ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR THE PROPOSED CONSTRUCTION OF A TELECOMMUNICATION TOWER IN MASIDA VILLAGE, LINYATI CONSTITUENCY, ZAMBEZI REGION

ENVIRONMENTAL SCOPING REPORT

PREPARED FOR

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JUNE 2026

DOCUMENT INFORMATION

Project: Construction of a Telecommunication Tower in Masida Village, Linyati Constituency in Zambezi Region.

Client: PowerCom (Pty) Ltd.
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Report Type: Final Scoping Report

Procurement No. SC/RP/PC-0005/2025

ECC Application: APP007374

Period: April to June 2026

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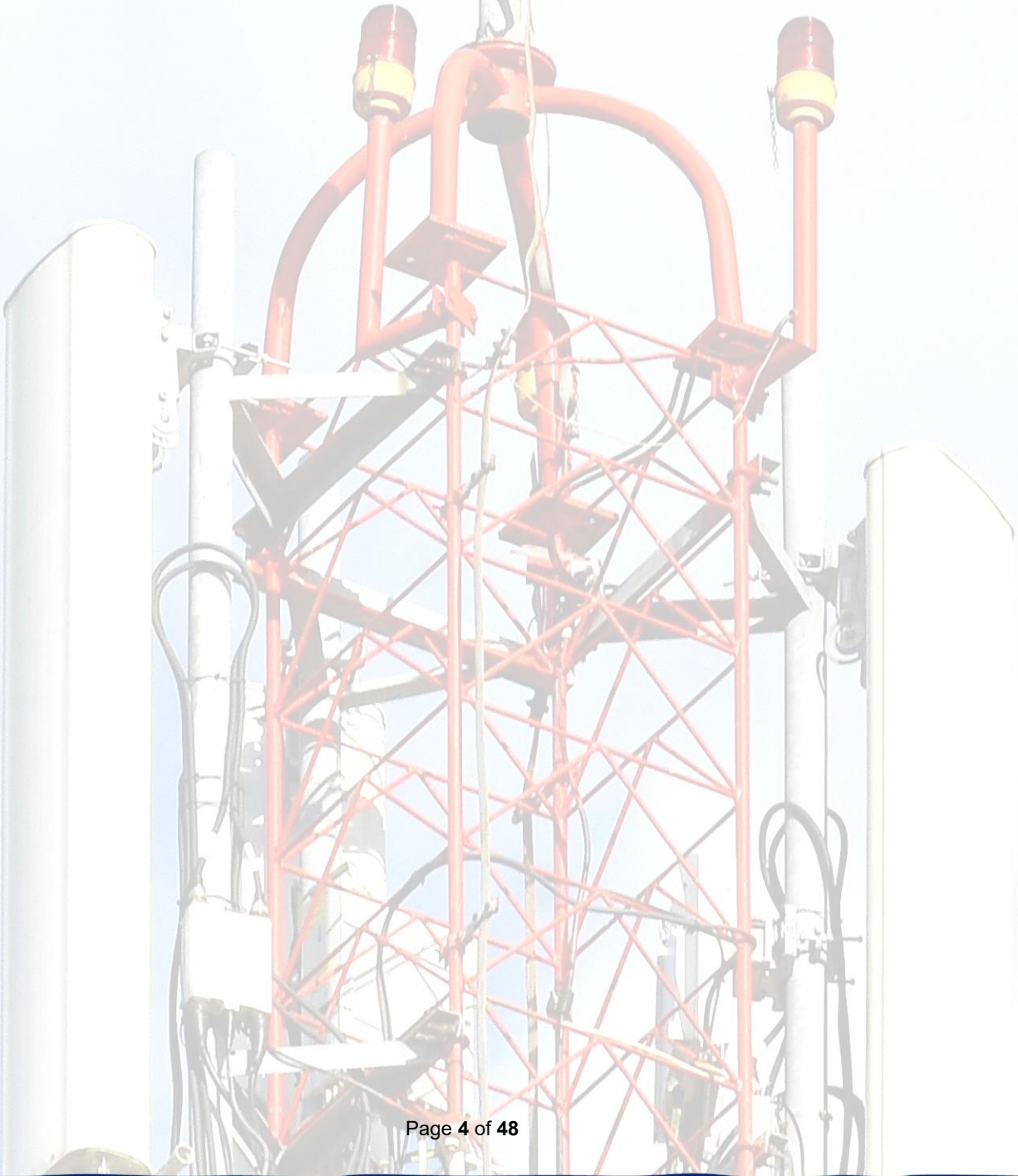

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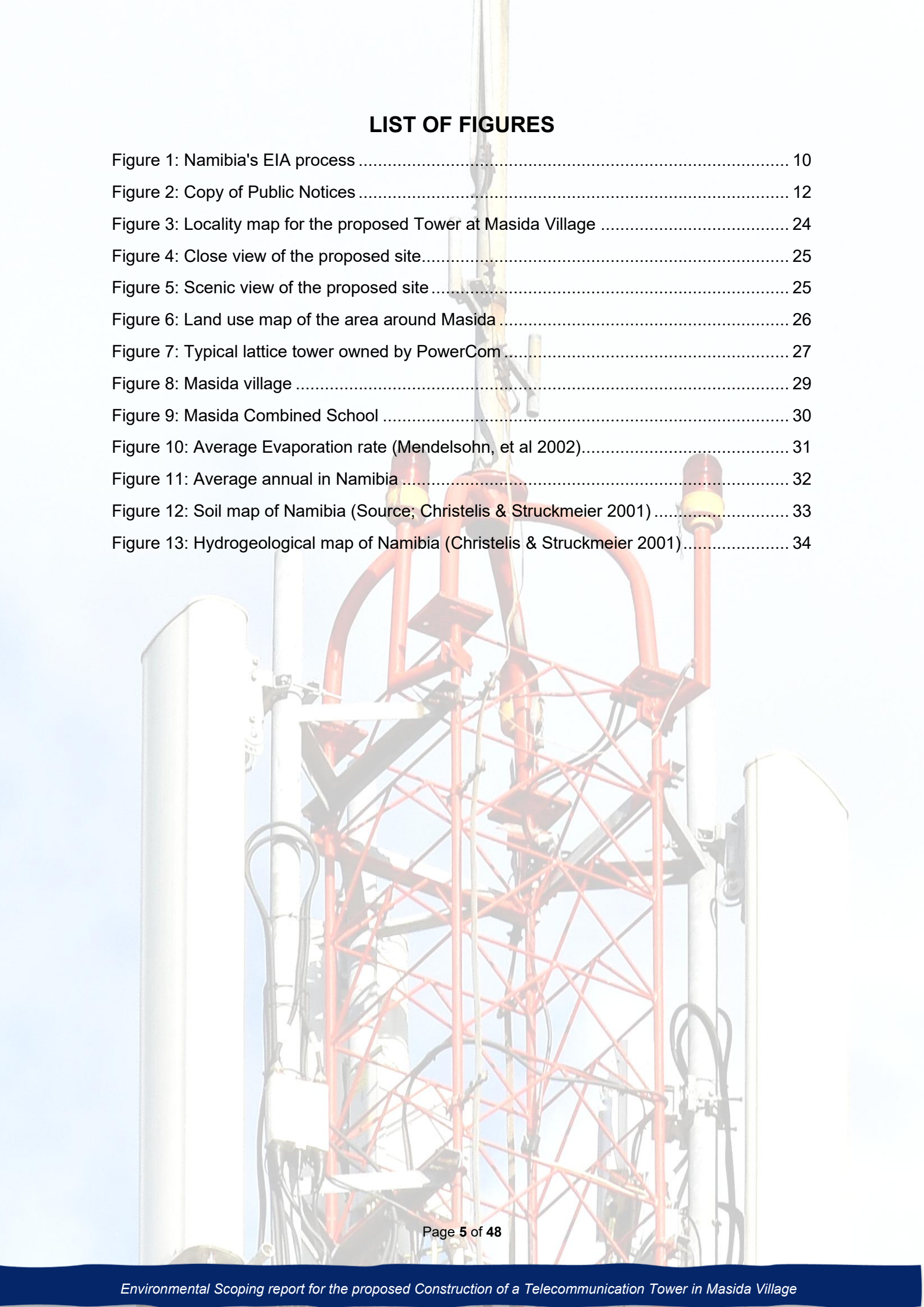


LIST OF ACRONYMS

BID:	Background Information Document
CDC:	Community Development Committee
CLB:	Communal Land Board
DEA:	Directorate of Environmental Affairs
DoF:	Directorate of Forestry
EAP:	Environmental Assessment Practitioner
ECC:	Environmental Clearance Certificate
ECO:	Environmental Control Officer
EIA:	Environmental Impact Assessments
EMA:	Environmental Management Act
EMP:	Environmental Management Plan
GN:	Government Notice
HIV/AIDS:	Human Immunodeficiency Virus / Acquired immunodeficiency syndrome
I&APs:	Interested and Affected Parties
ICT	Informal Communication Technology
MAWFLR:	Ministry of Agriculture, Water, Fisheries and Land Reform
MCF:	Masida Community Forest
MEFT:	Ministry of Environment, Forestry, and Tourism
MoHSS:	Ministry of Health and Social Services
MTA:	Mafwe Traditional Authority
NHC:	National Heritage Council
NORED:	Northern Regional Electricity Distributor
NSA:	Namibia Statistic Agency
PPE:	Personal Protective Equipment
SABS:	Southern Africa Bureau of Standards

EXECUTIVE SUMMARY

PowerCom (Pty) Ltd, hereinafter referred to as the proponent, was established in 2007 and became a subsidiary of Telecom Namibia in 2013. The company's primary focus is constructing telecommunications towers and leasing out tower space to service providers and operators to enhance network coverage and deliver informal communication technology (ICT) services to their clients. The company is spearheading a campaign to increase its footprint and asset base as part of its comprehensive mandate and strategic plan. This is achieved by developing ready-to-use infrastructure for telecommunication service providers, targeting underserved areas with weak or no network coverage. One such sites is in Masida village in the Linyati Constituency, Zambezi region.

