



**DRAFT BASIC ASSESSMENT REPORT FOR  
THE PROPOSED DEVELOPMENT OF A 54M  
HIGH LATTICE MAST WITH A 16MX 16M BASE  
STATION IN THE MAGANGANGOZI RURAL  
AREA IN BERGVILLE, WITHIN OKHAHLAMBA  
LOCAL MUNICIPALITY**

**September 2020**



ICEBO ENVIRO PROJECTS



EIA File Reference Number:

**BASIC ASSESSMENT REPORT**

**Submitted in terms of the Environmental Impact Assessment Regulations, 2014 promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998)**



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**SECTION A: DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER AND SPECIALISTS**

**1. Name and contact details of environmental assessment practitioner (EAP)**

Name and contact details of the EAP who prepared this report:

Business name of EAP:	<b>ICEBO ENVIRO PROJECTS</b>		
Physical address:	<b>SUITE 2B, NO: 8 OLD MAIN ROAD, HILLCREST, 3650</b>		
Postal address:	<b>P.O. BOX 29156, HILLCREST</b>		
Postal code:	<b>3650</b>	Cell:	<b>079 307 3282</b>
Telephone:	<b>079 307 3282</b>	Fax:	<b>086 549 8430</b>
E-mail:	<b>shangen@iceboenviro.co.za</b>		

**2. NAMES and expertise OF Representatives of the EAP**

Names and details of the expertise of each representative of the EAP involved in the preparation of this report:

Name of representative of the EAP	Education qualifications	Professional affiliations	Experience at environmental assessments (yrs.)
<b>MONICA SHANGE</b>	<b>BSc HONOURS in environmental science</b>	<b>IAIA, SACNASP(Pr Nat Sci)</b>	<b>13</b>

**3. NAMES and expertise of specialists**

ORGANISATION	SPECIALIST	EXPERTISE
<b>ARCHAETNOS CULTURE &amp; CULTURAL RESOURCE CONSULTANTS</b>	Heritage Impact Specialists	BA (HONS) Archaeology
<b>BIODIVERSITY COMPANY</b>	Ecology Assessment Report	M.Sc. Aquatic Health (Pr Sci Nat)

**SECTION B: ACTIVITY INFORMATION**

**4. PROJECT TITLE**

Proposed Development of a 54M high Lattice Mast with a 16X16 Base Station in the Magangangozi Rural Area in Bergville, under aMangwane traditional council, within Okhahlamba Local Municipality

## 5. PROJECT DESCRIPTION

On behalf of MTN pty ltd, Huawei technologies south Africa is proposing to develop a 54M high Lattice Mast with a 16X16 Base Station with an approximate 2.4M network cabinet Magangangozi Rural Area in Bergville, under aMangwane traditional council, within Okhahlamba Local Municipality. It is proposed that a 2x 500mm concrete strips will be built as access road to the site which will be 530m long. The structure will have palisade fence, battery cabinets which will be situated on a precast and a generator space. The distance to the main power supply is 400m .The development site is within 6 km of the boundaries of Cathedral Peak, a World Heritage site, but the distance between the site and the physical Cathedral Peak is 19 km. The project area is located within the 10 km buffer zone of the uKhahlamba Drakensberg Park .Within this context, the buffer is regarded as an area extending 10 kilometres from the proclaimed boundary of a world heritage site or national park and 5 kilometres from the proclaimed boundary of a nature reserve, respectively. The land use of the surrounding proposed site is a mosaic of rural land which is situated 200 m from the proposed development with subsistence agriculture. The infrastructure that exists in the project area and surrounds is Secondary roads, Telephone lines, and Rural homesteads. The site is located on top of a hill in a rural settlement. The soil is compacted and slightly sandy with shale exposed closer to the bottom of the hill. The ground is covered with grasses and ferns. Most of the vegetation is native, but grass cover is low with a dense under footing. The project area is situated within the sub-escarpment grassland bioregion of the grassland biome. The scale of the mast (54 m high with a footprint of 256 m<sup>2</sup>) is thus is very limited, low impact at most. This is especially due to the topography of the area with various foothills between the site and the WHS. The site also lies close to a rural village which may experience some low negative visual impact. The latter however needs to be weighed up against the positive impacts due to the accessibility of cell phone signal. Houses from the nearby village are only to be found to the south west of the proposed site. Thus impact will be limited in only one direction as far as people are concerned. This impact will be approximately 1 km as the rolling hills in the landscape would prevent the mast from being seen from further away.

