to be implemented during the planning and design phase to minimise environmental and landscape impacts associated with the proposed substation

Table 2: Planning and Design Management Actions

<b>Aspect</b>	<b>Management Action</b>	<b>Objective</b>	<b>Responsible Person</b>
<b>Site selection</b>	Locate the substation within an already disturbed or low-use portion of the public open space.	Minimise loss of functional open space.	<ul style="list-style-type: none"> <li>Proponent / Design Team</li> </ul>
<b>Development footprint</b>	Limit the substation footprint to approximately 120 m <sup>2</sup> .	Reduce environmental and visual impacts.	<ul style="list-style-type: none"> <li>Proponent / Design Team</li> </ul>
<b>Layout design</b>	Design the layout to avoid existing trees, landscaped areas, and informal pedestrian paths.	Protect existing landscape features.	<ul style="list-style-type: none"> <li>Proponent / Design Team</li> </ul>
<b>Visual integration</b>	Incorporate appropriate fencing, finishes, and landscaping.	Reduce visual intrusion.	<ul style="list-style-type: none"> <li>Proponent / Design Team</li> </ul>
<b>Compatibility with surroundings</b>	Ensure scale and height are compatible with surrounding residential uses.	Maintain landscape character.	<ul style="list-style-type: none"> <li>Proponent / Design Team</li> </ul>
<b>Access planning</b>	Use existing road access and disturbed areas for servicing.	Avoid unnecessary disturbance.	<ul style="list-style-type: none"> <li>Proponent / Design Team</li> </ul>
<b>Stormwater management</b>	Design for effective drainage and erosion control.	Prevent runoff and soil erosion.	<ul style="list-style-type: none"> <li>Proponent / Design Team</li> </ul>
<b>Public safety</b>	Include secure fencing, setbacks, and controlled access.	Protect public users of the open space.	
<b>Regulatory compliance</b>	Ensure compliance with planning, zoning, and environmental requirements.	Legal and policy compliance.	<ul style="list-style-type: none"> <li>Proponent</li> <li>Area Superintendent,</li> <li>Project Manager,</li> <li>Erongo RED SHEW</li> </ul>

## 5.3. Construction Phase

The management actions listed in Table 3 apply during the Construction Phase. This table may be used as a guide when developing EMPs for other construction activities within these development areas.



Table 3: Construction Phase Management Actions

<b>Aspect</b>	<b>Management Objective</b>	<b>Management and Mitigation Measures</b>	<b>Responsible Person</b>
<b>Environmental Awareness</b>	Minimise the occurrence of environmental impact on the work and surrounding area.	<ul style="list-style-type: none"> <li>• All staff to receive environmental awareness training.</li> <li>• All new staff coming onto site shall receive environmental awareness training.</li> <li>• Refresher environmental awareness training to be available when required.</li> <li>• The contractor shall erect and maintain information posters at key locations on site.</li> <li>• All staff are to be made aware of their individual roles and responsibilities in achieving compliance with the environmental authorisation and EMP</li> </ul>	<ul style="list-style-type: none"> <li>• Project Manager</li> <li>• Environmentalist</li> <li>• Contractor</li> </ul>
<b>No-Go area</b>	Construction related activity inside No-Go areas is prevented to avoid environmental impacts to such areas.	<ul style="list-style-type: none"> <li>• Areas outside the project area must be treated as no-go areas.</li> <li>• Erect, demarcate and maintain temporary fence around perimeter of any no-go area.</li> <li>• Unauthorised access and construction related activity inside No-Go areas is prohibited.</li> </ul>	<ul style="list-style-type: none"> <li>• Project Manager</li> <li>• Environmentalist</li> <li>• Contractor</li> </ul>
<b>Access Road</b>	Minimise impact to the environment through planned and controlled movement of vehicles on site	<ul style="list-style-type: none"> <li>• Maximum use of existing roads and tracks shall be implemented.</li> </ul>	<ul style="list-style-type: none"> <li>• Project Manager</li> <li>• Environmentalist</li> <li>• Contractor</li> </ul>
<b>Waste management</b>	To avoid, manage and mitigate potential impacts to the environment caused by wastewater discharge during construction	<ul style="list-style-type: none"> <li>• Appropriate pollution control facilities necessary to prevent discharge of water containing polluting matter or visible suspended materials into watercourses</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor</li> </ul>