The construction of the proposed telecommunication tower will trigger certain activities, listed under No. 10 (10.1) of Schedule 1 of the EIA Regulations (GN No. 30 of February 2012); therefore, it cannot be carried out without an EIA being undertaken. Green Gain Consultants cc has been appointed as an independent Environmental Assessment Practitioner (EAP) by PowerCom to conduct an Environmental Impact Assessment (EIA) for the proposed construction of the telecommunication tower.

The main objective of this EIA is to determine the potential environmental impacts emanating from the construction of the proposed telecommunication tower infrastructure. The EIA was conducted using a multidisciplinary approach and followed Namibia's Environmental Assessment process. Relevant environmental data have been sourced from personal observations during site visits, as well as from input from PowerCom officials, stakeholders, and Interested and Affected Parties (I&APs), alongside a review of relevant literature and legal instruments.

This document constitutes an environmental Scoping Report which provides the competent authorities and the regulatory authority (MEFT) with information to make an informed decision on the approval of an Environmental Clearance Certificate (ECC). Moreover, an Environmental Management Plan (EMP) has been prepared, and it should be read in conjunction with this Scoping Report. The EMP will be used as a mitigation tool and an onsite reference document during the construction of the proposed infrastructure.

1. INTRODUCTION AND BACKGROUND

1.1. Introduction

PowerCom (Pty) Ltd intends to construct a new telecommunications tower in Masida Village, located within the Linyati Constituency of the Zambezi Region. The proposed development site covers approximately 80m^2 of communal land under the jurisdiction of the Mafwe Traditional Authority and is located adjacent to the Masida Combined School.

The process for the construction of the proposed telecommunication tower will involve land clearance, preparation of an access road, site establishment and construction of a tower and auxiliary infrastructure. The tower infrastructure will be a steel lattice tower, about 80m tall standing on three steel legs reinforced with concrete bases and suitable for dual-band antennas. To prevent unauthorized access, a secure steel fence will enclose the entire perimeter. The tower will be connected to the grid from the existing power infrastructure at the nearby school.

In terms of the Environmental Management Act (Act No.07 of 2007), and Schedule 10 (10.1 (g) "*the construction of Communication networks including towers, telecommunication and marine telecommunication lines and cables"* cannot be undertaken without any EIA being undertaken. Green Gain Environmental Consultants cc has been appointed to conduct the required EIA study and apply for the ECC from the MEFT.

The proposed telecommunication tower is planned at a critical time, as Masida and its surrounding villages currently lack cell phone network coverage and reliable internet connections. The proposed development site was identified through a multi-stakeholder framework and has received formal support from the MTA, the school management, and the local Masida community during the public consultation period.

2. TERMS OF REFERENCE

The Terms of Reference provided by the proponent require EAP to conduct an EIA with the following objectives:

- Evaluate the selected site in view of the public opinions and site biophysical settings
- Assess potential environmental impacts associated with the proposed infrastructure during the construction, operation, and maintenance phases.
- Recommend measures to minimize adverse impacts while supporting Namibia's environmental protection objectives and development goals
- Review of relevant and applicable legislation
- Consult relevant stakeholders and I&APs and obtain input.
- Prepare Environmental Scoping/Assessment report and EMP.
- Apply for ECC in the prescribed manner and on the prescribed manner as per EMA Regulations of 2012 from the MEFT.

The study was undertaken at the Scoping level and will produce two key deliverables

- **Deliverable 1:** Scoping Study
- **Deliverable:** Environmental Management Plan (EMP)

Sufficient information is available to conclude the assessment at the Scoping level; therefore, no further specialist studies are required. Upon completing the Scoping process, the EAP will submit both the Scoping Report and the EMP to the MEFT. Additionally, the EAP will provide all information requested during the screening phase to enable the Department of Environmental Affairs (DEA) within the MEFT to issue an ECC for the project.

Ultimately, the Scoping Report will allow decision-makers to determine whether the project should proceed as planned and to understand the likely implications of the proposed mitigations. The EMP will detail how these mitigation measures will be implemented to minimize negative impacts, enhance positive outcomes, and properly address ongoing monitoring and rehabilitation requirements.

3. APPROACH AND METHODOLOGY

3.1. The EIA Processes

This EIA study was conducted in line with the EIA Regulations (No. 30, February 2012) as outlined in Figure 1 below.

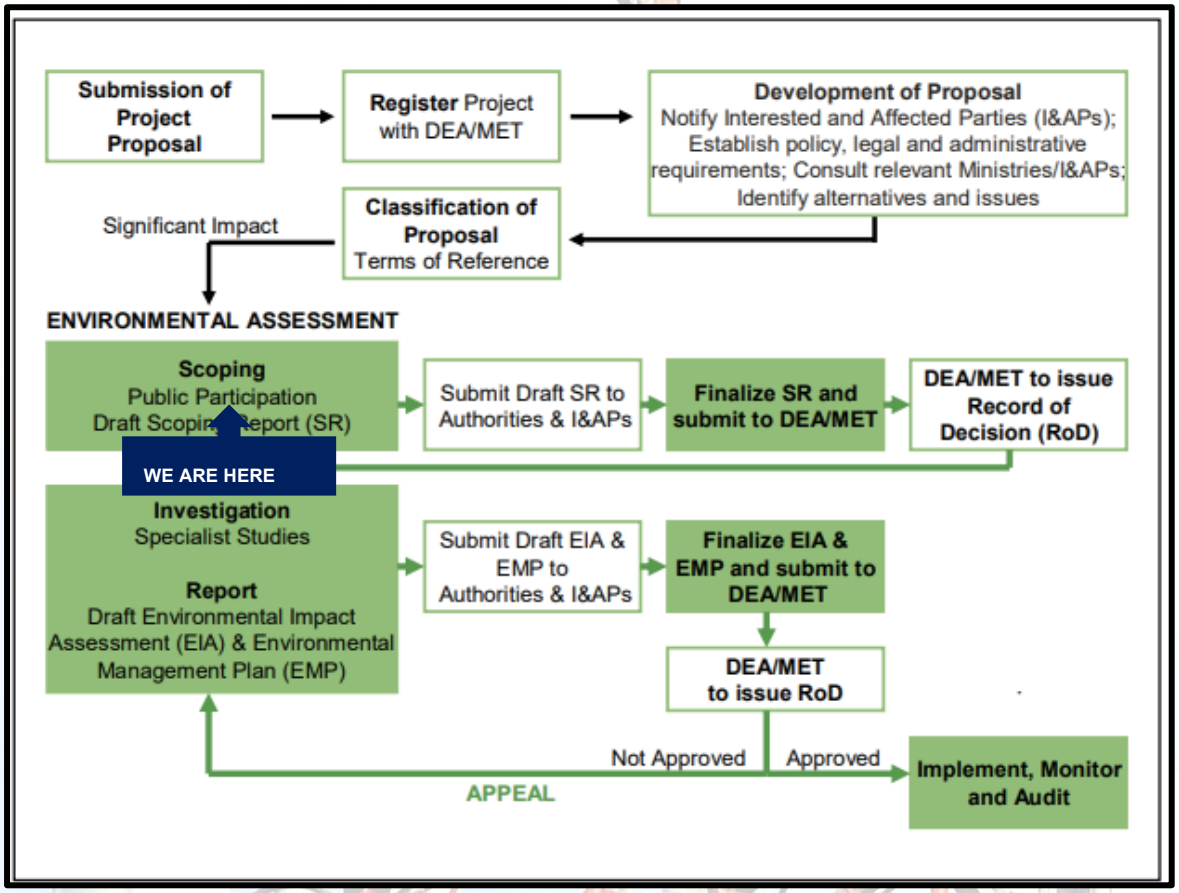


Figure 1: Namibia's EIA process

This Scoping report will be shared with all the registered I&APs and relevant stakeholders, and will be submitted to the competent authority, and the regulatory authority, for record of decision thereafter.

3.2. Collection of Baseline Information

Baseline information about the proposed development site and the receiving environment, were obtained from personal observation, reviewing of existing secondary information and contribution from relevant stakeholders, and I&APs, while information about the proposed project activities was from the client (PowerCom). The process that was followed is explained in detail below.

- **Site visits and screening**

The EAP conducted a reconnaissance site visit to the proposed project site to establish the physical site setting and surrounding environment. During the site visit, the EAP also consulted with the residents of the Masida village to obtain input regarding the proposed development.

- **Review of existing information**

The Scoping process incorporated existing literature, applicable legislation, and valuable contribution obtained from stakeholders and I&APs during the consultation period.

3.3. Public Participation Process

The study was subjected to a public participation process as defined in the Environmental Management Act No. 7 of 2007 and EIA Regulations of February 2012. The public consultation process was conducted between April and May 2026 and the result of this process is summarized below:

3.3.1. Stakeholder's consultation

During the EIA study, key stakeholders were to obtain their input as follows:

- Regional Councillor: Linyati Constituency
- Masida Sub-khuta
- Mafwe Traditional Authority (MTA)
- Masida Combined School Management
- Masida School Board
- Community Development Committee (CDC)
- Masida Community Forest (MCF)
- Directorate of Forestry (DoF) – MEFT
- Northern Electricity Distributor (NORED)

3.3.2. I&APs invitation and consultation

The public advertisements (**Figure 2**) providing brief information about the proposed project and requesting for submission of input was published in two local newspapers namely, New Era Newspaper and Confidante newspapers for 17 and 26 April 2026. Additionally, several public notices were also displayed at the following sites: Project site (Masida Combined School), Masida sub-kuta Tribal Office, Sobbe Conservancy office, DoF -Sibbida office, MCF office.