### Ecological findings

Forty-five (45) species of indigenous flora species were recorded throughout the assessment area, and species distribution was spatially heterogenous. None of the species recorded were of conservation concern. The relatively low species richness is attributed to the degraded and transformed character of the assessment area. Declared weeds and invader plant species have the tendency to dominate or replace the canopy or herbaceous layer of natural ecosystems, thereby transforming the structure, composition and function of these systems. Therefore, it is important that these plants are controlled and eradicated by means of an eradication and monitoring programme. Some invader plants may also degrade ecosystems through superior competitive capabilities to exclude native plant species. Five distinct habitat types were observed within the assessment area and have been defined as Degraded Grassland, Drainage Line, Rocky Grassland, Scrub Forest and Transformed. Transformed habitat refers to human settlements and associated infrastructure, agricultural fields and forestry. This habitat type was not considered for further details and the assessment of possible impacts associated with the development of the base station and mast. Degraded grassland occupied the highest proportion of the assessment area but species depauperate with respect to indigenous flora.



Figure 1: locality map with google image showing the proposed development of a 54M high Lattice Mast in the Magangangozi Rural Area in Bergville, within Okhahlamba Local Municipality.

**6. Ownership of land**

The property is owned by Ingonyama Trust board under the tribal authority of Amangwe Traditional council, farm name upper uTugela, farm no:4794 Title deed number G4794/1886

**7. Location of the activity**

7.1 The Surveyor-General 21-digit site (erf/farm/portion) are as follows:

N	O	G	S	0	0	0	0	0	0	0	0	4	7	9	4	0	0	0	0	3
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

7.2 The location and geographical coordinates for the site are as follows:

Magangangozi/Bergville	Latitude /Longitude	Degrees	Minutes	Seconds
	South	28	53	21.6
	East	29	19	32.50



## 8. Activity DESCRIPTION

Activity	Indicate the number and date of the relevant notice:	Activity No (s) (in terms of the relevant or notice):	Describe each listed activity as per the project description (and not as per wording of the relevant Government Notice)¹:
Proposed Development of a 54M high Lattice Mast with a 16X16 Base Station in the Magangangozi Rural Area in Bergville, within Okhahlamba Local Municipality.	R .985, Listing Notice 3 of 2014	Activity 3 (listing notice 3)	The development of masts or towers of any material or type used for telecommunication broadcasting or radio transmission purposes where the mast or tower— (a) is to be placed on a site not previously used for this purpose; and (b) will exceed 15 metres in height— but excluding attachments to existing buildings and masts on rooftops. xii. Outside urban areas: (aa) Areas within 10 kilometres from national parks (cathedral peak) or world heritage sites or 5 kilometres from any terrestrial protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve. Cathedral peak national parks is 6km away from the proposed site

### 8.1 MOTIVATION FOR OVERALL PREFERRED SITE, ACTIVITIES AND REASONABLE ALTERNATIVES

The **preferred site** is considered as a **preferred alternative** based on the following: The application **site is ideally located to provide assisted coverage. The existing MTN sites on their own are unable to provide good radio coverage in this area due to the hilly terrain.** The site is located at higher ground elevation and therefore its antennas have the advantage of transmitting signals into the surrounding valleys. The afore-mentioned proposed installation of a mast underwent a comparison exercise on location alternatives. There were no suitable sites found because the mountainous nature of the area coverage factors had to be considered. Furthermore, cathedral peak hotel raised concerns about the lack network coverage in the area. Therefore tourist, government officials working in the area and local people are deprived of coverage network in the area. Thus, lack of service delivery. The “no-go” option is also considered. Therefore, no alternative sites or activities are considered in the assessment. The area is rural with hill terrain and this site will also help to cover the nearby villages.