<b>Aspect</b>	<b>Management Objective</b>	<b>Management and Mitigation Measures</b>	<b>Responsible Person</b>
<b>Waste management</b>	To avoid, manage and mitigate potential impacts to the environment caused by wastewater discharge during construction	<p>or water bodies shall be designed and implemented.</p> <ul style="list-style-type: none"> <li>• Runoff from the cement/concrete batching areas shall be strictly controlled and contained water shall be collected, stored, either treated or disposed of-site at a location approved by the environmental officer.</li> <li>• All spillages of oil onto concrete surface shall be controlled by use of approved absorbents material and the used absorbents material disposed of at an appropriate waste disposal facility.</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor</li> </ul>
<b>Solid waste Management</b>	To avoid, manage and mitigate potential impacts to the environment caused by incorrect storage, handling and general disposal of general and hazardous solid waste.	<ul style="list-style-type: none"> <li>• Sufficient, covered waste collection bins shall be provided onsite.</li> <li>• Waste shall be segregated into separate bins and clearly marked for each waste type.</li> <li>• Staff shall be trained in waste segregation.</li> <li>• Bins shall be emptied regularly.</li> <li>• General waste shall be disposed of at recognised and registered waste disposal sites/recycling companies.</li> <li>• Hazardous waste shall be disposed of at a registered waste disposal site.</li> <li>• Certificates of disposal for general waste, hazardous waste shall be maintained.</li> <li>• Under no circumstances shall any waste be disposed of, burned or buried on site.</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor</li> </ul>



<b>Aspect</b>	<b>Management Objective</b>	<b>Management and Mitigation Measures</b>	<b>Responsible Person</b>
<b>Safety of the public</b>	Reasonable measures are taken to always ensure the safety of the public during construction	<ul style="list-style-type: none"> <li>• Identify fire hazards, demarcate, and restrict public access to the site.</li> <li>• All unattended open excavations must be adequately fenced or demarcated.</li> <li>• Maintain an incident and complaints register.</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor</li> </ul>
<b>Sanitation</b>	Supply suitable located, clean and well-maintained toilet facilities in an effort to minimise the risk of disease and impact on the environment.	<ul style="list-style-type: none"> <li>• Mobile toilets are to be installed onsite if no other ablution facilities are available.</li> <li>• No indiscriminate use of the veld for the purposes of ablutions shall be permitted.</li> <li>• Ablution facilities shall be located within 100m of the work area</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor</li> </ul>
<b>Increase in traffic and Safety and Emergency situations</b>	Minimise potential risk of injury and/or death to third parties.	<ul style="list-style-type: none"> <li>• The existing track will be used as an access route only</li> <li>• Access by third parties shall be recorded and all parties will be made aware of the risks site.</li> <li>• Warning signs will be installed where necessary.</li> <li>• Basic road safety behaviour for all contractors, especially drivers, through training and awareness will be undertaken. Typical issues include: <ul style="list-style-type: none"> <li>○ Keeping to safe speed limits.</li> <li>○ Ensuring that all drivers have valid licenses. o</li> <li>○ Making sure that all vehicles are roadworthy.</li> <li>○ Zero tolerance for drinking and driving.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Project Manager</li> <li>• Environmentalist</li> <li>• Contractor</li> </ul>



<b>Aspect</b>	<b>Management Objective</b>	<b>Management and Mitigation Measures</b>	<b>Responsible Person</b>
<b>Increase in traffic and Safety and Emergency situations</b>	Minimise potential risk of injury and/or death to third parties.	<ul style="list-style-type: none"> <li>○ Using lights appropriately for visibility.</li> <li>• Road accidents are considered emergencies and will be handled in accordance with Erongo RED's Emergency Response Procedure(s).</li> </ul>	<ul style="list-style-type: none"> <li>• Project Manager</li> <li>• Environmentalist</li> <li>• Contractor</li> </ul>
<b>Noise from transportation activities</b>	Manage increase in disturbing noise levels (nuisance) Nuisance and health impacts	<ul style="list-style-type: none"> <li>• All noise-generating activities will be kept to a minimum.</li> <li>• No traffic, unless in emergencies or if continuous pouring of concrete will be allowed, between sunset and sunrise. Concrete pouring activities should be planned such that they occur during the morning hours to avoid late night driving.</li> <li>• Traffic activities will be limited to the daylight hours between sunrise and sunset to avoid undue noise disturbance to neighbouring households.</li> <li>• Compliance with relevant standards, specifications and legislation concerning noise will be adhered to.</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor</li> </ul>
<b>Dust and other air emissions</b>	Manage increase in dust levels (nuisance & health impacts)	<ul style="list-style-type: none"> <li>• Excavation, handling and transport of erodible materials shall be avoided under high wind conditions or when a visible dust plume is present.</li> <li>• Dust generation from all activities will be minimised wherever possible.</li> <li>• A maximum speed limit of 20 km/h will be enforced to control dust emissions and minimize incidents onsite.</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor</li> </ul>



#### 5.4. Operation And Maintenance Phase

The Management Actions included in Table 4 and 5 below apply during the Operation and Maintenance Phase of these developments.

The following activities are associated with the operation of this substation and their associated potential impacts:

Table 4: Description of Activities to be undertaken.

