DRAFT BASIC ASSESSMENT REPORT

FOR

THE PROPOSED CONSTRUCTION OF A TELECOMMUNICATION MAST

FOR

MOBILE TELEPHONE NETWORKS PTY LTD 100301 ZUSTERSTROOM

PORTION 2 OF THE FARM KRANSPOORT 448 JR

1/3/1/16/1N-146

COMPILED BY:

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LIST OF ACRONYMS

BAR	Basic Assessment Report
MTN	Mobile Telephone Network Pty Ltd
DARDLEA	Department of Agriculture, Rural Development, Land and Environmental Affairs
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
IAIAsa	International Association of Impact Assessment South Africa
HIA	Heritage Impact Assessment
I & AP	Interested and Affected Parties
IDP	Integrated Development Plan
MPHRA	Mpumalanga Heritage and Resources Agency
NDM	Nkangala District Municipality
NEMA	National Environmental Management Act
SAHRA	South African Heritage Resources Agency
SIP	Strategic Infrastructure Plans
SDF	Spatial Development Framework
SPLUMA	Spatial Planning and Land Use Management Act

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1. INTRODUCTION

An application is being made by Huawei TECHNOLOGIES PTY LTD on behalf of Mobile Telephone Network Pty Ltd (MTN) to the Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs (Nkangala District Office) for a Basic Assessment for the proposed telecommunications mast on the Portion 2 of the Farm Kraanspoort 448 JR. The application was submitted to DARDLEA and given reference number 1/3/1/16/1N-146. The proposed telecommunication mast is a 54m tree mast with a 15m x15m base station. The mast is to be placed on a site previously not used for this purpose in an area zoned as agricultural , thus triggering Listed Notice 3, Activity 3 (ii) (aa) : The development of masts or towers of any material or type used for telecommunication broadcasting or radio transmission purposes where the mast or tower , The proposed mast is to be placed outside an urban area, in an area within 10 km from national parks or world heritage sites or 5 km from any other protected area identified in terms of NEMPAA and therefore trigger Listed Notice 3, Activity 3 (f)(i) (gg)

1.1 DETAILS OF ENVIRONMENTAL ASSESSMENT PRACTITIONER

Table 1: EAP Details

EAP:	Ms Katlego Kale
Contact Person :	Ms Katlego Kale
Address:	UNIT 12 WOODLANDS OFFICE PARK WOODLANDS JOHANNESBURG 2191
Telephone	078 136 2284
Email:	katlego.kale@huawei.com/ katlego.kale9@gmail.com
EAP qualifications:	B.A Geography and Environmental Management, B Hons Spatial Planning, Masters in Urban and Regional Planning
EAP registrations/associations	IAIAsa 5023 SACPLAN C /8409/2017

1.2 EXPERTISE OF EAP TO CARRY OUT BASIC ASSESSMENT PROCESS

Ms Katlego Kale is a member of IAIAsa, IWMSA as well as SACPLAN. She holds a Bachelor's degree in Geography and Environmental Management, a Bachelor of Honours in Spatial Planning and Masters in Urban and Regional Planning. Ms Kale has over 4 years of experience in environmental management, including Basic Assessments, Full Scoping and EIR processes as well as landfill

management, monitoring and auditing, mining applications, liquor license applications and drafting environmental strategies and reports. She has worked throughout the Free State, KwaZulu Natal, Northern Cape, Gauteng and North West Provinces.

2. PROPERTY INFORMATION

2.1 PROPERTY DESCRIPTION

The proposed site is located on Portion 2 of the Farm Kranspoort 448 JR within the Thembisile Hani Local Municipality. The GPS coordinates for the site are 25 ° 37 12.53''S and 29° 02' 32.34'' E. The locality is seen below and on **Annexure A_ Locality**

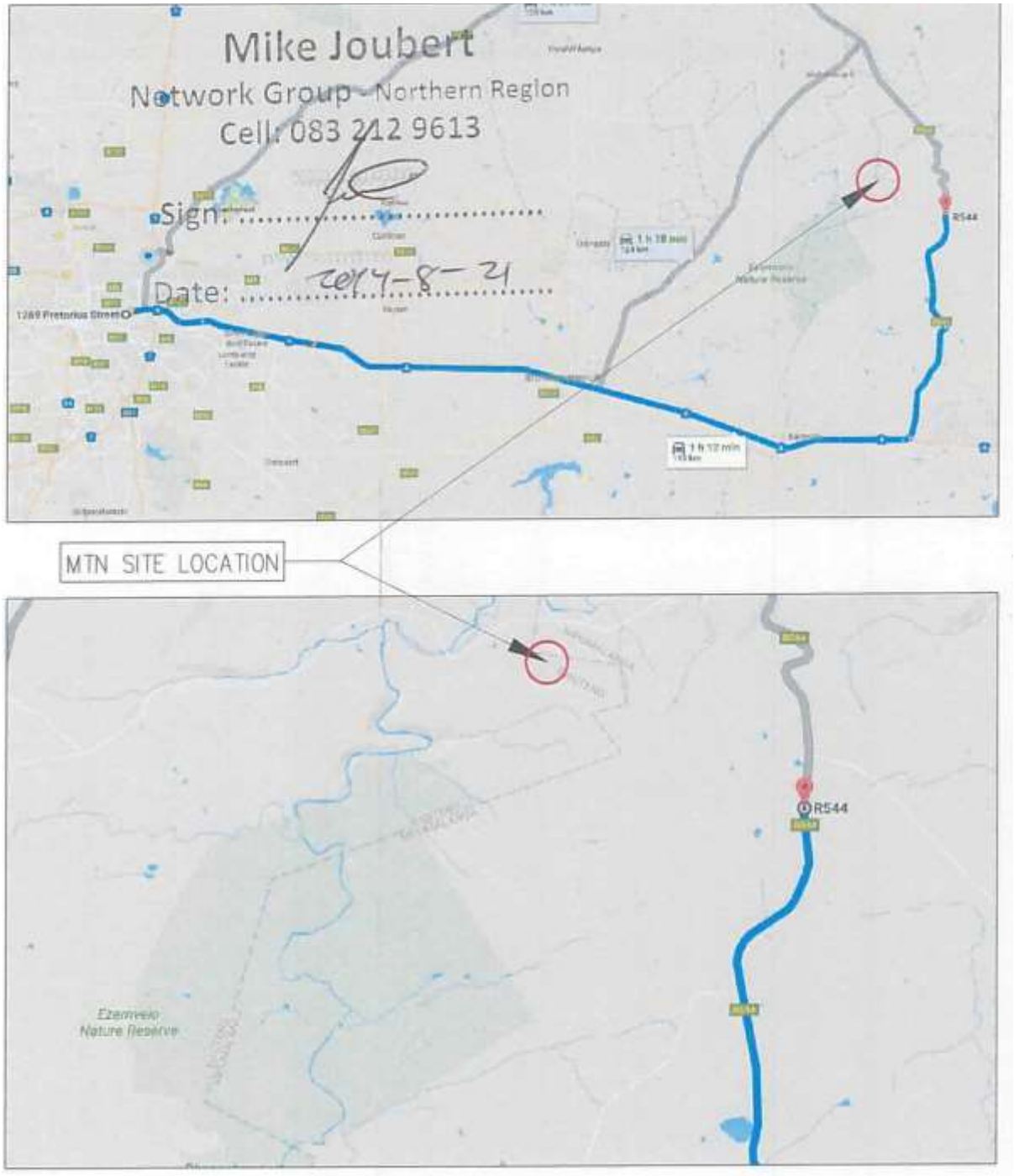

Figure 1: Locality of the proposed site

2.2 LOCAL AUTHORITY

The applicable property falls within the jurisdiction of Thembisile Hani Local Municipality.