Figure 2: Copy of Public Notices
A – Newspaper Advert, B -Site Notice at Masida C. School and C- MCF office

During the EIA consultation, stakeholders confirmed that a joint site inspection was conducted during the initial planning phase, resulting in a consensus on the selected location. Because the primary stakeholders raised no objections or demands for alternative sites, the stakeholder engagement plan was streamlined. Public notice was provided to allow for submissions; however, as no objections or requests for a formal public gathering were received during the comment period, a dedicated public meeting was deemed unnecessary for this phase.

3.3.3. Summary of issues from I&APs and stakeholders

Below is a summary of issues that were raised during the public participation process and were incorporated in the assessment.

Table 1 Summary of identified issues

	Issues and concerns raised	Responses/Remarks
Comments/suggestions	-The site is closer to the school soccer field; it should be shifted a bit to avoid disrupting the field usage. - The proposed telecommunication tower is a necessity to the Masida C School and will significantly benefit local schools by enhancing teaching and learning through improved digital connectivity. Currently, teachers must travel long distances just to access reliable internet resources. -The proposed development site is not in dispute with any person and was duly identified by the Village Development Committee and the Masida Traditional Authority (Sub-khuta). The MTA should go ahead with the lease of the land allow construction of the tower as soon as possible. -The tower will improve development in the village and region at large -Priority for employment should be given to local people during the construction stage. -The contractor should be informed to contact the Masida Community Forest before starting with land clearing. If there are protected trees, a permit will be required.	Noted.
Questions	-Will the Tower be powered by solar or connected to electricity? -Will there be a 24/7 security or will it be the responsibility of the community to provide security to the tower? -Will they create an access road to the site? -When is this project expected to start?	-The tower will be connected to the grid through the existing transformer. -The site will be secured by means of fencing. -Yes, the informal path will be widened to create access road to the site. -As soon as all necessary approvals are obtained.

It must be noted that during the initial project planning, relevant stakeholders were consulted and involved in the site identification by PowerCom. A letter of support was received from the MTA in support of the proposed telecommunication tower. In addition, the Masida Combined School Management and the Community Development Committee (CDC) have shown their support towards the proposed project.

4. LEGAL FRAMEWORK AND REQUIREMENTS

4.1. Environmental Management Requirements

The proposed construction of a telecommunication tower will trigger activities listed under the Environmental Management Act No. 7 of 2007 and the EIA Regulations (No. 03 of February 2012) as follows:

Table 2: The listed project activities

Proposed project activities	Activities triggered	
	Category	**Specific activity**
• **Construction of a Telecommunication tower at Masida Village.**	No. 10 Infrastructure	Schedule 10 (10.1 (g) the construction of *Communication networks including towers, telecommunication and marine telecommunication lines and cables*

4.2. Applicable Legislations

To protect the environment and ensure that the development is undertaken in an environmentally responsible manner, several environmental legislations need to be considered as tabulated below:

Table 3: Applicable legislations

LEGISLATION	PROVISION	PROJECT IMPLICATIONS
Constitution of the Republic of Namibia (1990)	Articles 91 (c) commands the state to actively promote and sustain the environmental welfare of the nation by formulating and institutionalizing policies to accomplish the sustainable objectives which include: • Guarding against overutilization of biological natural resources, • Limiting over-exploitation of non-renewable resources, • Ensuring ecosystem functionality, • Protecting Namibia's sense of place and character. • Maintain biological diversity. • Pursuing sustainable natural resource use. Article 95 (l) recites: "The State shall actively promote… maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on	Through the implementation of the EMP, the proponent shall be advocating for sound environmental management as set out in the Constitution.

	a sustainable basis for the benefit of all Namibians, both present and future". Furthermore, Article 95 (l) ensures that workers are paid a living wage adequate for the maintenance of a decent standard of living and the enjoyment of social and cultural opportunities.	
Environmental Management Act No. 7 of 2007	The purpose of this Act is to promote the sustainable management of the environment and the use of natural resources by establishing principles for decision-making on matters affecting the environment; to provide for a process of assessment and control of projects which may have significant effects on the environment, and to provide for incidental matters. The Act gives legislative effect to the Environmental Impact Assessment Policy. Moreover, the act also provides procedures for adequate public participation during the environmental assessment process for the interested and affected parties to voice and register their opinions and concern about the proposed project. The Environmental Impact Assessment Regulations Government Notice No. 30, promulgated on 6 February 2012. The regulations listed certain activities that require an ECC from MEFT: DEA before commencing.	Application for the ECC for the activities will be submitted to the competent and regulatory authority for consideration and issuance of the ECC.

Soil conservation Act 76 of 1969	The objectives of the Soil Conservation Act 76, 1969 are to make provision for the combating and prevention of soil erosion, and the conservation, protection, and improvement of the soil, the vegetation, and the sources and resources of the water supplies. Part II deals with soil conservation works and it further states that in section 4(1). The Minister may by means of a direct order the owner of land to construct the soil conservation works referred to in such direction either on land belonging to such owner or on land belonging to another person, in such manner and within such period as may be mentioned in such direction, if the Minister is of the opinion that the construction of such soil conservation works is necessary to achieve any object of this Act in respect of the land belonging to such owner.	Prior to the construction of the telecommunication tower geotechnical investigations should be carried out to determine the engineering properties of the soil(s) and/or rock(s) underlying the sites, including the identification of potential problem soils and the presence of an underground water table.

National Labour Act 11 of 2007	The objectives of the National Labour Act are: • To establish a comprehensive labour law for all employers and employees; to entrench fundamental labour rights and protections. • Regulate basic terms and conditions of employment. • Ensure the health, safety, and welfare of employees and protect employees from unfair labour practices. • To regulate the registration of trade unions and employers' organization and regulate collective labour relations. • To provide systematic prevention and resolution of labour disputes. Some of the notable Sections under this Act are: Health and Safety Procedures Section 17 (1) The employer shall prepare any health and safety procedure referred to in sub-regulation (1) in consultation with the workplace safety committee concerned. Section 22. (1) In the event of an accident or dangerous occurrence in or in connection with a workplace or if an employee dies or suffers a serious injury because of such an accident or dangerous occurrence, the employer shall notify and report	The Proponent, Contractor, Sub-contractor shall all be guided by this Act when recruiting or handling employment-related issues. The Contractor must adhere to the minimum workplace safety standards such as all employees must be provided with appropriate Personal Protective Equipment (PPE).

	such accident to the Chief Inspector of Labour of the area. Notification of Occupational Diseases (OD), Section 23. If a medical practitioner finds that any person is suffering from an occupational disease listed in Annexure A. 2(1), or of any other disease that he or she believes was caused by that person's current or past employment, he or she shall immediately and in the form of Form OD. 1, report this fact to the chief medical officer of occupational health and safety. It shall be an unfair dismissal, or unfair disciplinary action, in terms of section 45 by an employer if such employer terminates the services of, or takes disciplinary action against, such employee if such employee has contracted an occupational disease listed in Annexure A. 2 (1), or any other disease, because of his or her past or present employment with such employer. Section 210, states that an employer shall ensure that an employee wears or uses, to the satisfaction of an inspector, suitable and adequate personal protective equipment.	
Public Health and Environmental Act of 2015	Section 119 of this Act prohibits the existence of a nuisance on any land owned or occupied by the proponent. The term nuisance is important for this EIA, as it is specified, where relevant in Section 122 as follows: **a)** any dwelling or premises which is or are of such construction as to be injurious or dangerous to	Nuisance such as dust, noise, bad odours, etc. should be controlled during the construction period.

	health or which is or are liable to favour the spread of any infectious disease. **b)** any dung pit, slop tank, ash pit, or manure heap so foul or in such a state or so constructed as to be offensive or to be injurious or dangerous to health. **c)** any area of land kept or permitted to remain in such a state as to be offensive, or liable to cause any infectious, communicable, or preventable disease or injury or danger to health; or **d)** Any other condition that is offensive, injurious, or dangerous to health. Furthermore, in terms of Section 8 of the Public Health Proclamation 16 of 1936, where a local authority is of the opinion that a nuisance is seriously offensive or a serious menace to the health, it may serve a notice on the owner or occupant of the nuisance to immediately remove the nuisance. Failure to abide by this provision is an offense.	
Atmospheric Pollution Prevention Ordinance No. 11 of 1976	This Ordinance generally provides for the prevention of the pollution of the atmosphere and matters incidental thereto. The Ordinance deals with administrative appointments and their functions; the control of noxious or offensive gases; atmospheric pollution by smoke, dust control, motor vehicle emissions; and general provisions. Part IV of this ordinance deals with dust control. The Ordinance is clear in requiring that any person	Air pollution could occur during the construction phase. It is the responsibility of client to control excessive air pollution and comply with the ordinance.

	carrying out an industrial process which is liable to cause a nuisance to persons residing in the vicinity or to cause dust pollution to the atmosphere, shall take the prescribed steps or, where no steps have been prescribed, to adopt the best practicable means for preventing such dust from becoming dispersed and causing a nuisance. Of applicability to the envisaged project, is dust generated by vehicles or equipment as well as dust generated during construction. The risk of dust generation is high at the envisaged site. This deals with air pollution as it affects occupational health and safety, and no consideration is given to the natural environment.	
Forestry Act No. 12 of 2001	The Act provides for the management and use of forests and related products / resources. It offers protection to any living tree, bush or shrub growing within 100 metres of a river, stream or watercourse on land that is not a surveyed erf of a local authority area. In such instances, a licence would be required to cut and remove any such vegetation. These provisions are only guidelines.	Should there be trees within the actual footprint of the site that need to be removed; the Proponent should notify the nearest Department of Environmental Affairs and Forestry (DoF- Sibbida Office)) and the Masida Community Forest. Should these trees be of a protected species, the permit to remove them should be applied from the DEAF office.
Nature Conservation Ordinance 14 of 1975 and its amendments	The Nature Conservation Ordinance Section 14 protects and preserves wild animal life, fisheries, wild plant life and objects of geological, archaeological, historical, and other scientific interest and for the benefit and enjoyment of the inhabitants of Namibia.	Ensure protection and preservation of natural resources in line with the Ordinance.