<b>Activity</b>	<b>Activity Description</b>	<b>Associated Environmental Aspects and Impacts</b>
<b>General functioning</b>	<ul style="list-style-type: none"> <li>Physical presence and functional characteristics of the substation</li> </ul>	<ul style="list-style-type: none"> <li>Visual impact</li> <li>Community impacts in a form fatalities or injuries caused by electrocution.</li> </ul>
<b>Maintenance of the substation</b>	<p>The maintenance of the substation entails:</p> <ul style="list-style-type: none"> <li>General equipment repairs;</li> <li>Replacement of batteries;</li> <li>Servicing batteries;</li> <li>Replacing electrical equipment such as transformers, relays and capacitors;</li> <li>Maintenance of electrical equipment such as transformers, relays and capacitors ; and</li> <li>Construction or repairing of access roads.</li> </ul>	<ul style="list-style-type: none"> <li>Soil and water contamination</li> <li>Waste generation</li> <li>Loss of biodiversity</li> <li>Social issues related to the introduction of new workers in the area, e.g. HIV/AIDS spreading</li> </ul>
<b>General site inspection</b>	<ul style="list-style-type: none"> <li>Site inspection conducted by the technical and SHEW teams</li> </ul>	<ul style="list-style-type: none"> <li>Waste generation</li> <li>Improve compliance</li> <li>Enables identification of non – conformances and stakeholder complaints</li> </ul>
<b>Construction</b>	<p>Construction include the following activities:</p> <ul style="list-style-type: none"> <li>Construction of temporary or permanent buildings (digging and setting of foundations, digging of cable trenches);</li> <li>Extension of boundary fences;</li> <li>Construction of additional feeder bays;</li> <li>Upgrade of electrical equipment (either in size, capacity or;</li> <li>technology)</li> <li>Connection of new lines to Substations</li> </ul>	<ul style="list-style-type: none"> <li>Noise emissions</li> <li>Dust emissions</li> <li>Introduction of new people in the area leading to the spread of diseases such as HIV/AIDS</li> <li>Soil and water contamination</li> <li>Waste generation</li> </ul>



Table 5: Operation and Maintenance Management Actions

<b>Aspect</b>	<b>Management and Mitigation Measures</b>	<b>Responsible Person</b>
<b>Safety Health and Environmental (SHE) Awareness</b>	<ul style="list-style-type: none"> <li>• All employees should undergo SHE induction before work commences onsite.</li> <li>• All employees are to be made aware of their individual roles and responsibilities in achieving compliance with the EMP.</li> <li>• Environmental toolbox talks to be conducted and records to kept onsite.</li> </ul>	<ul style="list-style-type: none"> <li>• Area superintendent</li> <li>• Project Manager</li> <li>• Contractor</li> </ul>
<b>Safety Management</b>	<ul style="list-style-type: none"> <li>• Develop and implement an occupational health and safety plan that comprises key elements such as risk assessment and safe working procedure.</li> <li>• All work activities to be done under the supervision of a competent person.</li> </ul> <p>Appropriate warning signs must be placed on the facilities.</p>	<ul style="list-style-type: none"> <li>• Area superintendent</li> <li>• Project Manager</li> <li>• Contractor</li> </ul>
<b>Fire Management</b>	<ul style="list-style-type: none"> <li>• Eliminating the presence of potential sources of ignition and providing appropriate equipment to minimize fire risk.</li> <li>• Fire extinguishers to be readily available onsite, especially when hot works are conducted.</li> <li>• Regular servicing of fire extinguishers.</li> <li>• Maintain servitude access road under the line leading to the substation to act as fire break.</li> </ul>	<ul style="list-style-type: none"> <li>• Area superintendent</li> <li>• Project Manager</li> <li>• Contractor</li> </ul>
<b>Air Quality</b>	<ul style="list-style-type: none"> <li>• Dust generation from all activities must be minimised wherever possible.</li> <li>• Excavation, handling and transportation of erodible materials shall be avoided under high wind conditions or when a visible dust plume is present.</li> <li>• Speed limit to be enforced to control dust emissions and minimise incidents onsite.</li> <li>• Dust suppression measures shall be implemented, if necessary, especially during projects.</li> </ul>	<ul style="list-style-type: none"> <li>• Area superintendent</li> <li>• Project Manager</li> <li>• Contractor</li> </ul>