Figure 2: Google Earth Location showing distance between the two proposed and existing masts. The nearest mast and being used by MTN is 2.7km



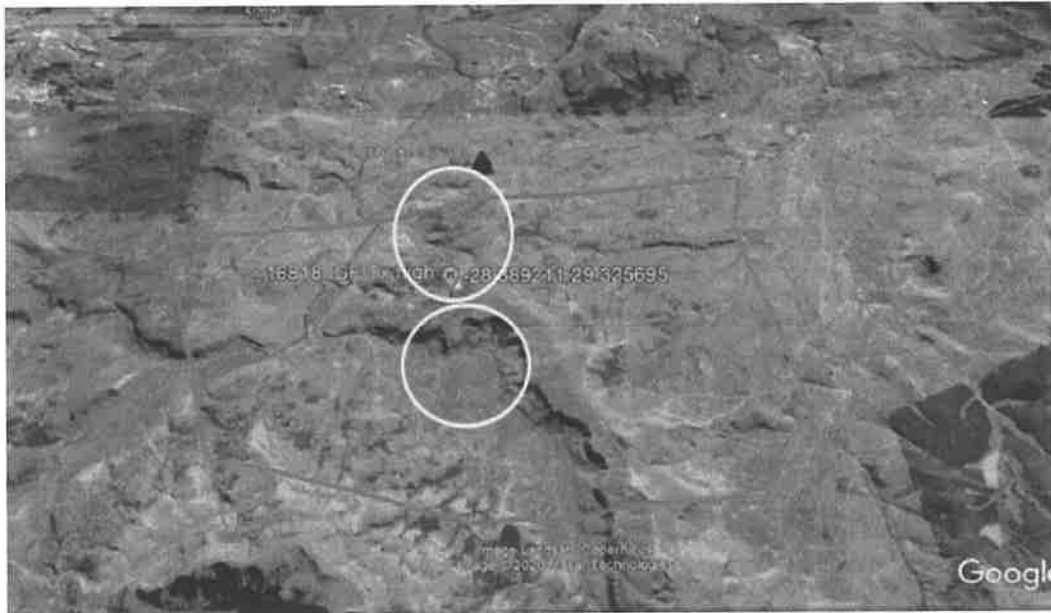


Figure 3: Area type and Requirement evaluation:



Figure 4: Current coverage map

Figure 4 above depicts the current coverage in the area with 2 operational sites. The colour legend is classified as follows:

- RED – poor Coverage
- GREEN – good Coverage

Note the improvement of the coverage in the areas that are demarcated by the red enclosures. From the improved coverage in this plot, we can justify that this area requires more sites to provide better network coverage.

- As a Tx high sites, it will also provide better signal coverage to neighbouring communities.
- The nominal point lies on green open space and the only other land use occurring in close proximity is residential.
- Agricultural areas are the most ideal locations and will always be the first option.
- MTN will always look at utilising third party mast/buildings to meet coverage requirements before opting to build a mast. This is also a cheaper option for MTN, but no 3rd party sites available at planned location.
- Aesthetics and mast placement are carefully considered when a site is being planned/built.

#### Technology alternatives

The propagation of cell phone signals is very much dependent on the environment. Terrain hilly have cause and effect on the intensity of the radio signal. Cell phone frequencies are transmitted in three main frequency bands, namely:

- The 900MHz band
- The 1800MHz band
- The 2100MHz band

A correlation exists between the frequencies of transmission versus the propagation distance. Lower frequencies travel further when compared to higher frequencies.