2.3 REGISTERED OWNER

The property is registered in the name of NATIONAL GOVERNMENT OF THE REPUBLIC OF SOUTH AFRICA under title deed number T 21201/2015 as **Annexure B- Windeed Search /Lease Agreement**.

2.4 SIZE AND ZONING OF PROPERTY

The application property measures 809.8467 ha in extent. The land is currently zoned as AGRICULTURAL. See attached Annexure **B- Windeed Search / Lease Agreement**.

2.5 RESTRICTIVE CONDITIONS OF TITLE

There are no restrictive conditions in the Title Deed that prohibits the erection of the proposed mast.

2.6 TOPOGRAPHY

There are no indications from a topographical point available that shows that problems might arise due to the proposed development. The surrounding area to the proposed locality is relatively flat.

2.7 SUMMARY OF PROPOSED ACTIVITY

Site Name:	100301 Zusterstroom
Area Type:	Sub Urban
Mast Type:	Lattice
Mast Planned Height:	55 m
Site Location:	25 ° 37’ 12.53’’S and 29° 02’ 32.24’’ E
Local Authority:	Thembisile Hani Local Municipality
Zoning :	Agricultural

2.8 LOCALITY

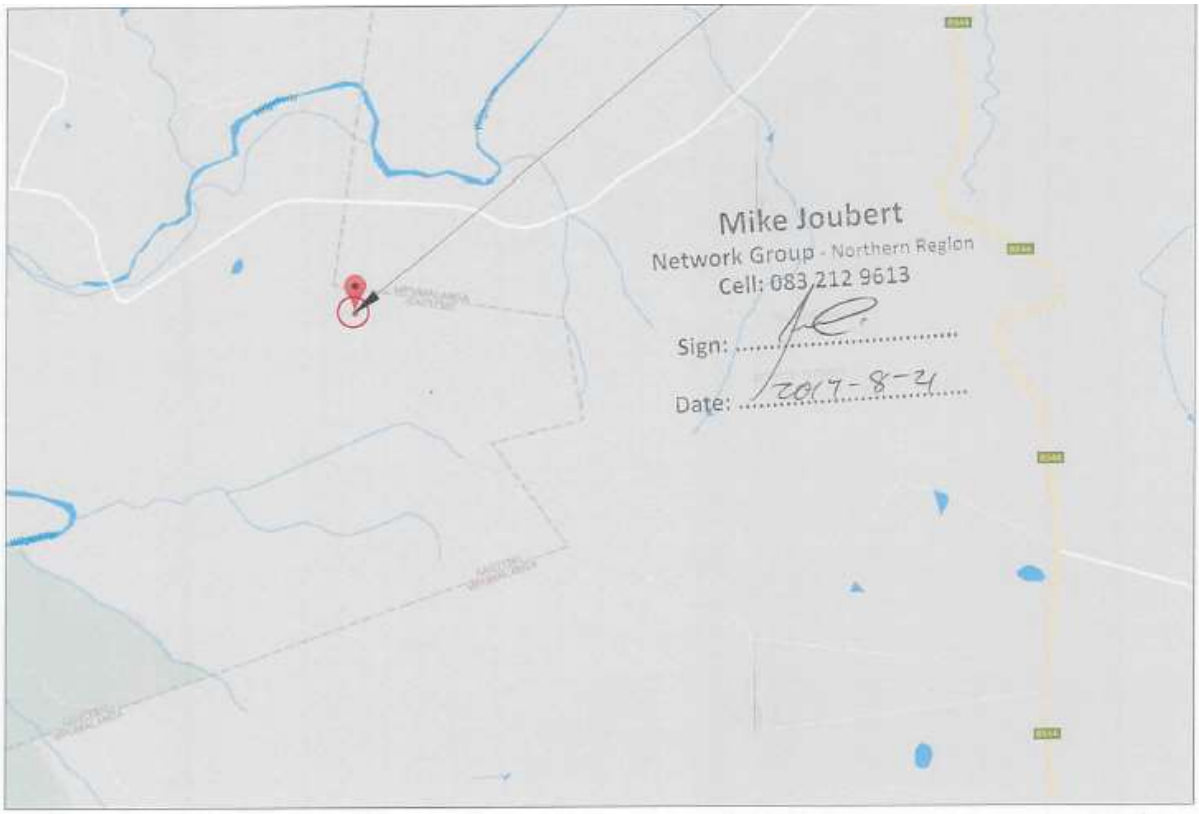

Figure 2: Locality of the proposed development

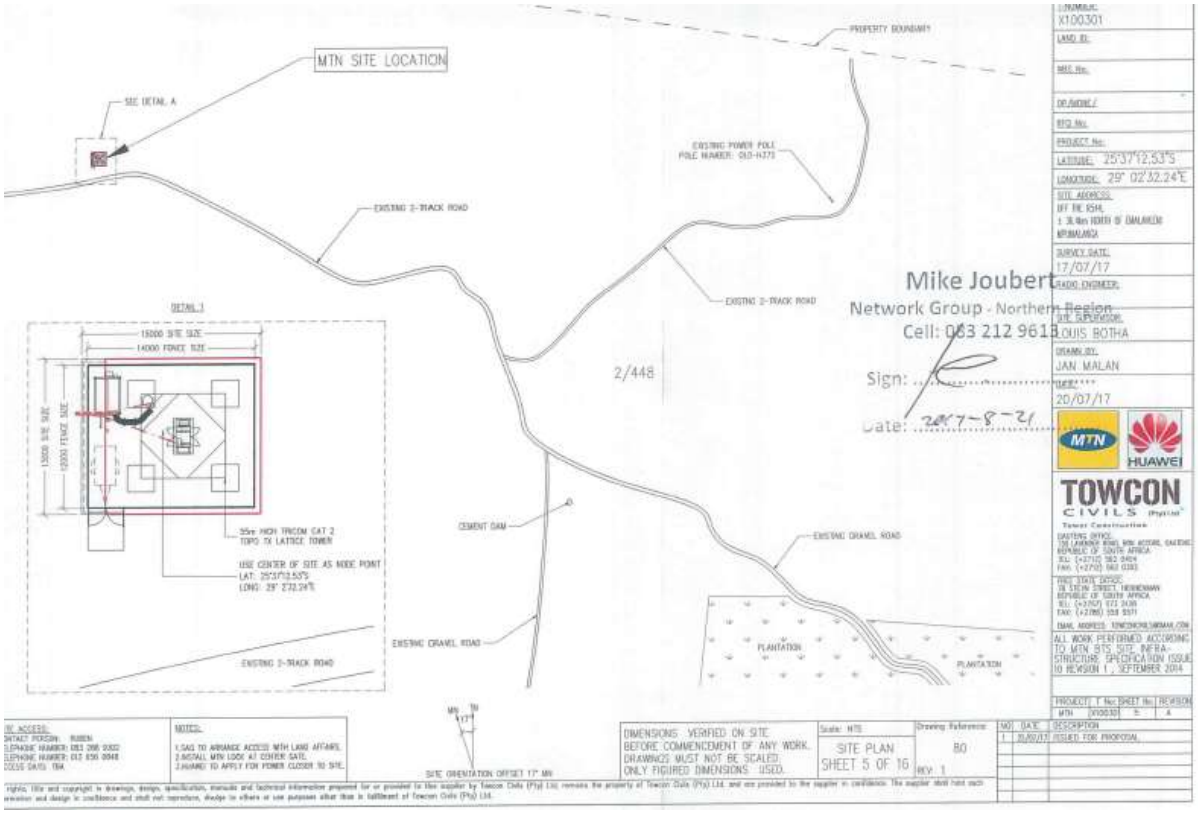

Figure 3: Site Development Plan

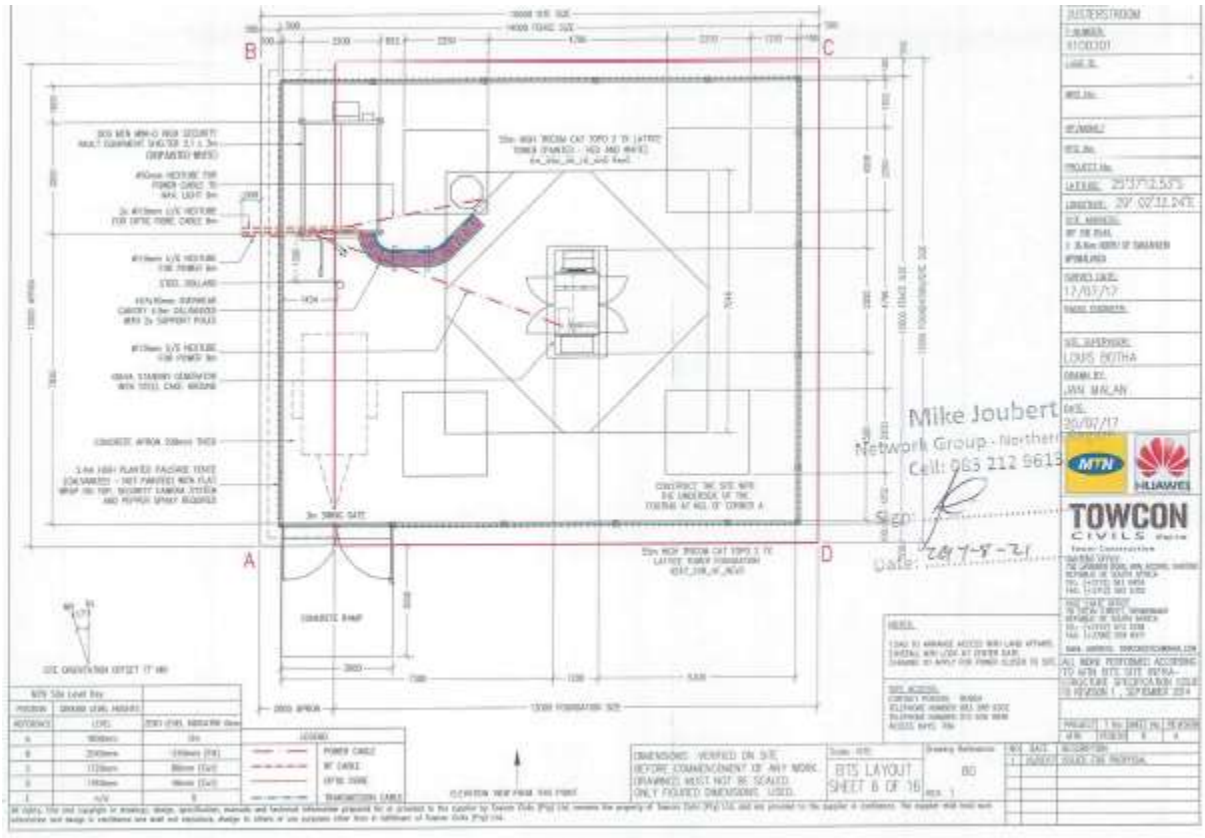

Figure 4: Facility Illustration

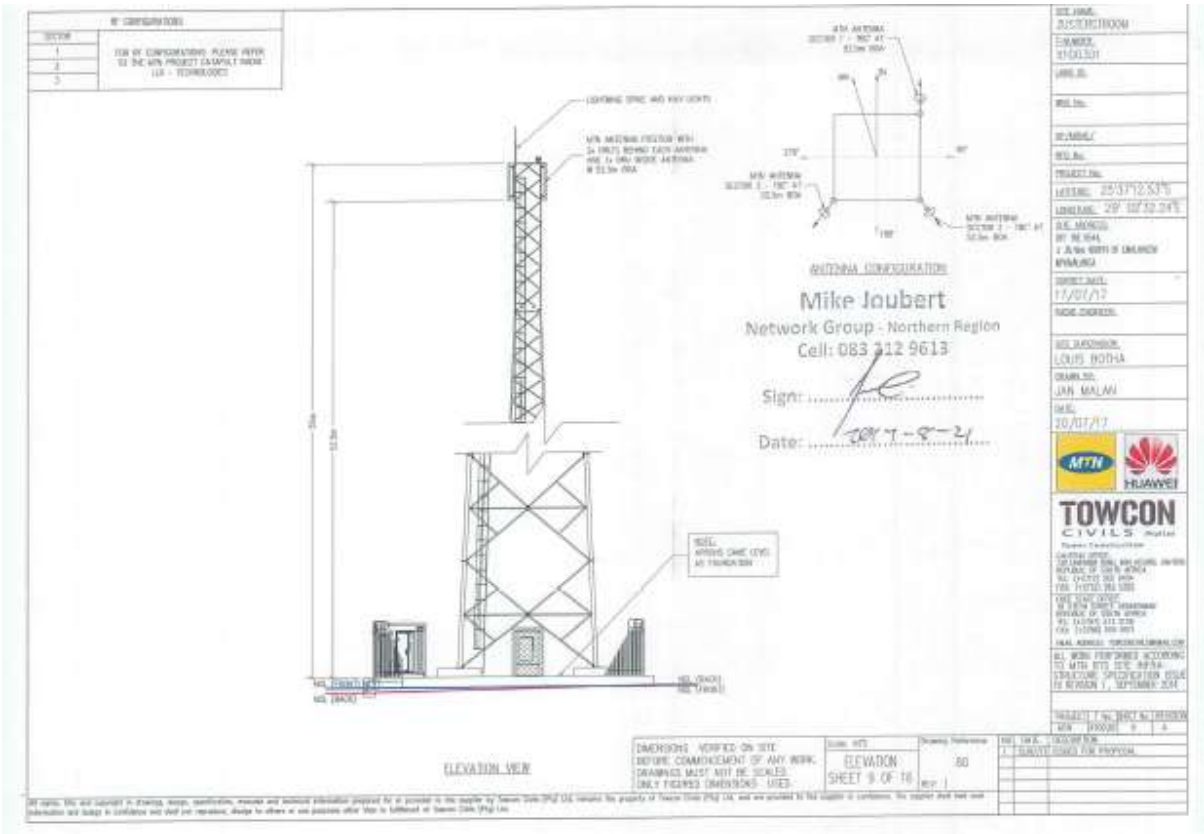

Figure 5: Lattice Mast Plan

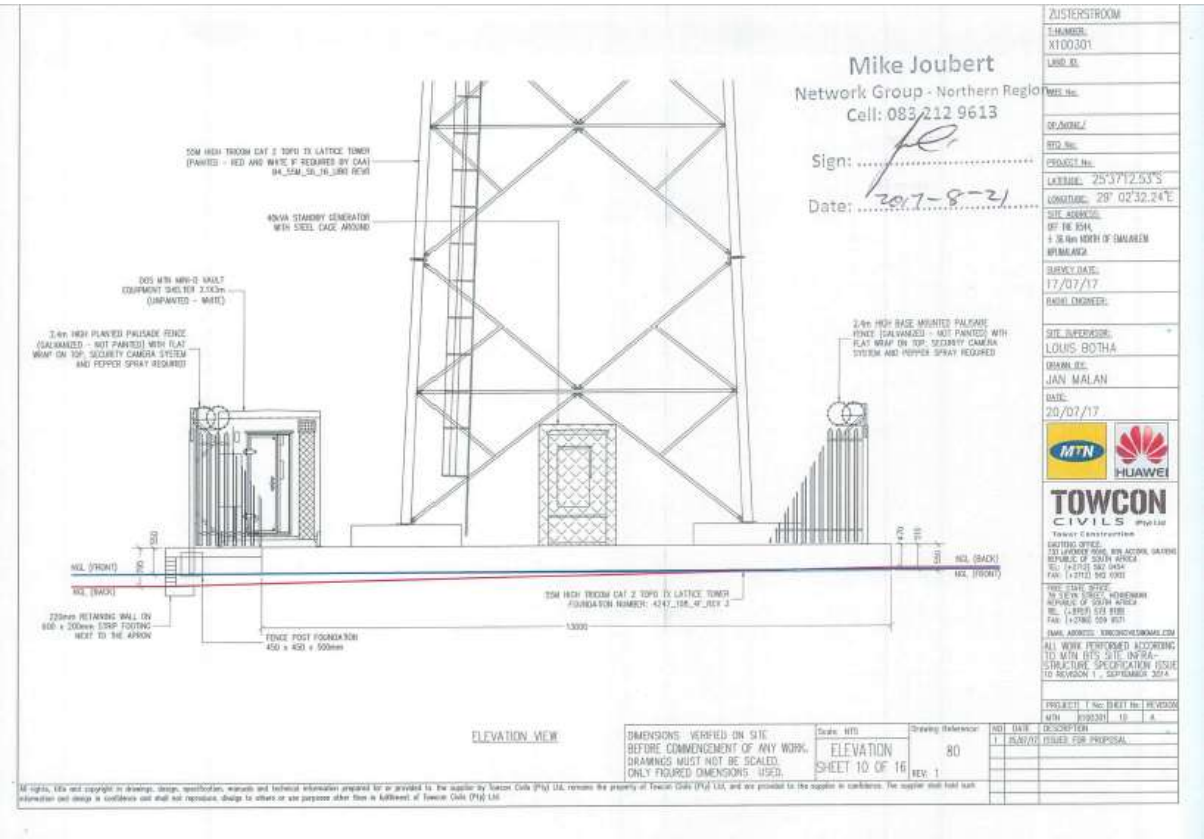

Figure 6: Lattice Mast Plan 2

3. LEGISLATION AND GUIDELINES

TITLE OF LEGISLATION, POLICY OR GUIDELINE	ADMINISTRING AUTHORITY	DATE
The Constitution of the Republic of South Africa , Act 108 of 1996	Parliament	1998
National Environmental Management Act, Act 107 of 1998 and related regulations & guidelines	Department of Environmental Affairs	1998
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	Department of Environmental Affairs	2004

National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA)	Department of Environmental Affairs	2008
The National Heritage Resources Act, Act 25 of 1999	South African Heritage Resource Agency	1999
Occupational Health and Safety Act , act 85 of 1993	Department of Labour	1993
Civil Aviation Act, 2009 (Act No. 13 of 2009) South African Civil Aviation Authority	Civil Aviation Authority	2009
Spatial Planning and Land Use Management Act , Act 16 of 2013(Approval in terms of town planning schemes and/or National Building Regulations)	Department of Rural Development and Land Reform/	2013
Mpumalanga Nature Conservation Act	Mpumalanga Provincial Government	1998