<b>Aspect</b>	<b>Management and Mitigation Measures</b>	<b>Responsible Person</b>
<b>Air Quality</b>	<ul style="list-style-type: none"> <li>• Vehicle, machinery and equipment shall be maintained in good working order in order to minimise emissions from exhaust fumes.</li> </ul>	<ul style="list-style-type: none"> <li>• Area superintendent</li> <li>• Project Manager</li> <li>• Contractor</li> </ul>
<b>Resources Efficiency</b>	<ul style="list-style-type: none"> <li>• Minimise water wastage and record water usage.</li> <li>• Avoid wasteful use of materials.</li> <li>• Source goods and services locally where possible</li> </ul>	<ul style="list-style-type: none"> <li>• Area superintendent</li> <li>• Project Manager</li> <li>• Contractor</li> </ul>
<b>Waste Management</b>	<ul style="list-style-type: none"> <li>• Minimise the generation of waste by applying the waste hierarchy.</li> <li>• Substation to be kept free of waste.</li> <li>• No burning, burying or dumping of any waste materials shall be permitted onsite.</li> <li>• Labelled waste bins with lids must be provided onsite for all waste streams where applicable and ensure that waste is disposed at nearest approved waste disposal site.</li> <li>• Ensure that waste segregation is done at source.</li> <li>• Hazardous waste shall be disposed of at a registered waste disposal site.</li> </ul>	<ul style="list-style-type: none"> <li>• Area superintendent</li> <li>• Project Manager</li> <li>• Contractor</li> </ul>
<b>Site Rehabilitation</b>	<ul style="list-style-type: none"> <li>• A post construction audit within 1 week prior to the Contractor leaving site must be conducted.</li> <li>• SHEW to sign site close off or take over certificate once remedial corrective actions have been implemented.</li> </ul>	<ul style="list-style-type: none"> <li>• Area superintendent</li> <li>• Project Manager</li> <li>• SHEW</li> <li>• Contractor</li> </ul>
<b>Herbicide Use</b>	<ul style="list-style-type: none"> <li>• Avoid spraying herbicide during windy days/periods. See the general product requirements for herbicide used. This could affect non-target areas and species.</li> <li>• Herbicide must only be applied inside the substation.</li> <li>• Herbicide will be handled in accordance with Erongo RED Vegetation Procedures.</li> </ul>	<ul style="list-style-type: none"> <li>• Area superintendent</li> <li>• Project Manager</li> <li>• SHEW</li> <li>• Contractor</li> </ul>
<b>Water Resources</b>	<ul style="list-style-type: none"> <li>• Care must be taken to ensure that pollution of water does not occur.</li> <li>• Herbicides shall not exceed the recommended volume and concentration of application.</li> <li>• Naturally occurring water resources may not be used for any personal hygiene, mixing herbicides or for washing equipment used for herbicide application.</li> </ul>	<ul style="list-style-type: none"> <li>• Area superintendent</li> <li>• Project Manager</li> <li>• SHEW</li> <li>• Contractor</li> </ul>



<b>Aspect</b>	<b>Management and Mitigation Measures</b>	<b>Responsible Person</b>
<b>Fauna and Flora</b>	<ul style="list-style-type: none"> <li>• Ensure that the site is kept clean and free of rubbish that could potentially attract animals and pests</li> <li>• Barricading of work area to keep animals and unauthorised persons from site.</li> <li>• Workers should be educated so as not to kill any fauna found onsite.</li> <li>• Poaching or capturing of any animal (wild or domestic) shall be prohibited.</li> <li>• Bird nests may not be disturbed.</li> <li>• No domestic animals may be kept onsite site as they can introduce diseases or interbreed with the animals occurring naturally in the area.</li> <li>• All wildlife and electrical infrastructure interactions must be reported to the SHEW section.</li> </ul>	<ul style="list-style-type: none"> <li>• Area superintendent</li> <li>• Project Manager</li> <li>• SHEW</li> <li>• Contractor</li> </ul>
<b>Social Impact</b>	<ul style="list-style-type: none"> <li>• Contractor to sign land permission form and agreement with landowners prior to commencement of work on site.</li> <li>• Employees should limit their contact with farm workers and other permanent residents of the area.</li> <li>• Employees should be properly educated about the impact of HIV / AIDS and pregnancies.</li> <li>• The use of intoxicating liquor or drugs of any kind by the employees is strictly prohibited.</li> <li>• Ensure that all queries and complaints are documented and dealt with.</li> <li>• A register shall be kept of all complaints from landowners.</li> <li>• All claims shall be handled immediately to ensure timely rectification</li> </ul>	<ul style="list-style-type: none"> <li>• Area Superintendent</li> <li>• Project Manager</li> <li>• All Erongo RED employees</li> <li>• Contractor</li> </ul>
<b>Cultural and heritage resource</b>	<ul style="list-style-type: none"> <li>• Any chance finds must be reported to Erongo RED SHEW section.</li> <li>• In an event of discovery of human remains or other artefacts the work shall cease. A professional archaeologist is to be consulted and carry out investigation.</li> </ul>	<ul style="list-style-type: none"> <li>• Area superintendent</li> <li>• Project Manager</li> <li>• SHEW</li> <li>• Contractor</li> </ul>



## 5.5. Decommission Phase

The decommissioning of these developments is not foreseen as the intended development is envisaged to be permanent. In the event that this infrastructure development is decommissioned the following management actions should apply.

Table 6: Decommissioning Phase Management Actions

<b>Environmental Feature</b>	<b>Management Actions</b>
<b>Decommissioning activity</b>	Many of the mitigation measures prescribed for construction activity for these developments would be applicable to some of the decommissioning activities. These should be adhered to where applicable.

## 6. REPORTING, MONITORING AND AUDITING

Environmental monitoring and audits must be conducted during the Operational Phase. The environmental monitoring and audits must be conducted in line with supporting procedures and requirements of this plan.