Frequencies in the 900MHz band can travel further and diffract around the corners of buildings.

Frequencies in the 900 MHz band are used in rural areas to reach subscribers that are located far away from the tower. Typically, the distance covered by frequencies in the 900MHz band can be more than of 15KM. The frequencies in the 1800MHz and 2100MHz band have a shorter range of coverage. These frequencies tend to travel in more of a direct line of site and have a limited ability to diffract around corners. Therefore the 900MHz band is the preferred technology based on the above-mentioned benefit of the technology

### **9. Physical size of the activity**

The proposed development comprises of a 54M high Lattice Mast with a 16X16 Base Station in the Magangangozi Rural Area in Bergville, within Okhahlamba Local Municipality. The proposed development will comprise of a 54M high Lattice Mast with a 16X16 Base Station with an approximate 2.4M network cabinet. It is proposed that a 2x 500mm concrete strips will be built to access the site which will be 530m long. The structure will have palisade fence, battery cabinets which will be situated on a precast and a generator space.

### **10. SITE OR ROUTE PLAN**

A detailed site or route plan(s) is attached to this report.

## 11. Site PHOTOGRAPHS

Colour photographs from the centre of the site have been taken in at least the eight major compass directions with a description of each photograph. Photographs are attached to this report.

## 12. ACTIVITY MOTIVATION

### 12.1 Need and desirability of the activity

There was a request by the Cathedral peak hotel requesting for additional network coverage in the area due to lack of network connectivity (see attached Cathedral peak hotel request letter). 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 must be provided and placed at optimal locations. The area where the activity is proposed is experiencing challenges with their cellular network, therefore the applicant saw an opportunity to aid by the provision of a cellular structure. Furthermore, the application site is ideally located to provide assisted coverage. The existing MTN sites on their own are unable to provide good radio coverage in this area due to the hilly terrain. The site is located at higher ground elevation and therefore its antennas have the advantage of transmitting signals into the surrounding valleys. Therefore the Lattice Mast Development will contribute to economic development within the municipality. MTN and Huawei technologies south Africa has plans to boost local socio-economic development through this proposed project, which is surrounded by the village, and will provide employment opportunities, thus stimulating development in the community. The proposed project therefore is an effort to make use of available opportunities and development and thus uplift the local community and tourism.

### 12.2 Benefits that the activity will have for society in general:

Magangangozi local community, the Cathedral Peak local tourist industry will benefit by having an efficient network coverage in the area therefore this will provide adequate service delivery to the people in the area. 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 enough telecommunications infrastructure that keeps up with trends. 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. 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, cathedral peak hotel have raised concerns about the lack network coverage in the area. Therefore tourist, government officials working in the area and local people are deprived of coverage network in area. The application site is ideally located to provide assisted coverage. The existing MTN sites on their own are unable to provide good radio coverage in this area due to the hilly terrain. The area is rural with hill terrain and this site will also help to cover the nearby villages. 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
- Better cell phone Network/ signal coverage and Cellular Communication
- Security
- Socio-economic development
- Improved medical response

The Lattice Mast Development will have positive impacts on local community in terms of providing employment and local economic development. The project will have major undertakings and will bring short term job opportunities locally. The people and the changes they bring can have significant impacts on the local communities and social structures. Increased and improved national network coverage footprint enabling users to communicate on the network. Additional fulfilment of one of government's objectives to ensure the establishment of national communication network grids and services as part of a sustainable economic growth pattern. It will furthermore ensure that the communication capability and capacity of the local community will keep pace with the ever growing and availability of communication facilities nationwide. The area has a very low

population density and the proposed activity will also be located on a far, therefore the possible negative impacts such health concerns and visual impact have no significance for society in general.