Steve Tshwete Local Municipality By Laws	Steve Tshwete Local Municipality	2016
Steve Tshwete Local Municipality Integrated Development Plan	Steve Tshwete Local Municipality	2018 Review
Model Noise Regulations published under the Environment Conservation Act	Republic of South Africa	1989

4. DESCRIPTION OF THE RECEIVING ENVIRONMENT

4.1 PHYSICAL ENVIRONMENT

The proposed site is relatively flat in gradient, with a plain landform. There is no geologically unstable characteristics on the site in terms of dolomite, unstable soils, or wetlands. The areas is also not susceptible to erosion and is not slopey. The groundcover present can be described as “natural veld in a good condition”. As indicated, the zoning is agricultural and the surrounding land use is the same. The proposed site is located near the Rhenosterspoort Private Nature Reserve, Ezemvelo Nature Rserve as well as the Wilgerivier. The proposed development only requires 1500 m^2 and therefore no major impacts are foreseen on the Nature Reserve or the river. With this in mind, a Wetland and Ecological Study may not be needed. This will be validated by the Environmental Officer.

4.2 BUILT ENVIRONMENT

In terms of the built environment, there is already access to the site, therefore no new site access is required. In addition to this, no water or water sources will be used and there is an AC power supply

box as seen in the attached pictures for the power supply. The proposed development is also in line with the property's existing land use rights. Processes to obtain approvals on Building Plans, Consent Use and Civil Aviation Authority are underway. These will be submitted once they are approved. Lastly, there will be solid waste on the site for a maximum of 6 weeks during the construction phase. The waste will be loaded on roadworthy vehicles and disposed of at a nearest registered landfill site. There will be no waste during the operational phase.

4.2 SOCIO-ECONOMIC ENVIRONMENT

With an increasing population in the municipality, it is evident that there is a need to update the telecommunication infrastructure of the area to accommodate the growing use of technology in our communities. The site is located within the urban edge, thus the IDP and SDF of the area were taken into consideration when choosing the site.