Monitoring and Audit Reports detailing the monitoring and audit results shall be prepared by the SHEW section and communicated to the Area Superintendent and Project Manager. Records of monitoring and auditing report shall be kept and will be made available during inspection and audits.

## 7. NON-COMPLIANCE AND CONFLICT MANAGEMENT PROCEDURES

Environmental monitoring and audits must be conducted during the Operational Phase. The Area Superintendent and/or Project Manager shall ensure that the employees and external service providers comply with the requirements outlined in this EMP. In the event of non-compliance, the following recommended process shall be followed:

- ❖ Non-compliances will be identified during inspections or audits carried out by the SHEW Section and reported to the Area Superintendent and Project Manager for corrective actions.
- ❖ Area Superintendent / Project Manager shall notify the employees about the non-compliance.
- ❖ Corrective and preventative actions must be implemented on agreed timeframes.



- ❖ Follow – up inspections shall be conducted to assess whether the corrective and preventative actions were implemented effectively.

Erongo RED has the right to stop all contractor's activities if it is found that a gross violation of the EMP is taking place. The contractor shall notify Erongo RED of the following:

- ❖ Conflicts arising with any landowner / representative.
- ❖ Any special conditions requested by a landowner / representative

## **8. CONCLUSION**

The management actions included in this report aim to assist in the avoidance, management, and/or mitigation of potential negative impacts on the environment that may result from the proposed activities.

Arising from the analysis by the consultants, the proposed project is going to create permanent land cover/use change on the proposed project site. The document has thus provided adequate mitigation measures for the identified impacts for sustainable land development because land must develop, but with land development, there should not be environmental degradation, thus the EMP provides for the sustainable land development for the proposed development.



## **9. REFERENCES**

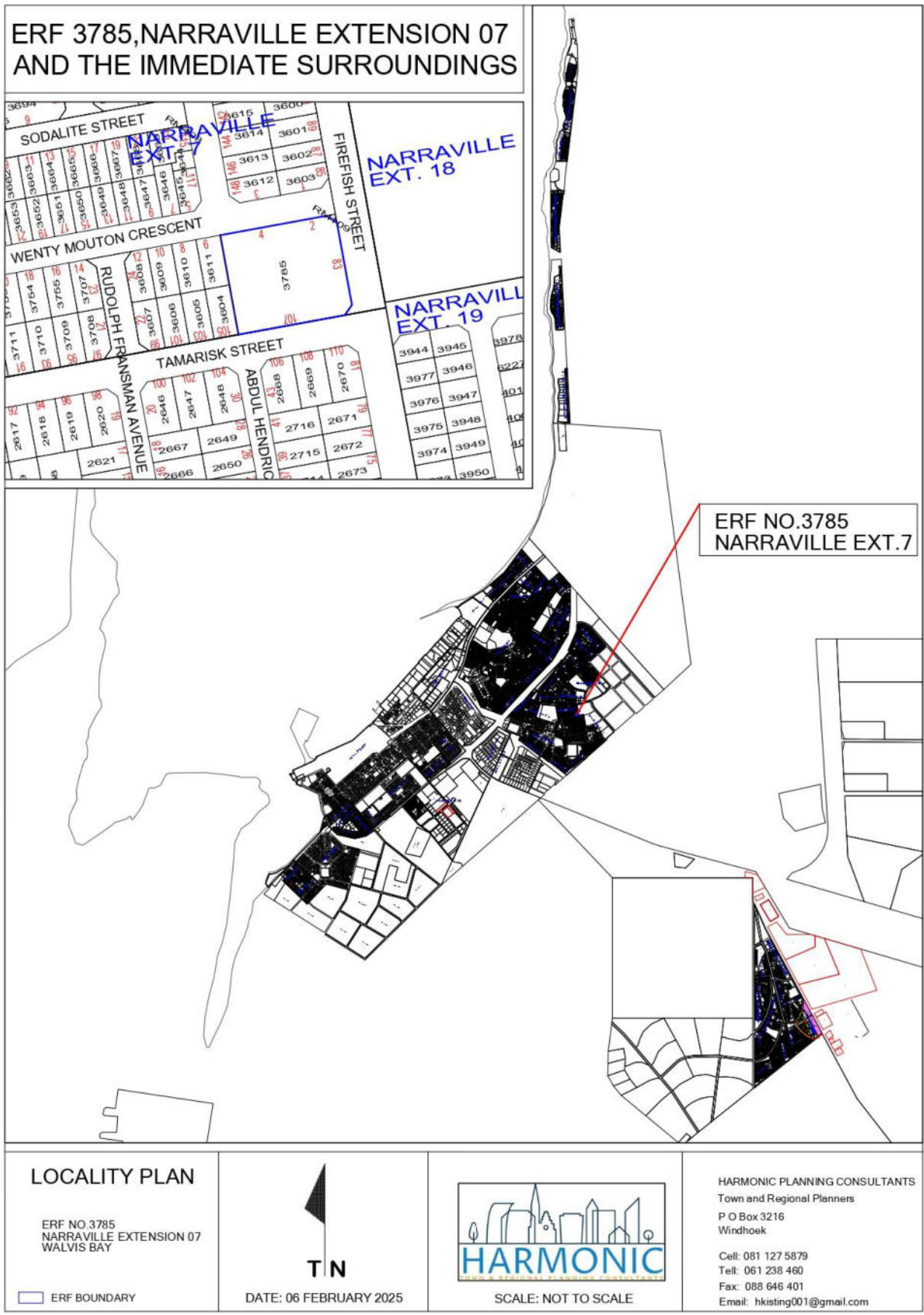
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## **10. ANNEXURES**