### **13. Applicable legislation, policies and/or guidelines**

List of legislation, policies and/or guidelines of any sphere of government that are relevant to the application

Title of legislation, policy or guideline:

- 2014 EIA Regulations under NEMA
- National Environmental Management Act (No 107 of 1996 (as amended))
- National Environmental Management: Biodiversity Act (No 10 of 2002)
- National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM: WA)
- The Constitution of the Republic of South Africa, Act 108 of 1996
- The National Heritage Resources Act, Act 25 of 1999
- Occupational Health and Safety Act, act 85 of 1993
- Civil Aviation Act, 2009 (Act No.13 of 2009) South African Civil Aviation Authority
- Spatial Planning and Land Use Management Act, Act 16 of 2013(Approval in terms of town planning schemes and/or National Building Regulations
- National Health Act 61 of 2003
- Environmental Conservation Act 1989 (act no. 73 of 1989)

### **14. Waste, effluent, emission and noise management**

Solid waste will be removed from site by a registered waste removal company where it will be disposed at the appropriate registered landfill site. The rubble will be disposed of by a registered waste company from site to the garden and rubble refuse site situated at the appropriate registered site. Solid waste will be removed from site by a registered waste removal company where it will be disposed at the appropriate registered landfill site. During the Lattice Mast Development construction phase, it is expected that there will be short term dust and fuel emissions from vehicles and machinery. However, the dust and fuel emissions will be of medium to short term and have an impact on the immediate surrounding areas. Where appropriate dust suppression measures will be implemented to reduce the impacts i.e. usage of truck water sprayers along the access road when truck are coming in and out of the site to reduce dust, set speed limit to the truck around the site etc. It is recommended that vehicles be serviced (not from site) and kept in good mechanical condition.

#### **14.1 Generation of noise**

Noise generation will be forthcoming as a result of the construction phase. Noise will be limited to working hours (7.00am to 17.00) and would comprise of excavators and other machinery. Noise must be approximate 10dB to 20dB maximum. There may be aesthetically negative problem of the humming sound made by power generators during operation is to mute the sound by using fibreglass panels to cover the generator box.

#### **14.2 WATER USE**

Water will be used for domestic use i.e. drinking etc.; municipality portable water will be delivered in a tank regularly.

#### **14.3 Energy Efficiency**

High technological mobile telecommunication operating systems are in principle designed for minimum, cost effective energy consumption in order to preserve resources and to optimise the financial yield generated by the base station.

**SECTION C: SITE/ AREA/ PROPERTY DESCRIPTION**

**15. GRADIENT OF THE SITE**

This topography of the area with various foothills between the site and the WHS. The site also lies close to a rural village which may experience some low negative visual impact. The latter however needs to be weighed up against the positive impacts due to the accessibility of cell phone signal. Houses from the nearby village are only to be found to the south west of the proposed site. Thus, impact will be limited in only one direction as far as people are concerned. This impact will be approximately 1 km as the rolling hills in the landscape would prevent the mast from being seen from further away.

**15.1 Geology & Soils**

The soil is compacted and slightly sandy with shale exposed closer to the bottom of the hill. The Drakensberg Formation lies as the upper most strata of the Karoo Sequence and comprises basaltic lava the formation comprises basaltic lava, with subordinate fine-grained sand stone and agglomerate. The geomorphology of the greater part of the basalt zone of an escarpment separating the elevated interior from the coastal hinterland. These soils have developed from base rich basalt material in a cool to a cold climate, and with high rainfall. The Lithosolic soil pattern covers most of the main high Drakensberg escarpment

**15.2 Land use character of surrounding area Description of current land use:**

The area that was surveyed is located along the foothills of the northern Drakensberg in KwaZulu-Natal. Accordingly, it shows typical Highveld characteristics including grassland with isolated trees. The latter are mostly foreign species such as Black Wattle. The site is located on top of a hill in a rural settlement of Magangangozi. The soil is compacted and slightly sandy with shale exposed closer to the bottom of the hill. The ground is covered with grasses and ferns. Most of the vegetation is native, but grass cover is low with a dense under footing. The land use of the surrounding area is a mosaic of rural land with subsistence agriculture. The following infrastructure exists in the project area and surroundings; secondary roads, telephone lines and rural homesteads.