MEFT Policy on HIV/AIDS	MEFT has recently developed a policy on HIV/AIDS. In addition, it has also initiated a programme aimed at mainstreaming HIV/AIDS and gender issues into environmental impact assessments.	The proponent and its contractor must adhere to the guidelines provided to manage the aspects of HIV/AIDS. Experience with construction projects has shown that a significant risk is created when migrant construction workers interact with local communities.
National Heritage Act No. 27 of 2004	The Act is aimed at protecting, conserving, and registering places and objects of heritage significance.	All protected heritage resources (e.g., human remains, etc.) discovered, need to be reported immediately to the National Heritage Council (NHC) and require a permit from the NHC before they may be relocated.
Communal Land Reform Act of 2002	To provide for the allocation of rights in respect of communal land; to establish Communal Land Boards; to provide for the powers of Chiefs and Traditional Authorities and boards in relation to communal land; and to make provision for incidental matters.	Consent Letters from the village headman and Mafwe TA were obtained. PowerCom to complete the lease application process with the Communal Land Board (CLB).
Pollution Control and Waste Management Policy, 2003	The bill provides a framework for a multitude of administrations on pollution control and waste management in the country. Each authority identified by the bill shall play its respective role.	All waste generated by the construction activities should be managed by the contractor under the supervision of the client
The Atomic Energy and Radiation Protection Act, Act 5 of 2005:	The Act provides for the adequate protection of the environment and of people against the harmful effects of radiation by controlling and regulating the production, processing, handling, use, holding, storage, transport and disposal of radiation sources and radioactive materials, and controlling and regulating prescribed non-ionising radiation sources according to the standards set out by the ICNIRP.	To determine the “safe distance” around the site. Installation of the network transmitter will be done in accordance with the safety protocols required for non-ionizing radiation protection.

Civil Aviation Act No. 6 of 2016	Under the Civil Aviation Act No. 6 of 2016, telecommunication towers and similar structures require assessment by the Namibia Civil Aviation Authority (NCAA) if they pose a threat to aviation safety, particularly by interfering with aerodrome obstacle limitation surfaces or air traffic monitoring. Relevant requirements of this Act are such as Any tall structure erected near an aerodrome (typically within an 8 to 15 km radius requires authorization by the Namibian Civil Aviation Regulations).	The proposed site (Masida Village) is located a safe distance (more than 60km) from the nearest aerodrome (Katima Mulilo Airport). However, PowerCom may still need to confirm with NCAA to ensure the proposed tower does not penetrate the protected airspace and is in compliance with all relevant national and international aviation legislations.
Communications Act, 2009 (Act No. 8 of 2009)	(10) The Authority may impose specific obligations and requirements on a licensee regarding to masts, towers or other facilities including requirements relating to the environmental or aesthetic impact of such facilities;	An authorized EIA process was ensured and application for ECC will be submitted to MEFT.
	Under Section 50 of the Communications Act No. 8 of 2009 and its accompanying Regulations Prescribing Sharing of Infrastructure, telecommunication service providers in Namibia are mandated to share existing infrastructure to prevent the unnecessary duplication of facilities	There are no available telecommunication towers in the proximity of Masida area, hence this situation created a gap of network coverage that needs to be filled.

5. DESCRIPTION OF THE PROPOSED INFRANSTRUCTURE

5.1. Project locality

The proposed site is in Masida village in the Linyati Constituency, Zambezi region on the following coordinates *-17.85583" S; 23.70639" E.* It is located approximately 5km south of the B8 road adjacent to the Masida Combined School.

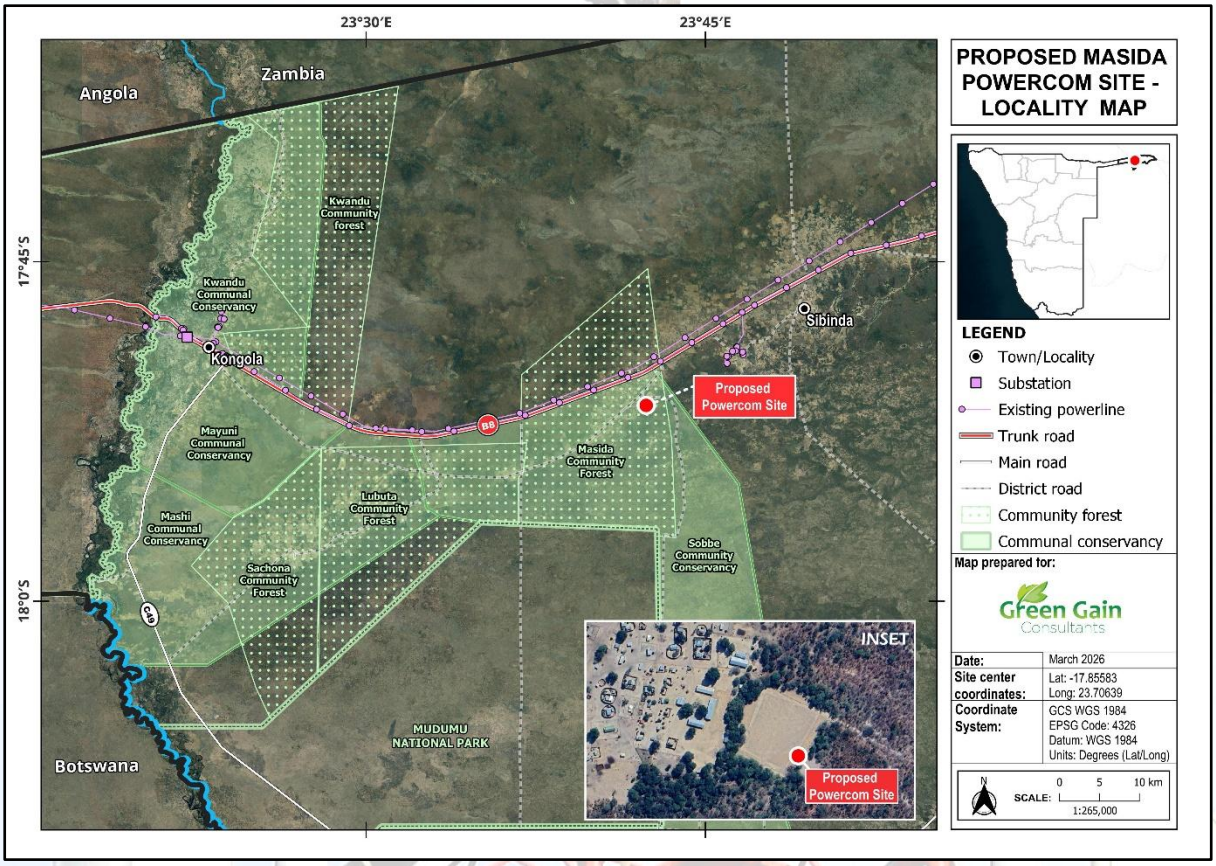


Figure 3: Locality map for the proposed Tower at Masida Village

5.2. Site description

The identified site for the construction of a new telecommunication lattice tower is located approximately 100m meters east of the Masida Combined School (Figure 4 A). The proposed development site covers an area measuring about 80m^2 (10m x 8m). The site is located on the edge of the existing school soccer field while a netball court is also a few distance from the site. The development site is open with no large trees within it and only covered with annual grass cover (Figure 4 B). The site, along with Masida village, is surrounded by a thick forest of tall, broad-leaved trees typical of the northeastern riverine and Miombo woodland systems

Figure 4: Close view of the proposed site

Figure 5: Scenic view of the proposed site

5.3. Land tenure

In terms of land tenure, the area is a communal land administered by the Masida sub-khuta under the Mafwe Traditional Authority. Politically the area falls under the Linyati Constituency of the Zambezi region. From a nature conservation perspective, the proposed development site is within the Sobbe Conservancy and the Masida Community Forest.