- 1) Annexure A – Locality Plan
- 2) Annexure B – Subdivision Plan
- 3) Annexure C – Rezoning Plans



**ANNEXURE A – LOCALITY PLANS**





ERF NO.3785	
ERF NO.	ERF SIZE
PTNA	120 m <sup>2</sup>
REM/3785	3 617.11 m <sup>2</sup>
TOTAL AREA	3 737.11 m <sup>2</sup>

**LOCALITY PLAN**

ERF NO.3785  
NARRAVILLE EXTENSION 07  
WALVIS BAY

Extension Boundary  
Erf Boundary  
Subdivision Line  
Street Numbers

TIN

DATE: 06 FEBRUARY 2025

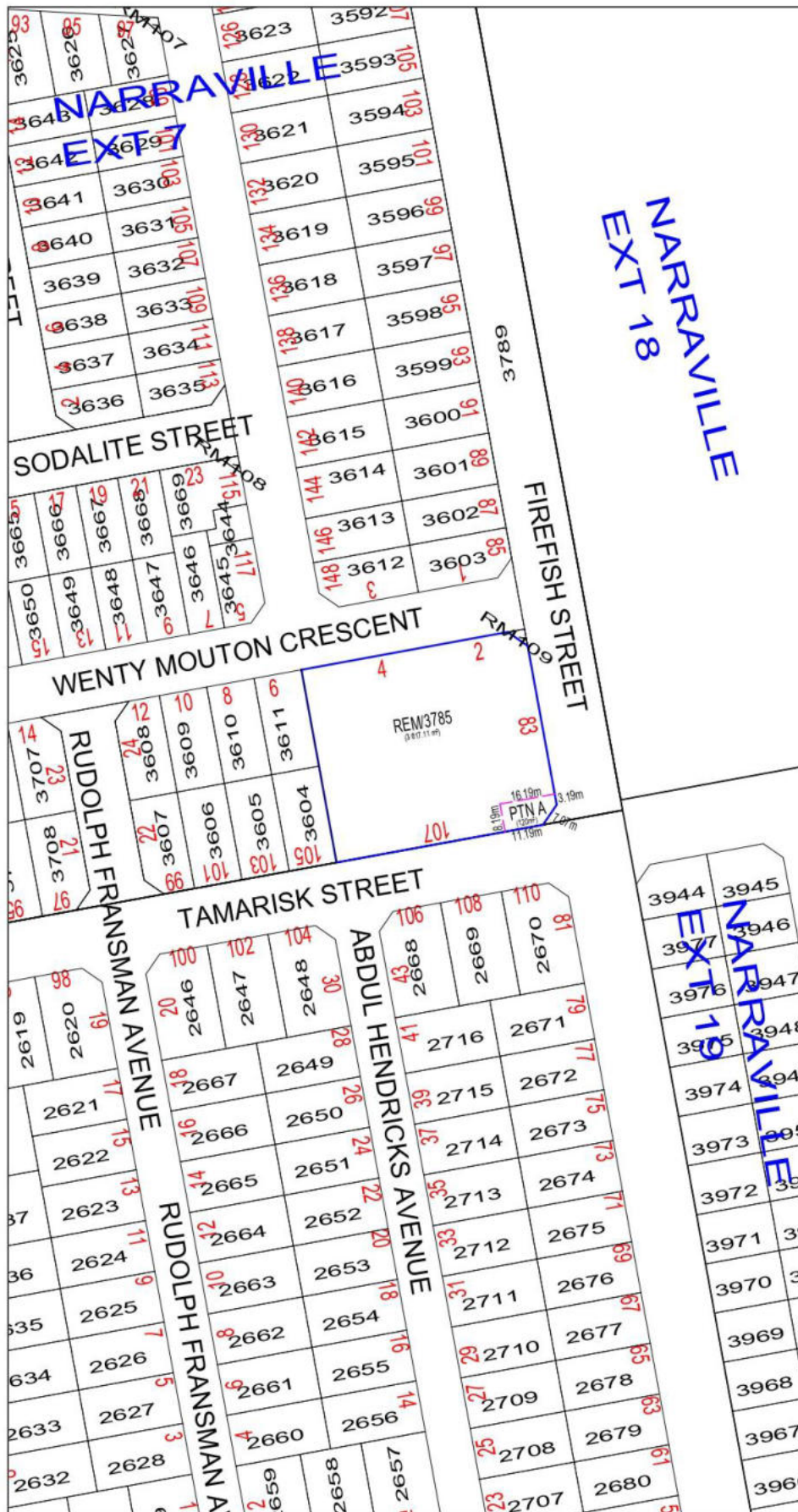
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**ANNEXURE B – SUBDIVISION PLAN**



**SUBDIVISION PLAN**

ERF NO.3785  
NARRAVILLE EXTENSION 07  
WALVIS BAY

SUBDIVISION OF ERF 3785 NARRAVILLE  
EXTENSION 07 INTO PORTION A &  
THE REMAINDER.