**15.3 Description of specific environmental features and infrastructure on site:**

The development site is within 6 km of the boundaries of Cathedral Peak, a World Heritage site, but the distance between the site and the physical Cathedral Peak is 19 km. The project area is located within the 10 km buffer zone of the uKhahlamba Drakensberg Park. Within this context, the buffer is regarded as an area extending 10 kilometres from the proclaimed boundary of a world heritage site or national park and 5 kilometres from the proclaimed boundary of a nature reserve, respectively. The land use of the surrounding proposed site is a mosaic of rural land with subsistence agriculture. The infrastructure that exists in the project area and surrounds is Secondary roads, Telephone lines, and Rural homesteads. The site is located on top of a hill in a rural settlement.

**16. Summary of Specialist Report findings**

List of studies undertaken	Recommendations of Specialist Reports	Specialist recommendations that have been included in the EIA report (mark with an x where applicable)	Reference to applicable section of report where specialist recommendations have been included.
Heritage Impact Assessment Report	This report is seen as ample mitigation as there will be no impact on any heritage resources. This includes Cathedral Peak, which will not be visually affected. The development site within 6km of the boundaries of the Cathedral Peak, a World Heritage site, but the distance between site and the physical Cathedral Peak is 19km. The scale of the mast (54m high with a footprint of 256m2) is thus is very limited, low impact at the most. This is especially due to the topography of the area with	x	Project description, impact assessment of the Bar and EMP

	<p>various foothills between the site and the WHS. The site also lies close to a rural village which may experience some low negative visual impact. The latter however needs to be weighed up against the positive impacts due to the accessibility of cell phone signal. Houses from the nearby village are only to be found to the south west of the proposed site. Thus, impact will be limited in only one direction as far as people are concerned. This impact will be approximately 1km as the rolling hills in the landscape would prevent the mast from being seen from further away. The development may thus continue. This may continue after receiving the necessary comments from the Kwazulu-Natal Provincial Heritage Resources Authority (AMAFA) and implementing their decision. It should be noted that the subterranean presence of archaeological and/or historical sites, features or Arti-facts is always a distinct possibility. It may only become known later. Therefore, operating controls and monitoring should be introduced, aimed at the possible unearthing of such features. Care should therefore be taken when development commences that if any of these are discovered, a qualified archaeologist be called in to investigate the occurrence.</p>		
<p>Ecological Assessment Report</p>	<p>It is clear from the regional ecological overview, as well as the baseline data collected to date that the project area has been altered (historically and currently) predominantly by agricultural land use and alien invasive plant species. Nevertheless, natural to semi-natural habitats are present that provide habitat for local fauna and provide a corridor for the movement of species. The impacts associated with the proposed development activities will have a significant impact on the local environment and ecological processes. Careful consideration must be afforded each of the recommendations provided herein. All of the terrestrial ecosystems associated with the development are rated as poorly protected; Based on the South African National Biodiversity Institute's Protected Areas Map and the National Protected Areas Expansion Strategy (NPAES) the project area does not overlap with any formally or informally protected area; Based on the Plants of Southern Africa (BODATSA-POSA, 2019) database, 377 plant species are expected to occur in the broader landscape. None were regarded as of conservation concern. An alien invasive plant management programme in compliance of section 75 of the Act must be implemented to prevent encroachment of IAPs within the development footprint.</p>		<p>Project description, impact assessment of the Bar and EMP</p>

### 17. Cultural/ Historical Features

The development site is within 6 km of the boundaries of Cathedral Peak, a World Heritage site, but the distance between the site and the physical Cathedral Peak is 19 km. The project area is located within the 10 km buffer zone of the uKhahlamba Drakensberg Park. Within this context, the buffer is regarded as an area extending 10 kilometres from the proclaimed boundary of a world heritage site or national park and 5 kilometres from the proclaimed boundary of a nature reserve, respectively.