There will be minimum noise levels that emanate from the installation of air conditioners. The generated noise levels are within acceptable standards and will not disturb the immediate surroundings. There will be no liquid effluent from the proposed development and there will be exhaust emissions and dust will be produced during the construction phase. The construction phase will however be of very short period. During the operational phase, base stations transmit power levels from a few watts to 100 watts or more, depending on the size of the region or "cell" that they are designed to service. The South African Department of Health sets out safety guidelines for all emissions throughout the electromagnetic spectrum (including RF emissions from base stations). These guidelines were developed by the international commission on non-ionising radiation protection. In terms of the layout, site and technology alternatives, there were none investigated. The proposed mast site will offer ideal coverage. The mast is 55 m, 15 mx 15 m base and if it less than 55m, it will not have enough coverage thus requiring another mast to be built in the immediate area.

The no-go alternative will only come into effect should this report find that the proposed mast will have major environmental impacts on the receiving environment that cannot be mitigated within acceptable levels. The no-go alternative will, however leave the immediate area without any coverage, thus leaving a negative socio-economic impact of no effective coverage in the area.

5. ALTERNATIVES

5.1 PROPOSED ALTERNATIVES

There were no viable alternative proposed. The search for a suitable site starts with the identification of the need for improved cellular coverage in an area. The Radio Planners indicate the optimal position and sites within a 300m of this position is investigated. Due to the size of the farm and required MTN search ring (300m Radius) to provide the necessary coverage. The proposed site is optimal as it is not close to the river as well as the Nature Reserve

5.2 NO-GO ALTERNATIVE

The no-go alternative will only be considered once this report and the findings of the Mpumalanga DARDLEA finds that the development is unfavourable.

6. NEED AND DESIRABILITY

6.1 NEED

Cell phones have become an important part of the South African way of life and fulfil an important role in our daily lives. Through them, communication is made easier, quicker and readily available. In order to provide effective cell phone communication, cell masts have to be provided and placed at optimal locations. Huawei Technologies, has Portion 2 of the Farm Kranspoort 448 JR as an optimal position for the construction of the proposed mast.