**LEGEND**

- Extension Boundary —
- Erf Boundary —
- Subdivision Line - - -
- Street Numbers 00

ERF NO.3785	
ERF NO.	ERF SIZE
PTN A	120 m <sup>2</sup>
REM/3785	3 617.11 m <sup>2</sup>
<b>TOTAL AREA</b>	<b>3 737.11 m<sup>2</sup></b>



SCALE: 1: 1 500

DATE: 04 FEBRUARY 2025



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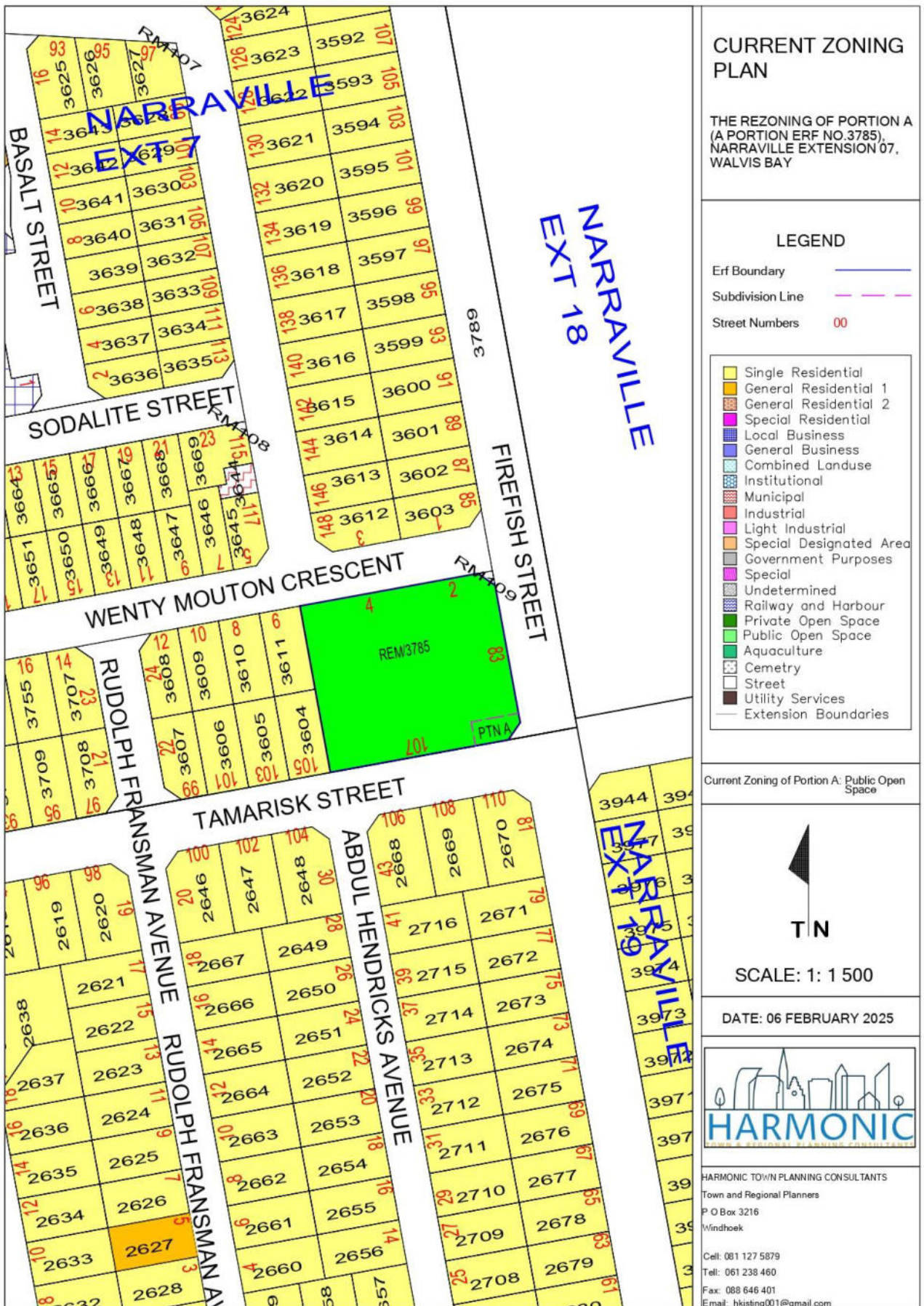
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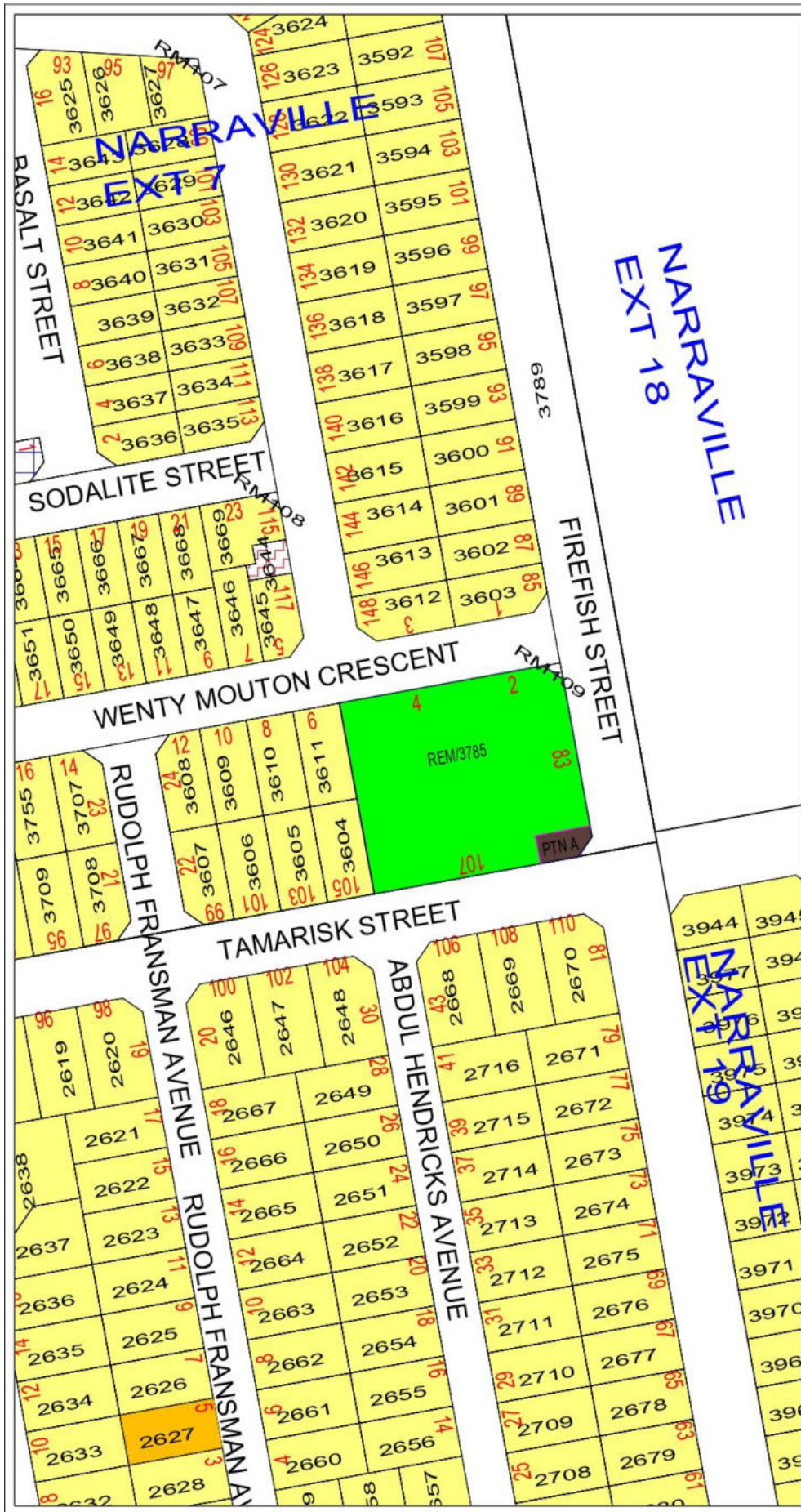
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**ANNEXURE C – REZONING PLANS**





## PROPOSED ZONING PLAN

THE REZONING OF PORTION A (A PORTION ERF NO.3785), NARRAVILLE EXTENSION 07, WALVIS BAY

- ### LEGEND
- Erf Boundary
  - Subdivision Line
  - Street Numbers 00

- Single Residential
- General Residential 1
- General Residential 2
- Special Residential
- Local Business
- General Business
- Combined Landuse
- Institutional
- Municipal
- Industrial
- Light Industrial
- Special Designated Area
- Government Purposes
- Special
- Undetermined
- Railway and Harbour
- Private Open Space
- Public Open Space
- Aquaculture
- Cemetery
- Street
- Utility Services
- Extension Boundaries

Proposed Rezoning of Portion A: Utility Services

**TIN**

SCALE: 1: 1 500

DATE: 06 FEBRUARY 2025



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