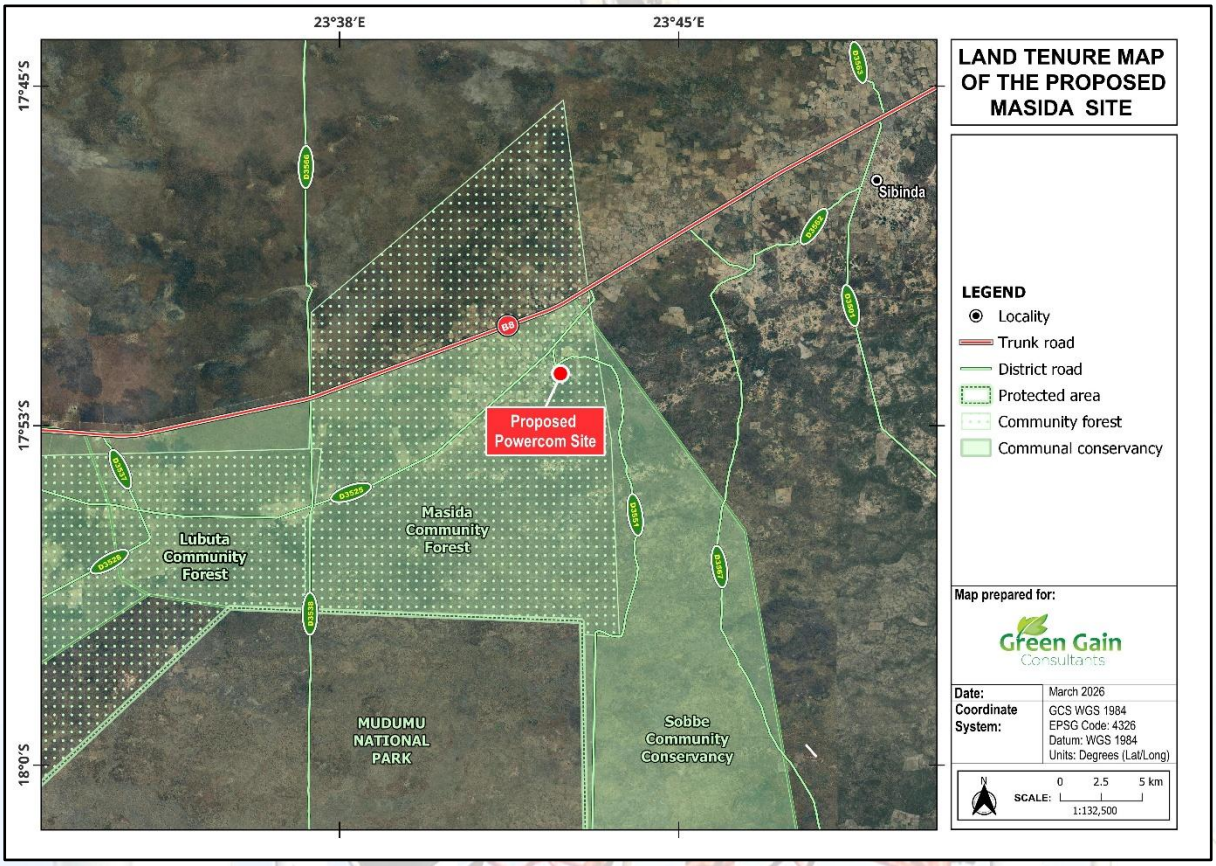


Figure 6: Land use map of the area around Masida

5.4. Proposed site infrastructure

5.4.1. Proposed tower infrastructure

The proposed infrastructure consists of lattice telecommunication tower based on the SABS0160 standards. The tower will be of steel materials (S355), approximately 81m high standing of three (3) legs and mounted on concrete reinforcement. The tower will be fitted with dual-band antennas as required. The infrastructure will be enclosed with a steel fence to avoid unauthorized access. Figure 7 below depicts the typical lattice tower similar to the one proposed tower.

Lattice Tower structure integrity (SABDS0160)	
Tower height:	81m
Lattice face width top:	1;200m
Distance between plinth centres	1:200m
Number pf legs	3
Material	Steel S355
Steel density	7850 kg/m^3

Figure 7: Typical lattice tower owned by PowerCom

5.4.2. The proposed construction activities

The construction of an 80m lattice tower with a footprint size of 80m^2 area including network support structures to accommodate mobile service and other related services. The following services will be required

- **Site access** to the site will be done through existing informal road, however certain improvement is needed to make it accessible for construction vehicles and machineries.
- **Power supply** will be sourced from the nearby 3phase transformer at Masida Combined School
- **Water supply:** water supply is only necessary during construction phase. Arrangements can be made with the Masida Combined School or the sub-khuta for water sourcing.
- **Security:** The site needs to be secured during construction and operation phase

5.4 Need and Desirability of the proposed Tower

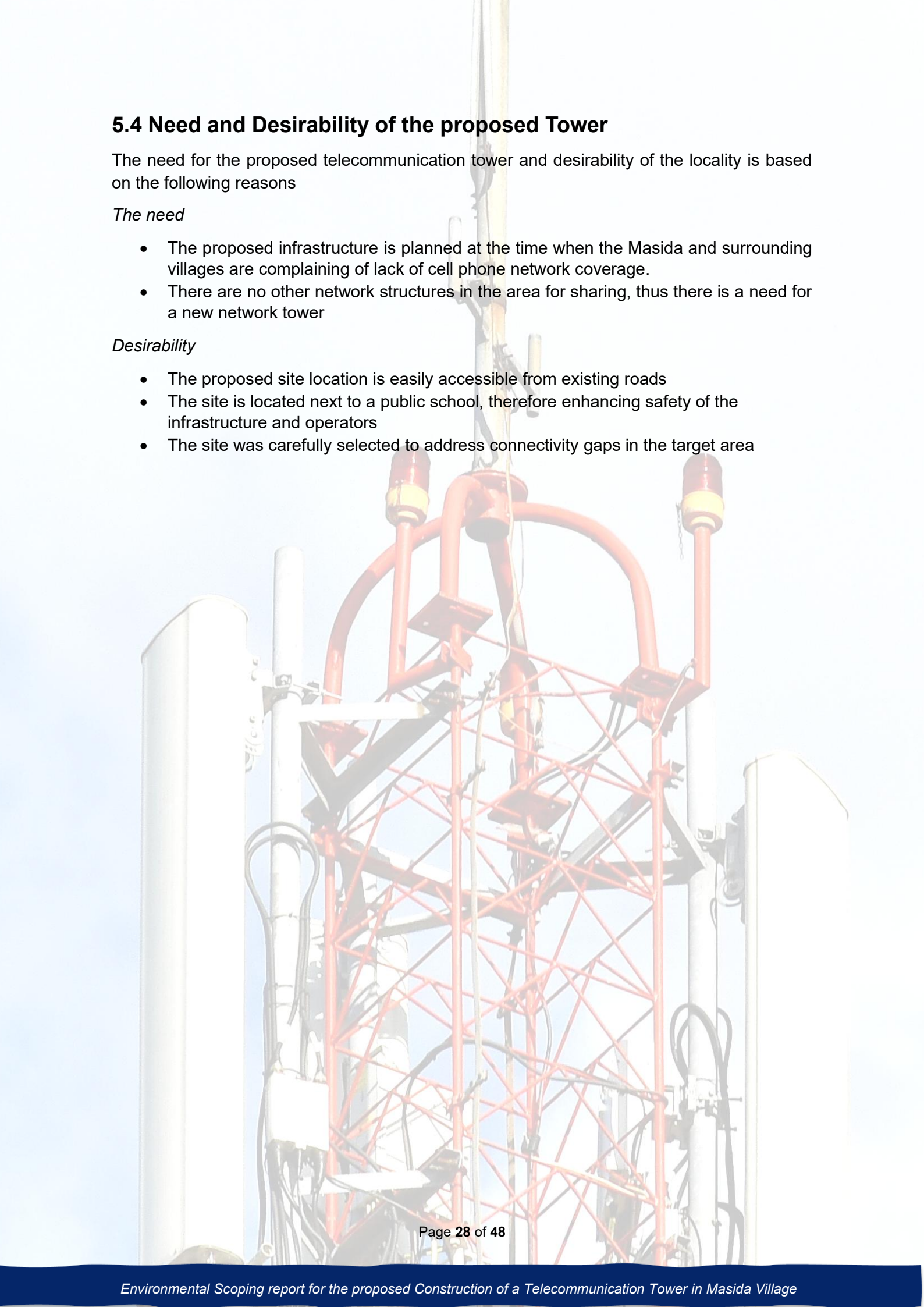
The need for the proposed telecommunication tower and desirability of the locality is based on the following reasons

The need

- The proposed infrastructure is planned at the time when the Masida and surrounding villages are complaining of lack of cell phone network coverage.
- There are no other network structures in the area for sharing, thus there is a need for a new network tower

Desirability

- The proposed site location is easily accessible from existing roads
- The site is located next to a public school, therefore enhancing safety of the infrastructure and operators
- The site was carefully selected to address connectivity gaps in the target area



6. DESCRIPTION OF THE RECEIVING ENVIRONMENT

This chapter presents the environmental baseline of the receiving environment. It entails a description of various environmental receptors (both socio-economic and biophysical aspects) that are likely to be affected by the proposed construction activities.

The baseline study area chosen for physical and ecological data collection is mainly the area that is in the direct zone of influence of the proposed tower and supporting infrastructures.

6.1. Social Settings

6.1.1. About the area

Masida Village is a rural settlement located in the Linyanti Constituency of the Zambezi Region in northeastern Namibia, approximately 75 km west of Katima Mulilo. The village is accessible via the D3525 road from the trunk road T8/6 from Rundu to Katima Mulilo.