Portion 2 of the Farm Kranspoort 448 JR was identified as a suitable candidate due to its location and existing infrastructure available such as electricity and road networks. The site is ideally located to provide the required coverage and functionality.

The area where the activity is proposed is experiencing challenges with their cellular network, therefore the applicant saw an opportunity to provide assistance by the provision of a cellular structure.

6.2 DESIRABILITY

The proposed activity is of public interest as it will provide a range of data signal and connectivity improvements in the immediate area. Furthermore the activity ensures sufficient telecommunications infrastructure that keeps up with trends. Lastly, this activity will also generate an income for the land owner, The National Government of the Republic of South Africa. The position of the mast will not affect the access or functionality of the property.

In addition to this, the proposed project is in line with the 17 Strategic Infrastructure Projects (SIP) as it deals with the expanding access to communication technology as well as the NDP 2030 vision by upgrading telecommunication infrastructure. This will have a positive impact on the community through effective communication channels.

Cellular telecommunication technology is an integral part of modern daily life and licensed cellular telecommunication service operators have an obligation in terms of their license agreements, as stipulated by national government, to provide the services throughout South Africa within the allocated bandwidth spectrum. The cellular telecommunication user base is still increasing (quantitative growth) and users must be enabled to choose the services rendered by any of the licensed operators anywhere in South Africa (choice and availability). The expansion of service types and content (content & technology growth) furthermore requires continuous equipment and network fine-tuning, upgrades and expansion. The user base also expects a continuous quality service to be provided and therefore network capacity and capabilities are under constant review to maintain or improve quality coverage (qualitative growth).

Due to the rural setting of the area, there is poor network connectivity. Therefore it has become essential to provide a new cellular base station in the area. Furthermore the cellular base station is proposed to accommodate six service providers thus ensuring that the residents of the area have a wide variety of service providers to choose from.

The benefits that the activity will have for society in general are:

- Better cell phone Network/ signal coverage and Cellular Communication
- Security
- Socio-economic development
- Improved medical response

The benefits that the activity will have for the local communities where the activity will be located are:

- Better cell phone Network/ signal coverage and Cellular Communication
- Security
- Socio-economic development
- Improved medical response

The motivation and benefits to society in general above apply to the local community directly.

6.3 ORDELY PLANNING

There are no restrictive conditions on title deed number **T 21201/2015** that prohibit the construction of a cellular mast on the property. The mast will be 70 m which requires a Civil Aviation Authority (CAA) approval. The activity does trigger listed notice 3, activity 3 in the 2014 EIA regulations hence and EA is being sought from DARDLEA. The proposed activity will also comply with all regulatory legislation.

7. PUBLIC PARTICIPATION PROCESS

The Public Participation Process allows for I &AP to identify their issues and concerns relating to the proposed activity, which they feel should be addressed in the EIA process. According to Section (2)(4)(f) and (o) of the Namath participation of all I&AP in environmental governance must be promoted and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured, and - the environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage.

In order to give effect to the above sections, it is essential to ensure that there is adequate and appropriate opportunity for public participation in decisions that may affect the environment. Section 24(1A) (c) of the Act allows for this participation by requiring that the person conducting PP comply with any regulated procedure related to public consultation and information gathering through the public participation process (PPP). Further to this, the Act requires that the person conducting a PPP must take into account any relevant guidelines applicable to PP as contemplated in section 24J of the Act. The planned public participation for this proposed project is outlined below.

7.1 PUBLIC PARTICIPATION METHODS

As this is the Draft BAR, public participation is still to be undertaken. This will include the following measures:

- A copy of the BAR will be stationed at Thembisile Hani Local Municipality Nkangala District Municipality for comments
- A newspaper advert will be placed in the Witbank News ;and
- Site notices will be placed on site and nearby/ adjacent sites.
-

The final public participation process with the methods followed will be included in the Final BAR to be submitted to the Department.

7.2 AUTHORITY PARTICIPATION

In addition to the above mentioned methods, the following authorities will be consulted for their inputs

Table 2: Authority participation

AUTHORITY	Contact person	Contact Details
Nkangala District Municipality	Mpho Nembilwi	013 249 2000 nembilwim@nkangala.gov.za
Thembisile Hani Local Municipality	B Mahlangu	013 986 9111 MahlanguB3@thembisilehanilm.gov.za
South African Heritage Resource Agency	B Moduka	013 766 5196 bmoduka@mpg.gov.za
South African Civil Aviation Authority	Simphiwe Masilela	011 607 1228 SimphiweM@atns.co.za obstacles@caa.co.za

7.3 ISSUES AND RESPONSES REPORT

No responses, comments and issues have been raised on the proposed development as the public participation process has not been carried out yet. This section of the BAR will be included in the Final BAR with all issues and responses and how they were handled.

8. IMPACTS OF THE PROPOSED MAST ON THE ENVIRONMENT

8.1 METHODOLOGY

This section briefly describes the methodology utilised in the rating of significance of impacts.

Table 3: Methodology

RATING	DEFINITION OF RATING	SCORE
A. EXTENT – *THE AREA IN WHICH THE IMPACT WILL BE EXPECTED*		
None		**0**
Local	**Confined to project or study area or part thereof (eg. site)**	**1**
Regional	The region, which may be defined in various ways, eg. Cadastral, catchment, topographic	**2**
(Inter) national	Nationally or beyond	**3**
B. INTENSITY – *THE MAGNITUDE OR SIZE OF THE IMPACT*		
None		**0**
Low	Natural and/or social functions and processes are negligibly altered	**1**
Medium	Natural and/or social functions and processes continue albeit in a modified way	**2**
High	Natural and/or social functions or processes are severely altered	**3**
C. DURATION – THE TIME FRAME FOR WHICH THE IMPACT WILL BE EXPERIENCED		
None		**0**
Short term	Up to 2 years	**1**
Medium term	2 – 15 years	**2**
Long Term	More than 15 years	**3**

The combined score of these three criteria corresponds to a Consequence Rating, as set out in Table 4 below:

Table 4: Consequence rating

COMBINED score (A+B +C)	**0 - 2**	**3 - 4**	**5**	**6**	**7**	**8-9**
Consequence Rating	**Not significant**	**Very low**	**Low**	**Medium**	**High**	**Very high**

Once the consequence is derived, the probability of the impact occurring is considered, using the probability classifications indicated in Table 5 below:

Table 5: Probability Classification

Probability of impact – the likelihood of the impact occurring	
Improbable	**< 40% chance of occurring**
Possible	**40% - 70% chance of occurring**
Probable	**> 70% - 90% chance of occurring**
Definite	**> 90% chance of occurring**

The overall significance of impacts is determined by considering consequence and probability using the rating system indicated in Table 6 below:

Table 6: Impact significance ratings

Significance Rating	Consequence		Probability
Insignificant	**Very low**	**&**	**Improbable**
	Very low	**&**	**Possible**
Very Low	**Very low**	**&**	**Probable**
	Very low	**&**	**Definite**
	Low	**&**	**Improbable**
	Low	**&**	**Possible**
Low	**Low**	**&**	**Probable**
	Low	**&**	**Definite**
	Medium	**&**	**Improbable**
	Medium	**&**	**Possible**
Medium	**Medium**	**&**	**Probable**
	Medium	**&**	**Definite**
	High	**&**	**Improbable**
	High	**&**	**Possible**
High	**High**	**&**	**Probable**
	High	**&**	**Definite**
	Very high	**&**	**Improbable**
	Very high	**&**	**Possible**
Very High	**Very high**	**&**	**Probable**
	Very high	**&**	**Definite**

In conclusion the impacts are also considered in terms of their status (positive or negative impact) and the confidence in the ascribed impact significance rating. The prescribed system for considering impacts status and confidence (in assessment) is indicated in table below.

Table 7: Impact status and classification

Status of Impact	
Indication of where the impact is adverse (negative) or beneficial (positive)	+ ve (positive – a 'benefit')
	- ve (negative – a 'cost')
	Neutral
Confidence of assessment	
The degree of confidence in predictions based on available information, EAP's judgement and/or specialist knowledge	Low
	Medium
	High

The impact significance rating should be considered by DARDLEA in their decision-making process based on the implications of ratings ascribed below:

- **Insignificant:** the potential impact is negligible and will not have an influence on the decision regarding the proposed activity / development;
- **Very low:** the potential impact should not have any meaningful influence on the decision regarding the proposed activity / development;
- **Low:** the potential impact may not have any meaningful influence on the decision regarding the proposed activity / development;
- **Medium:** the potential impact should influence the decision regarding the proposed activity / development;
- **High:** the potential impact will affect the decision regarding the proposed activity / development;
- **Very high:** The proposed activity should only be approved under special circumstance.

9. IMPACT ASSESSMENT

9.1 CONSTRUCTION PHASE

The table below outlines the possible impacts as well as their significance for the proposed telecommunications mast.

Potential Impact	Extent A	Intensity B	Duration C	Consequence A+B+C	Probability	Impact Significance	Status	Confidence
1. AIR QUALITY								
1.1 Dust/Air pollution - The generation of fugitive dust associated with construction activities & earthworks.	**Local (1)**	**Low (1)**	**Short term (1)**	**Very low (3)**	**Definite**	**Very low & Definite = Very low**	**-ve**	**High**
2. VISUAL IMPACT								
2.1 Visual Impacts due to clearance of site, cut and fill	**Local (1)**	**Low (1)**	**Short term (1)**	**Very low (3)**	**Definite**	**Very low & Definite = Very low**	**-ve**	**High**
3. GEOLOGY AND SOILS								
3.1 Soil erosion, loss of topsoil, deterioration of soil quality	**Local (1)**	**Low (1)**	**Short term (1)**	**Very low (3)**	**Definite**	**Very low & Definite = Very low**	**-ve**	High
3.2 Soil pollution	**Local (1)**	**Low (1)**	**Short term (1)**	**Very low (3)**	**Definite**	**Very low & Definite = Very low**	**-ve**	High
3.3 Disturbance of surface geology for development foundations	**Local (1)**	**Low (1)**	**Short term (1)**	**Very low (3)**	**Definite**	**Very low & Definite = Very low**	**-ve**	Med
4. FAUNA AND FLORA								
4.1 Degradation, destruction of habitats/ ecosystem	**Local (1)**	**Low (1)**	**Short term (1)**	**Very low (3)**	**Definite**	**Very low & Definite = Very low**	**-ve**	**High**

Potential Impact	Extent A	Intensity B	Duration C	Consequence A+B+C	Probability	Impact Significance	Status	Confidence
4.2.1 Impacts on fauna and flora Habitat fragmentation Changes to abiotic environmental conditions; Changes to disturbance regimes e.g. decreased or increased incidences of fire; Changes to successional processes; effects on pollinators; And increased invasion by plants and animals not endemic to the area.	**Local (1)**	**Low (1)**	**Short)**	**Very low**	**Definite**	**Very low &**	**-ve**	**High**
4.2 Degradation, destruction of fauna and avifaunal ecosysyte,	**Local (1)**	**Low (1)**	**Short term (1)**	**Very low (3)**	**Definite**	**Very low & Definite = Very low**	**-ve**	**High**
Potential Impact	**Extent A**	**Intensity B**	**Duration C**	**Consequence A+B+C**	**Probability**	**Impact Significance**	**Status**	**Confidence**
5. HYDROLOGY								
5.1 Storm water flow and drainage- Developments cause the modification of drainage patterns. Storm water may be concentrated at certain points, increasing the velocity of flow in one area and reducing flow in another. This may contribute to flooding, soil erosion, and sedimentation	**Local (1)**	**Low (1)**	**Short term (1)**	**Very low (3)**	**Definite**	**Very low & Definite = Very low**	**-ve**	**High**
SOCIO-ECONOMIC AND CULTURAL HISTORICAL ENVIRONMENT								
6. ISSUE AESTHETICS, SITE CHARACTER AND SENSE OF PLACE								

6.1 Noise/ vibration	**Local (1)**	**Low (1)**	**Short term (1)**	**Very low (3)**	**Definite**	**Very low & Definite = Very low**	**-ve**	**High**
7. ISSUE SOCIAL WELL-BEING AND QUALITY OF THE ENVIRONMENT								
7.1 Safety and Security	**Local (1)**	**Low (1)**	**Short term (1)**	**Very low (3)**	**Definite**	**Very low & Definite = Very low**	**-ve**	**High**
7.2 Job opportunities	**Local (1)**	**Low (1)**	**Short term (1)**	**Very low (3)**	**Definite**	**Very low & Definite = Very low**	**-ve**	**High**
7.3 Visual impact Site clearing and removal of vegetation could partially alter the landscape as viewed from the surrounds of the site, with the emergence of exposed areas of bare soil. Construction vehicles equipment such as cranes could be visually intrusive(for a short period of time)	**Local (1)**	**Low (1)**	**Short term (1)**	**Very low (3)**	**Definite**	**Very low & Definite = Very low**	**-ve**	**High**
Potential Impact	**Extent A**	**Intensity B**	**Duration C**	**Consequence A+B+C**	**Probability**	**Impact Significance**	**Status**	**Confidence**
8. HISTORICAL ENVIRONMENT								
8.1 Destruction of cultural / heritage sites	**None**	**None**	**None**	**Not significant (0)**	**Improbable**	**Not significant & improbable = insignificant**	**-ve**	**Medium**
9. INFRASTRUCTRE AND SERVICES(WASTE)								
9.1 Waste	**Local (1)**	**Low (1)**	**Short term (1)**	**Very low (3)**	**Definite**	**Very low & Definite = Very low**	**-ve**	**High**

9.2 OPERATIONAL PHASE

Potential Impact	Extent A	Intensity B	Duration C	Consequence A+B+C	Probability	Impact Significance	status	Confidence
1. FAUNA AND FLORA								
1.1. Alien invasion	**Local (1)**	**Low (1)**	**Long term (3)**	**Low (5)**	**Definite**	**Low & Definite = Low**	**-ve**	**Medium**
1.2 Destruction of habitat	**Local (1)**	**Low (1)**	**Long term (3)**	**Low (5)**	**Definite**	**Low & Definite = Low**	**-ve**	**Medium**
2. HYDROLOGY								
2.1 Erosion of adjacent areas	**Regional (2)**	**Low (1)**	**Long term (3)**	**Medium (6)**	**Probable**	**Medium & probable = Medium**	**-ve**	**Medium**
SOCIO-ECONOMIC AND CULTURAL HISTORICAL ENVIRONMENT								
3. SOCIAL WELL-BEING AND QUALITY OF THE ENVIRONMENT								
3.1 Safety and Security	**Local (1)**	**Low (1)**	**Long term (3)**	**Low (5)**	**Probable**	**Low & probable = Low**	**-ve**	**High**
4. TRAFFIC								
4.1 Structure might impact on air traffic if it does not have day night markings	**Regional (2)**	**Medium (2)**	**Long term (3)**	**High**	**Probable**	**Low & probable = Low**	**-ve**	**Medium**