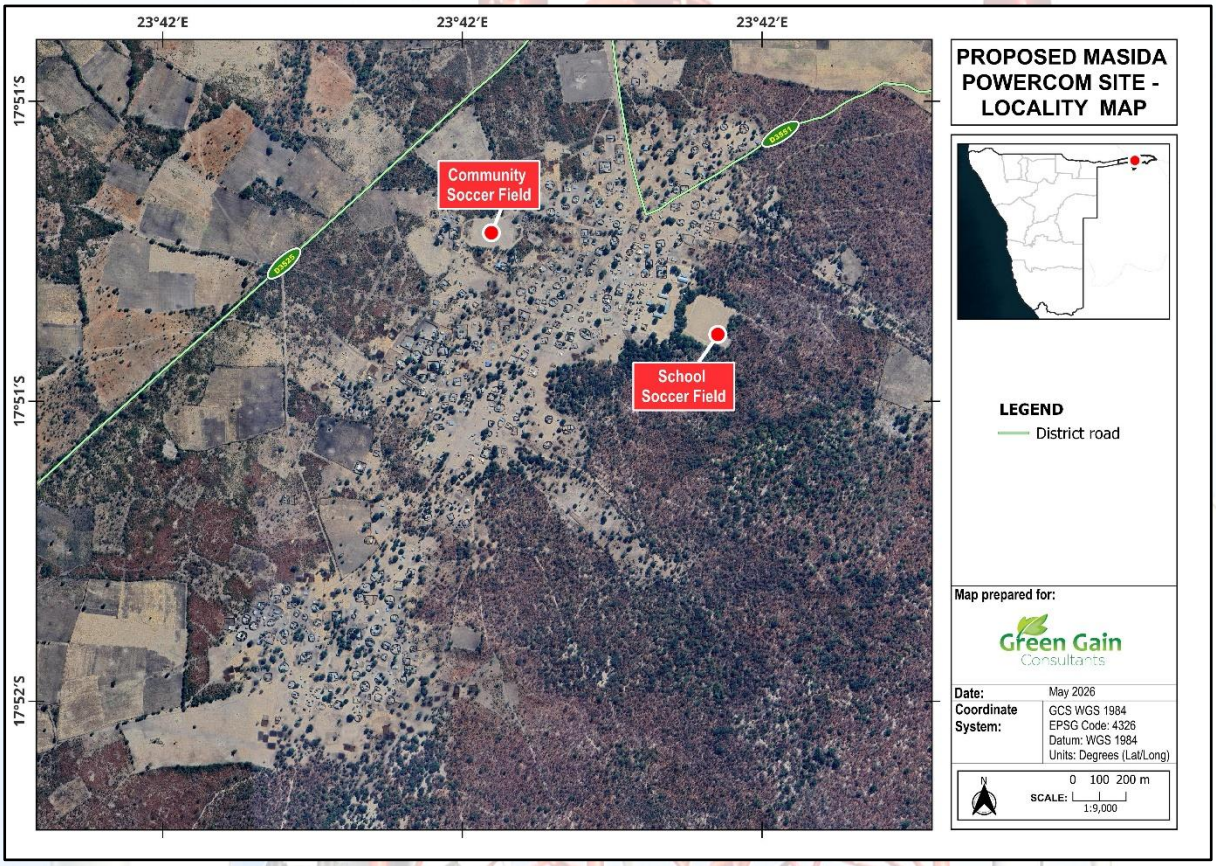


Figure 8: Masida village

6.1.2. Social and economic development

The village consists of traditional homesteads most of which are surrounding the Masida Combined School. There is a traditional (sub-khuta) office, a community church, a clinic and a community-based ECD centre which ensure safe spaces for young children to play and learn. There are also a few supermarkets and shebeens.

Figure 9: Masida Combined School

The main sources of income are predominantly rural and heavily reliant on subsistence agriculture, livestock farming, and government social grants. Due to the limitations of seasonal farming, residents diversify their income through informal trading, artisanal activities (like carpentry and brickmaking) and communal conservation programmes i.e. Sobbe Conservancy and Masida Community Forest.

The village is also connected to the national grid provided by the Northern Electricity Distributor (NORED). Local access to essential services and markets has also been improved through government-funded gravel road D3545 projects linking the village to clinics and schools

6.2. Biophysical Environment

6.2.1. Climate

- **Temperature, humidity, and evaporation rate**

The Masida area, which is located in the Zambezi region of northeastern Namibia, features a semi-arid, subtropical savanna climate. It is characterized by distinctly hot, wet summers and warmer, dry winters, experiencing an average annual rainfall of about 600 mm.

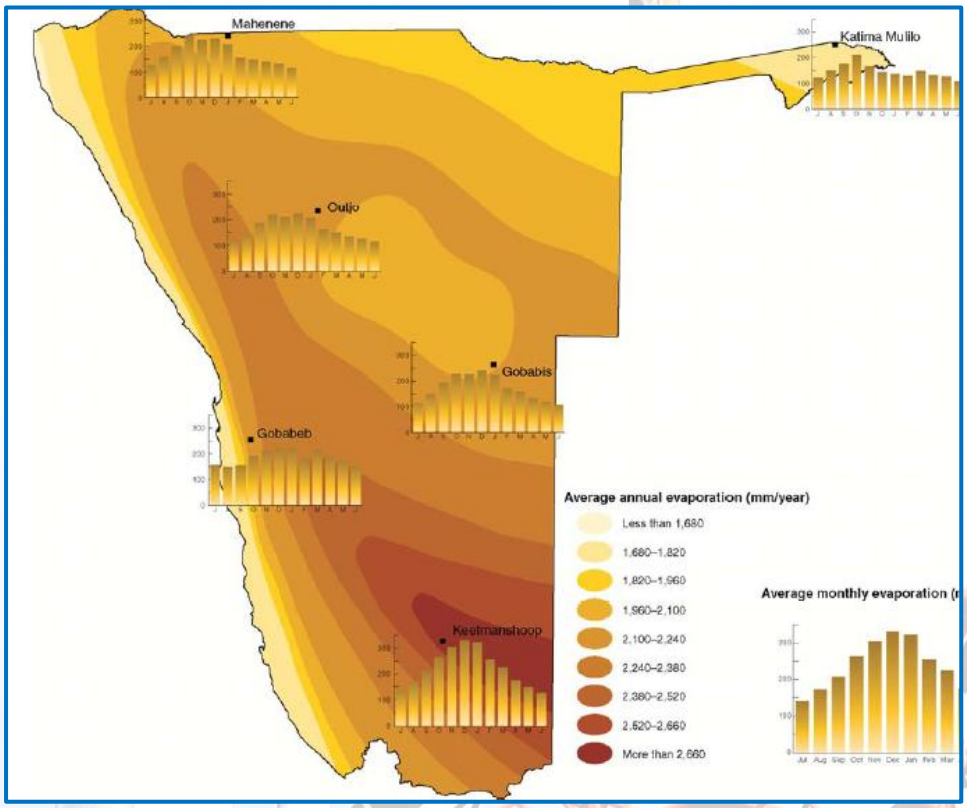


Figure 10: Average Evaporation rate (Mendelsohn, *et al* 2002)

- **Precipitation**

According to MEFT, 2025, the majority of the annual precipitation (~600 mm) falls during these months. Because the area lies within the Kalahari Basin, it supports tropical woodland vegetation that is generally lusher than the rest of Namibia.

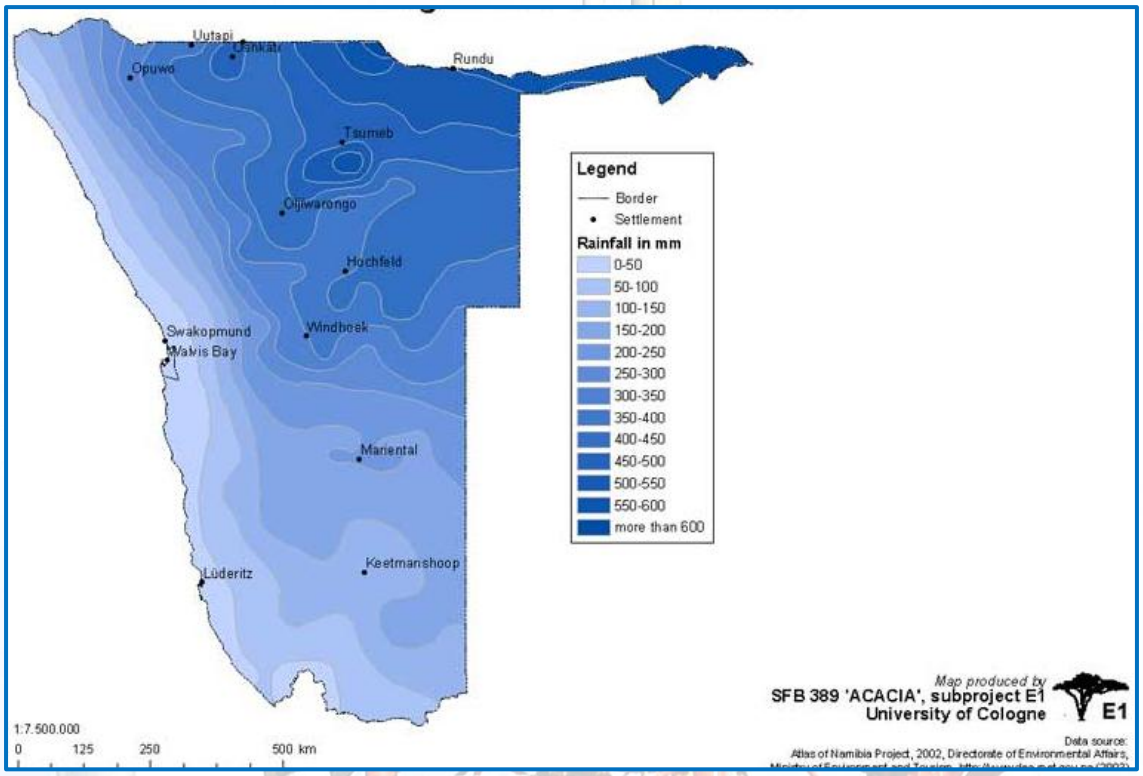
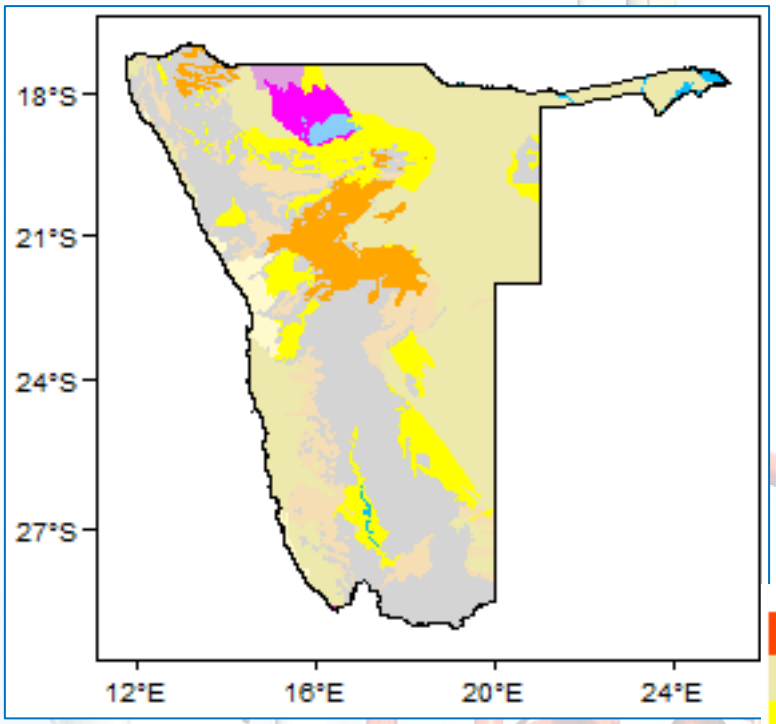


Figure 11: Average annual in Namibia

6.2.2. Soil and geology

The soil of the Zambezi Region is primarily defined by a mix of nutrient-poor Kalahari sands (Arenosols) on higher ground and fertile, heavy clay or loam alluvial soils (Fluvisols) within its vast floodplains (Makhabu SW, et al, 2002). The soil of the proposed development site at Masida village is mainly Kalahari sands (Arenosols).