No Go				
Potential impacts:	**Significance rating of impacts (positive or negative):**	**Proposed mitigation:**	**Significance rating of impacts after mitigation:**	**Risk of the impact and mitigation not being implemented**
Construction Phase				
The no-go option has no impacts during the Construction phase				
Operational Phase				
Insufficient network coverage for the area	**Medium**	**Provision of sufficient cellular coverage**	**Low**	**Low**

10. MITIGATION MEASURES

10.1 CONSTRUCTION PHASE

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
1. AIR QUALITY				
1.1 Dust/Air pollution - The generation of fugitive dust associated with construction activities & earthworks.	Very Low	• Dust generation should be kept to a minimum. • Dust must be suppressed on construction areas during dry periods by the regular application of water or a biodegradable soil stabilisation agent. • Speed limits must be implemented in all areas, including public roads and private property to limit the levels of dust pollution. • It is recommended that the clearing of vegetation from the site should be selective and done just before construction so as to minimise erosion and dust. • Excavating, handling or transporting erodible materials in high wind or when dust plumes are visible shall be avoided. • All materials transported to site must be transported in such a manner that they do not fly or fall off the vehicle. This may necessitate covering or wetting friable materials. • No burning of refuse or vegetation is permitted.	Very Low	Negative impact to the ambient air quality of the area.
2. VISUAL IMPACT				
2.1 Visual Impacts due to clearance of site, cut and fill.	Very Low	• Site development to be limited to footprint and access road.	Very Low	Aesthetics of the undisturbed nature of the area affected.
3. GEOLOGY AND SOILS				
3.1 Soil erosion, loss of topsoil, deterioration of soil quality	Very Low	• Strip topsoil prior to any construction activities. • Reuse topsoil to rehabilitate disturbed areas. • Topsoil must be kept separate from overburden and must not be used for building purposes or maintenance or access roads. • Appropriate erosion and storm water management structures must be installed around the • construction siteyards, refueling depots, concrete	Very Low	

		batching plant etc. to avoid areas susceptible to soil and water pollution. • Ensure appropriate handling of hazardous substances • Remediate polluted soil. • All construction vehicles, plant, machinery and equipment must be properly maintained to prevent leaks. • Plant and vehicles are to be repaired immediately upon developing leaks. Drip trays shall be supplied for all repair work undertaken on machinery on site or campsite area. • Drip trays are to be utilised during daily greasing and re-fueling of machinery and to catch incidental spills and pollutants. • Drip trays are to be inspected daily for leaks and effectiveness, and emptied when necessary. This is to be closely monitored during rain events to prevent overflow. • Vehicles to be used during the construction phase are to be kept in good working condition and should not be the source of excessive fumes. • Fuels and chemicals must be stored in adequate storage facilities that are secure, enclosed and bunded. • All excavations and • foundations must be inspected regularly		
3.2 Disturbance of surface geology for development foundations	Very Low	• Site development to be limited to footprint and access road	Very low	
4. FAUNA AND FLORA				
4.1 Degradation, destruction of habitats/ ecosystem and protected species	Very Low	• Minimise construction footprints prior to commencement of construction and control all edge effects of construction activities (proliferation of alien vegetation, disturbance of soils, dumping of construction waste). • Existing roads should be utilized wherever possible to provide access to construction area. • Ensure that erosion management and sediment controls are strictly implemented from thecommencement of construction and control all edge effects of construction activities (proliferation of alien vegetation, disturbance of soils, dumping of construction waste). • Existing roads should be utilized wherever possible to provide access to construction area.	Very Low	Removal of natural vegetation on the footprint of the mast and associated infrastructure, and the possible damage of surrounding vegetation by contractors during the construction phase. The vegetation immediate surrounding the construction footprint is in good condition and could be affected. footprint of the mast and associated infrastructure, and the possible damage of surrounding vegetation by contractors during the construction phase. The vegetation immediate surrounding the construction footprint

4. FAUNA AND FLORA				
		• Ensure that erosion management and sediment controls are strictly implemented from the		is in good condition and could be affected.
		beginning of site clearing activities. • Clearly demarcate areas to be cleared and ensure that vegetation clearing only occurs within the demarcated areas • Ensure that erosion management and sediment controls are strictly implemented from the beginning of the site clearing activities		
4.2 Impacts on fauna and flora	Very Low	• The contractor must ensure that no fauna species are disturbed, trapped, hunted or killed during the construction phase. • The illegal hunting or capture of wildlife will not be tolerated. Such matters will be handed over to the relevant authorities for prosecution. • Disturbance to birds, animals and reptiles and their habitats should be prevented at all times. • All Declared Weeds and invaders must be removed • Rehabilitation with indigenous species • Rocky outcrops and bush clumps to be demarcated as sensitive and no impact or destruction thereof to be allowed.	Very Low	Destruction of protected species the bush clumps present 15m from the site provide arboreal habitat for birds, reptiles and small animals as do the rocky outcrops on which these bush clumps occur.
4.3 Impacts on fauna and flora	Medium	• The contractor must ensure that no fauna species are disturbed, trapped, hunted or killed during the construction phase. • The illegal hunting or capture of wildlife will not be tolerated. Such matters will be handed over to the relevant authorities for prosecution. Disturbance to birds, animals and reptiles and their habitats should be prevented at all times. • All Declared Weeds and invaders must be removed • Rehabilitation with indigenous species	Low	Destruction of protected species the bush clumps immediately surrounding the proposed site provide arboreal habitat for birds, reptiles and small animals as do the rocky outcrops on which these bush clumps occur.

4.4 Disturbance of fauna species	Medium	• Areas not part of the site development should be marked as no-go zones • No disturbance of any rocky outcrops are allowed	Low	Loss of habitat	
5. **HYFROLOGY**					
5.1 Storm water flow and drainage- Developments cause the modification of drainage patterns. Storm water may be concentrated at certain points, increasing the velocity of flow in one area and reducing flow in another. This may contribute to flooding, soil erosion, and sedimentation	Very Low	• Storm water measures to be implemented prior to construction taking place on site: • All measures should be implemented during the construction of earthworks (terraces and roadways) to ensure that disturbed soil is not transported into any water course or system where storm water is to flow. Building rubble and other products that can cause contamination must be managed according to best practice and monitored by the site's environmental control officer (ECO).	Very Low	Modification of drainage patterns and erosion	

		properly during site operations.		
7. ISSUE SOCIAL WELL-BEING AND QUALITY OF THE ENVIRONMENT Preferred Alternative and Alternative 1				
6. HYDROLOGY				
6. AESTHETICS, SITE CHARACTER AND SENSE OF PLACE				
6.1 Noise/ vibration	Very Low	• Noise levels shall be kept within acceptable limits, and construction crew must abide by National Noise Laws and local by-laws regarding noise. • No sound amplification equipment such as sirens, loud hailers or hooters are to be used on site except in emergencies and no amplified music is permitted on site. • Construction / management activities involving use of the service vehicle, machinery, hammering etc, must be limited to the hours between 7:00am and 5:30pm weekdays; 7:00am and 1:30pm on Saturdays; no noisy activities may take place on Sundays or Public Holidays. • Activities that may disrupt neighbours (e.g. delivery trucks, excessively noisy activities etc.) must be preceded by notice being given to the affected neighbours at least 24 hours in advance. • Equipment that is fitted with noise reduction facilities (e.g. side flaps, silencers etc.) must be used as per operating	Very Low	
7. SOCIAL WELL-BEING AND QUALITY OF THE ENVIRONMENT				
7.1 Safety and security	Very Low	• entrance gates to the site camp indicating that no temporary jobs are available, thereby limiting opportunistic labourers and crime. • The site and crew are to be managed in strict accordance with the Occupational Health and Safety Act (Act No. 85 of 1993) and the National Building Regulations • All structures that are vulnerable to high winds must be secured (including toilets). • Potentially hazardous areas such as trenches are to be cordoned off and clearly marked at all times. • The Contractor is to ensure traffic safety at all times, and shall implement road safety precautions for this purpose when works are undertaken on or near public roads. • Necessary Personal Protective Equipment (PPE) and safety	Very Low	