Legends

AC CM GY RG WR
AR FL LP SC
CL GL LV SN

AC	Acrisols	AL	Alisols	AN	Andosols	AR	Arenosols	CH	Chernozems	CL	Calcisols	CM	Cambisols	CR	Cryosols
DU	Durisols	FR	Ferrasols	FL	Fluvisols	GL	Gleysols	GY	Gypsisols	HS	Histosols	KS	Kastanozems	LP	Leptosols
LX	Lixisols	LV	Luvisols	NT	Nitisols	PH	Phaeozems	PL	Planosols	PT	Plinthosols	PZ	Podzols	RG	Regosols
SC	Solonchaks	SN	Solonetz	ST	Stagnosols	TC	Technosols	UM	Umbrisols	VR	Vertisols	WR	Water Body		

Figure 12: Soil map of Namibia (Source; Christelis & Struckmeier 2001)

6.2.3. Hydrogeology

The hydrogeology of the Zambezi region is defined by the Upper and Lower Kalahari aquifers, extensive tectonic controls in the Okavango Rift Zone, and geogenic salinity. The region is heavily influenced by perennial rivers (Zambezi, Kwando, Linyanti, and Chobe) that dictate shallow groundwater recharge and cause severe seasonal flooding.

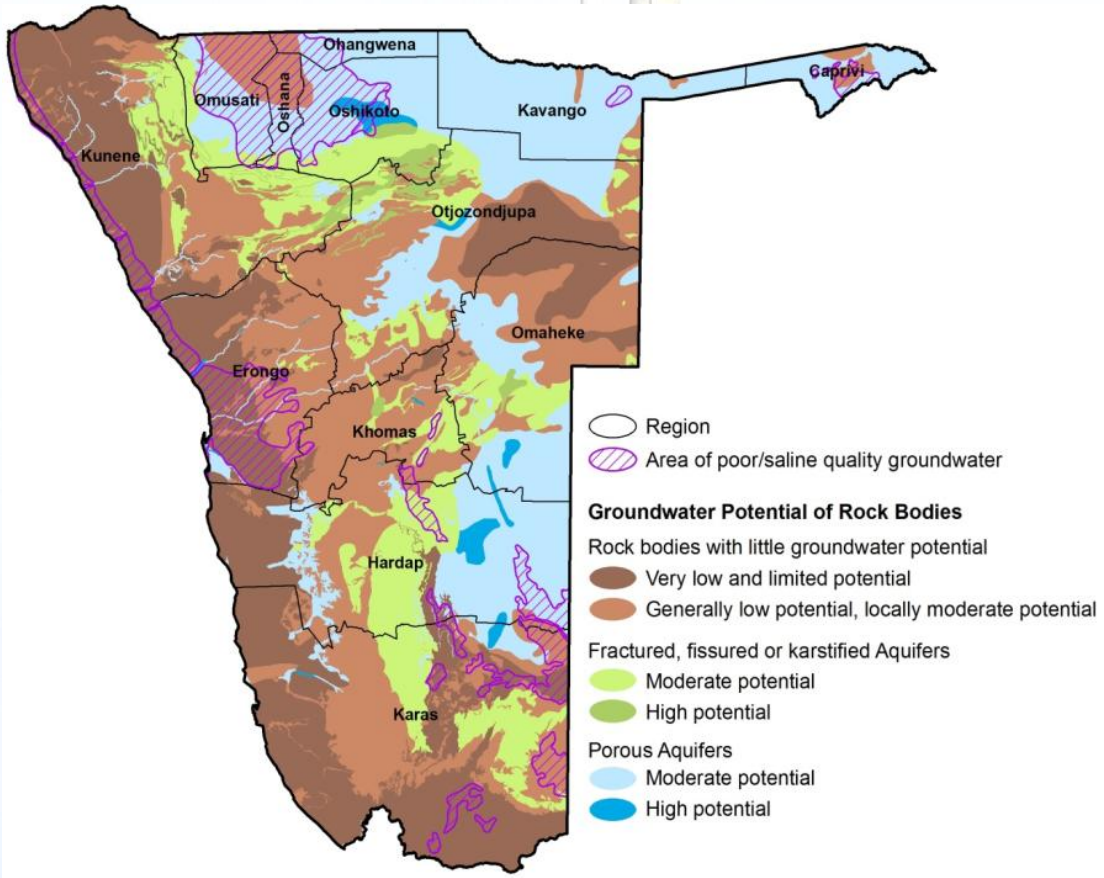


Figure 13: Hydrogeological map of Namibia (Christelis & Struckmeier 2001)

6.2.4. Landscape, flora and fauna

The landscape surrounding Masida village is characterized by a mosaic of broad-leaved savannah and lush vegetation typical of the north-eastern riverine and woodland systems. The forest is made up of valuable timber and broad-leaved species, including Zambezi Teak (*Baikiaea plurijuga*), Kiaat (*Pterocarpus angolensis*), and Mopane (*Colophospermum mopane*).

The ecologically rich surrounding forest serves as a crucial habitat and migratory route (corridor) for large mammals—particularly elephants—moving between Botswana and Zambia.

7. ANTICIPATED ENVIRONMENTAL IMPACTS

According to the EIA Regulations, the term “environment” is referred to the complex of natural and anthropogenic factors and elements which include both the natural environment and the human environment. Hence, this section provides anticipated environmental impacts (short-term and long-term) associated with the planning & design and construction of the proposed telecommunication tower. The assessment considered the potential impacts on the existing socio-economic and biophysical settings of the receiving environment as well as on the future land uses in the development area.

7.1. Impacts rating scales

In assessing the impact of the proposed development, four rating scales were considered. Each issue identified was evaluated in terms of the most important parameter applicable to environmental management. These include the ***extent, intensity, probability, and significance*** of the possible impact on the environment and whether such effects are positive (beneficial) or negative (detrimental). The rating scales used are as follows.

Table 4: Impact rating scales

CRITERIA	DESCRIPTION			
EXTENT	**National (4)** The whole country	**Regional (3)** Zambezi Region and neighbouring regions	**Local (2)** Within a radius of 2 km of the development site.	**Site (1)** Within the development site
DURATION	**Permanent (4)** Mitigation either by man or natural process will not occur in such a way or such a period that the impact can be considered transient	**Long-term (3)** The impact will continue/last for the entire operational life of the development but will be mitigated by direct human action or by natural processes thereafter.	**Medium-term (2)** The impact will last for the period of the project phase, whereafter it will be entirely negated	**Short-term (1)** The impact will either disappear with mitigation or will be mitigated through a natural process in a span shorter than the construction phase
INTENSITY	**Very High (4)** Natural, cultural, and social functions and processes are altered to extent that they permanently cease	**High (3)** Natural, cultural, and social functions and processes are altered to extent that they temporarily cease	**Moderate (2)** The affected environment is altered, but natural, cultural, and social functions and processes continue albeit in a modified way	**Low (1)** The impact affects the environment in such a way that natural, cultural, and social functions and processes are not affected
PROBABILITY	**Definite (4)** The impact will certainly occur	**Highly Probable (3)** Most likely that the impact will occur	**Possible (2)** The impact may occur	**Improbable (1)** The likelihood of the impact materializing is very low
SIGNIFICANCE	Is determined through a synthesis of impact characteristics. Significance is also an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The total number of points scored for each impact indicates the level of significance of the impact.			

Table 5: Description of the significance of impacts

Low impact	A low impact has no permanent impact of significance. Mitigation measures are feasible and are readily instituted as part of a standing design, construction, or operating procedure.
Medium impact	Mitigation is possible with additional design and construction inputs.
High impact	The design of the site may be affected. Mitigation and possible remediation are needed during the construction and/or operational phases. The effects of the impact may affect the broader environment.
Very high impact	Permanent and important impacts. The design of the site may be affected. Intensive remediation is needed during construction and/or operational phases. Any activity which results in a "very high impact" is likely to be a fatal flaw.
Status	Denotes the perceived effect of the impact on the affected area.
Positive (+)	Beneficial impact
Negative (-)	Deleterious or adverse impact.
Neutral (/)	The impact is neither beneficial nor adverse
It is important to note that the status of an impact is assigned based on the status quo. Therefore, not all negative impacts are equally significant.	
Significance Rating Scale Points 1-4 Insignificant/low Points 5-8 Significant /Moderate Points 9-12 Very significant/High. Points 13-16 Highly significant /Very high	

7.2. Anticipated negative impacts: Construction Phase

Construction activities for the proposed telecommunication tower are expected to cause several negative environmental impacts. However, due to careful site selection, most of these impacts will be negligible and can be mitigated to an acceptable level.

Table 6: Anticipated negative impacts during construction phase

ASPECT/ISSUE	POTENTIAL IMPACTS	SIGNIFICANCE RATING (BEFORE MITIGATION)				SIGNIFICANCE (WITH MEASURES)	MEASURES
		Extent	Duration	Intensity	Probability		
Flora (Vegetation)	Vegetation clearance during site preparation and establishment.	1	1	1	1	Low (-)	-The site contains no large trees. However, a few trees in the immediate surroundings will be affected during site clearance. However, these activities should be limited strictly to the designated footprint (80m^2).
	Some vegetation along the access path may be cleared to widen the road for heavy vehicles and machinery during the construction phase	1	1	1	1	Low (-)	-Few trees along the site access road will need to be cleared to pave way for construction vehicles.
	Dust generated from the construction site can cause measurable impacts on the vegetation of the surrounding forest	1	1	1	1	Low (-)	-The footprint for the construction is quite small; hence dust emission impact will be negligible.
Fauna	The clearance of vegetation will, in turn, cause disturbances to fauna.	1	1	1	1	Low (-)	-The proposed development site is not in a high-density area, hence only minimal disturbances to the local fauna are expected.

	The noise and dust generated by the construction site may cause disturbances to the local fauna.	1	1	1	1	Low (-)	-The proposed development site is not in a high-density area, hence only minimal disturbances to the local fauna are expected.
	Construction activities may also affect local occurring micro-fauna (rodents, reptiles, amphibians, and ground-nesting birds).	1	1	1	1	Low (-)	-The construction activities should be limited strictly to the designated footprint. -No trampling or killing of small animal should be permitted.
Soil	Excavation for the tower foundation and support structures will expose topsoil to wind erosion and may cause minor degradation.	1	1	2	1	Moderate (-)	-Carefully removing topsoil prior to building and stockpiling it in designated areas for later reuse. -Level stockpiled topsoil post-construction to restore the immediate aesthetic and prevent runoff.
	Alteration of soil health through compaction and contamination from leaks of oil, grease and hydraulic fluids.	1	1	2	1	Moderate (-)	-All machineries with oil leaks should be fitted with drip trays to contain leakages. -Contaminated soil should be collected and disposed of to the nearest dumpsite. -Refuelling of vehicles and machinery should be done at a designed transfer site supported with a bunding wall, big enough to contain 120% of the volume of the fuel tank.

Surface runoff and groundwater	Construction activities i.e. excavations and compaction may alter site surface runoffs (in case of heavy run-offs).	1	1	1	1	Low (-)	-Only operate within the limited area. -Avoid blockage of heavy run-offs.
	Construction of the foundation may result to a localized contamination of groundwater.	1	1	1	1	Low (-)	-Contaminated soil must be contained. -Cement mixing aera should be covered with impervious materials i.e. plastic.
Dust	Construction activities such as Excavation, vehicular movements, cement mixing will generate airborne dust which can cause air pollution.	1	1	1	1	Low (-)	-The construction site should be barricaded to arrest fugitive dust emission. -Enforce dust suppression by sprinkling with water. -Cement mixing should be done in enclosed area.
Noise	Operation of machinery and vehicular movement will generate localized noise and causing temporary nuisance to nearby residents	1	1	1	1	Low (-)	Operation should be limited to daytime (avoid odd hours)
Public health and safety risks	Dust and noise impacts from the construction site may not only be a nuisance but can also cause public health impacts to nearby residents. Open trenches and holes present significant fall, cave-in, and hazard risks.	1	1	1	1	Low (-)	-Erect security fencing (e.g., palisade) around the site to deter public access. -Erect construction signs around the site. -All excavations must be protected using physical barriers and covers. -Provide security services at the site 24/7 during the construction period.

Occupational health and safety risks	Workers will be exposed to dust, vibrations, high noise levels, sun exposure (sunstroke), and dehydration during the summer months. The safety of the public may also be compromised by certain construction activities i.e., uncovered trenches, increase in traffic volume generation of dust, noise, and vibration.	1	1	1	1	Low (-)	-Ensure all construction personnel are equipped with appropriate Personal Protective Equipment (PPE). -Ensure that, there is a safety representative who is equipped with a first aid kit at the construction site.
Waste generation	Construction activities will generate several types of solid wastes such as waste rocks, food refuse, trash, scrap materials, oily rags, and empty products containers. Additionally, liquid waste from construction camps will be generated. All these types of waste will have a negative impact on surrounding areas if not disposed of properly and regularly.	1	2	2	1	Moderate (-)	-Biodegradable waste such as tree branches, shrubs etc., resulting from site clearance should be kept separate from other waste and should be left to naturally decompose into the soil. -All general household waste generated at the site must be gathered and disposed to the nearest dumpsite (Katima Mulilo or Kongola). -Vehicles transporting waste should be sealed with a tarpaulin to avoid waste from being blown away by wind and prevent dust emissions.
Migrant construction workers	Temporary construction activities may cause an influx of people from different parts of the country in search of employment opportunities. Migrant construction workers are likely to engage in casual relationships with locals. This will result in unplanned pregnancies and may contribute to	1	1	2	1	Moderate (-)	-The scope of work requires certain expertise that may not be available locally. However, qualified locals should be given priority as far as possible. -Non-local employees should be encouraged to return to their original residential areas

	the spread of HIV/AIDS, especially among youth and school children						after completion of the contract. -Provide health education and awareness.
Construction camps	Improper positioning of construction camps and workshops could result in several environmental impacts such as pollution and contamination of the soil from spills and leaks of oil and lubricants. Placing construction camps and workshops next to residential areas could result in a nuisance to the residents.	1	1	2	1	Moderate (-)	-Provide ablution facilities, including showers and a water closet with running water during the construction phase. -The recommended ratio for toilets is 2 toilets for every 25 adults for separate for male and female as per the General Health Regulations (GN. 121 1969). -The floor of the maintenance workshop should be covered with industrial mats to contain oil and grease from vehicles and equipment servicing. -All operations should be limited to daylight and music played should not be at the discomfort of the neighbours. -No alcohol may be permitted in the construction camps and workshops. -Fireplaces (if any) should be properly secured and controlled

7.3. Anticipated positive impacts

The proposed development will also result in several positive impacts during the construction and operation phases. However, certain enhancement measures must be implemented to fully realize these positive impacts.

Table 7: Anticipated positive impacts

ASPECT	POTENTIAL IMPACTS	SIGNIFICANCE RATING (BEFORE MITIGATION)				SIGNIFICANCE (WITH MEASURES)	MEASURES
		Extent	Duration	Intensity	Probability		
1.	**Job opportunities** The proposed project will create job opportunities both direct and indirect for local people in technical and non-technical fields such as civil, electrical, mechanical, security, etc., especially during the construction phase.	2	1	2	2	Moderate (+)	-As part of the tender requirements, contractors must be encouraged to give priority to qualified locals if any.
	Gender roles Equal opportunities for men and women.	2	1	1	1	Moderate (+)	-Women must be afforded the same opportunities as men.
	Business opportunities The construction works will create business opportunities for consultants, building contractors, and local suppliers of building materials. Other local businesses such as guest houses, and street vendors will also benefit indirectly from the construction works.	2	1	1	1	Moderate (+)	-Building materials must be sourced from local businesses as far as possible. Qualified Namibian construction companies should be given a fair chance to compete in the bidding process.

	Economic prosperity During the construction phase, it is expected that the local economy will be beneficially impacted by increased temporary employment opportunities and business opportunities. Furthermore, the improved network coverage will contribute to the growth of the local economy by attracting investments and development in the area.	2	2	2	2	Moderate (+)	-Local people and businesses must be given a fair chance to benefit from the project.
	Provision of network coverage One of the significant positive impacts that will result from the proposed tower is the improved network coverage and provision of ICT services in the area and surrounding.	3	4	4	4	Very High (+)	-Provision should be made for multiple usage of the proposed tower to provide all necessary ICT services for the benefit of local school, businesses and community at large.

8. CONCLUSION AND RECOMMENDATIONS

8.1. Conclusion

The objective of the Scoping phase of the EIA study was to define the range of the environmental impact assessment and to determine the need to conduct any specialist study. It is believed that this objective has been achieved, and the study can be concluded at the Scoping level. The following conclusions have become apparent from this study:

- The construction of the proposed telecommunication tower is planned at a time when Masida and the surrounding villages are experiencing a lack of cell phone network coverage. The proposed tower is a great improvement for local schools, as it will enhance teaching and learning through better access to the network.
- Sufficient power supply is available from the existing transformer at the Masida Combined School to power the proposed tower.
- The proposed development site has been agreed upon by all relevant stakeholders (School Management, Traditional Authority, Masida Community). Since no objections were received from the I&APs or stakeholders, it is assumed that the proposed project is well-received by all.
- The exact location of the proposed tower will be shifted slightly to avoid impacting the functionality of the existing school soccer and netball fields.
- Only a small amount of vegetation along the existing access road to the development site will be cleared to make way for heavy delivery vehicles.
- All possible environmental aspects associated with the proposed construction activities have been adequately assessed and documented in the Scoping Report; therefore, there is no need for a specialist study.
- All necessary control, mitigation, and monitoring measures have been formulated to meet statutory requirements and are contained in this Scoping Report and the EMP (Annexure D).

8.2. EAP recommendations

a) Recommendations to the Proponent PowerCom (Pty) Ltd

- Inform the Contractor (Construction) to obtain approval from the local community forest office (Masida Community Forest, through the Chairperson – Mrs. Jennety Sauzuo – before cutting down any of the affected trees at the construction office.
- Conduct a comprehensive geotechnical analysis of the development site to test the structure, texture, and stability of the local soil.
- Consult with NORED to obtain approval for the power supply to the proposed tower.
- Ensure the registration of the servitude for the proposed tower with the relevant regulatory authority and complete the leasehold application and registration process with the Zambezi CLB.
- Appoint an Environmental Control Officer (ECO) to oversee the implementation of the EMP during the construction phase and provide performance reports to the Environmental Commissioner.
- Update the Scoping Report (this report) and operational EMP to include aspects of operation, maintenance and possible decommissioning u[on approval from the relevant regulatory authorities.

b) Recommendation to DEA

- Approve the findings of the Scoping process and mitigation measures contained in the Scoping.
- When deemed necessary, attach any condition/s to ensure environmental compliance and for the proposed project to meet statutory requirements.
- Authorize the issuance of the ECC to PowerCom (Pty) Ltd., for the proposed construction of a telecommunication tower in Masida village, Linyati Constituency, Zambezi region.

9. REFERENCES

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10. APPENDICES

10.1. Appendix A: Proposed Tower Design Integrity

10.2. Appendix B: Proof of Consultations

10.3. Appendix C: Consent Letter from MTA

10.4. Appendix D: EMP