		gear appropriate to the task being undertaken is to be provided to all site personnel (e.g. hard hats, safety boots, masks etc.). • All vehicles and equipment used on site must be operated by appropriately trained and / or licensed individuals in compliance with all safety measures as laid out in the Occupational Health and Safety Act (Act No. 85 of 1993) (OHSA). • An environmental awareness training programme for all staff members shall be put in place by the Contractor. Before commencing with any work, all staff members shall be appropriately briefed about the EMP and relevant occupational health and safety issues. • All construction workers shall be issued with ID badges and clearly identifiable uniforms. • Access to fuel and other equipment stores is to be strictly controlled. • Emergency procedures must be produced and communicated to all the employees on site. This will ensure that accidents are responded to appropriately and the impacts thereof are minimised. This will also ensure that potential liabilities and damage to life and the environment are avoided. • Adequate emergency facilities must be provided for the treatment of any emergency on the site. • The nearest emergency service provider must be identified during all phases of the project as well as its capacity and the magnitude of accidents it will be able to handle. Emergency contact numbers are to be displayed conspicuously at prominent locations around the construction site and the construction crew camps at all times. • The Contractor must have a basic spill control kit available at each construction crew camp and around the construction site. The spill control kits must include absorptive material that can handle all forms of hydrocarbon as well as floating blankets / pillows that can be placed on water courses. • The Contractor shall make available safe drinking water fit for human consumption at the site offices and all other working areas. • Washing and toilet facilities shall be provided on site and in the Contractors camp. • Adequate numbers of chemical		

		toilets must be maintained in the Contractors camp to service the staff using this area. At least 1 toilet must be available per 20 workers using the camp. Toilet paper must be provided. • The chemical toilets servicing the camp must be maintained in a good state, and any spills or overflows must be attended to immediately. • The chemical toilets must be emptied on a regular basis. • The Contractors site must be located on the high side of the site so any leakages or spillages will be contained on site. • HIV AIDS awareness and education should be undertaken by all Contractor • staff.		
7.2 Job opportunities	Very Low	• Make use of local labour • Provide clear and realistic information regarding employment opportunities and other benefits for local communities in order to prevent unrealistic expectations. • Provide skills training for construction workers.	Very Low	
7.3 Visual impact Site clearing and removal of vegetation could partially alter the landscape as viewed from the surrounds of the site, with the emergence of exposed areas of bare soil. Construction vehicles equipment such as cranes could be visually intrusive albeit for a short period of time.	Low	• Area to be cleared to be clearly marked.	Very Low	Scarring of landscape
8. HISTORICAL ENVIRONMENT				
8.1 Destruction of cultural / heritage sites	Insignificant	• Ensure that construction staff members are aware that heritage resources could be unearthed and the scientific importance of such finds. • Ensure that heritage objects are not to be moved or destroyed without the necessary permits from the South African Heritage Resources Agency (SAHRA) in place.	Insignificant	
9. INFRASTRUCTURE AND SERVICES (WASTE)				
9.1 Waste	Very Low	• Adequate number of waste disposal receptacles is to be positioned at strategic locations within the development. • No burning of waste. • Waste will be collected and removed off-site to a registered waste site.	Very Low	Litter and aesthetic impact on the immediate area

10.2 OPERATIONAL PHASE

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
1. FAUNA AND FLORA				
1.1. Alien invasion	Low	• Site to be kept neat and weed free	Very Low	Infestation of adjacent areas
1.2 Disturbance of fauna species	Medium	• No access to adjacent areas for maintenance personnel allowed.	Low	Continues impact on habitat
1.3 Disturbance of fauna species	High	• No access to adjacent areas for maintenance personnel allowed.	High	Continues impact on habitat
2 . HYDROLOGY				
2.1 Erosion of adjacent areas	Medium	• Erosion and storm water from site to be checked regularly. • Should erosion take place the storm water situation to be rectified	Low	Water quality of surface bodies could be affected
SOCIO- ECONOMIC AND CULTURAL HISTORICAL ENVIRONMENT				
3. SOCIAL WELL-BEING AND QUALITY OF THE ENVIRONMENT				
3.1 Safety and Security	Low	• Site to be secured. • Regular checkup on fencing	Very low	
3.2 1 Structure might impact on air traffic if it does not have day night markings	High	• Mast to have markings	Medium	

11. ENVIRONMNETAL IMPACT STATEMENT

The main purpose of the proposed mast is to enable required coverage and functionality. For cell phone use, which is an important part of people's everyday lives. As a necessary part of infrastructure and a business service, this development is bound to have a positive effect on the surrounding area in terms of communication, and it will provide a needed service to the immediate area

From a purely biophysical perspective the area impacted on by the mast is relatively small especially due to the fact that the site will be accessed from an existing road and is to be situated adjacent to a dirt road that has been identified. The positive impact of the activity will, taking into consideration the implementation of mitigation measures to minimise negative impacts on the environment have a positive overall impact. The biophysical impact of the development will be limited in a local context, and will be more than offset by the social benefits for the immediate urban development. The proposal can therefore proceed from an environmental perspective.

1. Physical Impacts:
    - The planning and design of the telecommunication base station is considerate of any operational and public demands and is done on the principle of minimising any negative impacts on the receiving environment
    - The negative impacts during construction phase as indicated in section 6 of this report are temporary and will not have long term effects on the proposed development or immediate area. The impacts will only last for a maximum of 6 weeks, which is the construction period.
    - The site may be, upon agreement, used by additional telecommunication service providers. This mitigation measure will minimise the establishment of base stations within the immediate area.
2. Biological Impacts:
    - There are no expected or proven biological impacts that will result from the proposed development. The area is currently an open space and only 1400 m^2 of grassland will be removed from the footprint area.
3. Socio-Economic Impacts:
    - There will be optimum network coverage for the immediate and surrounding areas

- An additional income on the part of the land owner, which is an opportunity to generate revenue by the landowner.

The construction phase will be of short duration and operational phase will have limited environmental impacts if constructed according to the conditions outlined in this report and if managed according to the EMPr.

12. RECOMMENDATIONS OF PRACTITIONER

As per the requirements of the National Management Act (Act 107 of 1998), the Basic Assessment Report has identified and assessed potential environmental impact associated with the development. It is therefore my recommendation that, the proposed 55 m lattice telecommunication mast on Portion 2 of the Farm Kranspoort 448 JR be granted Environmental Authorization with the following conditions:

- Measures must be implemented for the duration of the construction period to prevent unauthorized entry to the construction site;
- Dust suppression measures must be implemented during the construction phase to minimise pollution;
- All other town planning and regulatory permits must be adhered to before construction of the mast.
- All prevention and mitigation measures mentioned in this report and Empire must be implemented and monitored.