**SECTION D: PUBLIC PARTICIPATION**

**17.1 Details of Public Participation Used**

The breakdown of the Public Participation Process included:

**Advertising:**

In terms of the EIA Regulations, the commencement of the BA and EMP process for the project was advertised with ILANGA Newspaper on the 21st – 23<sup>rd</sup> of October 2019. The primary aim of these advertisements was to ensure that potential I&APs are informed of the project.

**Briefing Paper:**

A briefing paper for the proposed project was compiled in English and IsiZulu. The aim of this document was to provide a brief outline of the components of the proposed project, provide Interested and affected parties (I&APs) with a map of the study area, provide preliminary details regarding the BA and EMP, and explain how I&APs can become involved in the project. The briefing paper was distributed to all identified stakeholders and I&APs together with a comment sheet inviting I&APs to submit details of any issues and concerns.

**Focused I&AP's Consultation during the Basic Assessment phase:**

Consultation with I&AP's during Basic Assessment and EMP is useful for the continuity of the public participation process. There was no public meeting for this project due to the latest code-19 regulations gazetted in June 05, 2020 which is intended to compact the spread of the pandemic. However, a public participation process plan was sent to EDTEA for review and approval prior to conducting the remainder of the PPP. Thus, site notices and BID translated in isiZulu and English were placed in local areas where local people visit frequently i.e. tucks, local schools and Bergville hospital.

**Issues Trail:**

It is expected that issues will be further received after the 30-day public review period.

**18. SUMMARY OF ISSUES RAISED BY I & Aps**

*(The basic assessment is currently at a 30-day review period therefore no issues have been received yet however we anticipate having comments and issues after the 30-day public review comment.)*

Interested and affected parties. List the names of persons consulted, and mark with an X where those who must be consulted were in fact consulted	Date	Comments Received	Issues Raised	EAP's responses to issues as mandated by the applicant	Section and paragraph reference in this report where the issue and or responses were incorporated
<b>AFFECTED PARTIES</b>					
Landowner's	x				
Lawful occupier/s of land	x				
Landowners or Lawful occupiers on Adjacent property	x				
Municipal Councillor	x				
Municipality					
Organs of state (responsible for Infrastructure that will	x				

be: affected roads departments, Eskom, Telkom, DWA e)					
Communities	x				
South African Civil aviation Authority	x				
Traditional Leaders	x				
Department of Environmental Affairs	x				
KZN Wildlife	x				
Department of Health	x				
<b>OTHER AFFECTED PARTIES</b>					

## 19. PARTICIPATION BY DISTRICT, LOCAL AND TRADITIONAL AUTHORITIES

### 19.1 PARTICIPATION BY DISTRICT, LOCAL AND TRADITIONAL AUTHORITIES

No Comments have been received from the local, district municipality and traditional authority as yet.

### 19.2 CONSULTATION WITH OTHER STAKEHOLDERS

All stakeholders that have a direct interest in the site or property, such as service providers, will be informed of the application and be provided with the opportunity to comment during the 30-day public review comment period.

### 19.3 ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Not yet received any issues as the basic assessment is still being reviewed by i&AP for a 30-comment period. issues received will be detailed once the comment period is over and comments have been received from all I&As

## SECTION E: IMPACT ASSESSMENT

### 20. Impact Assessment Criteria & Rating

Each impact identified within the assessment phase of the study is given a significance rating. The significance rating is obtained by implementing this equation: **Significance = (Consequence of impact) x (Probability of impact)**. The consequence of an impact is the sum of extent, duration, severity and degree of irreplaceable loss of the resource. All consequences of an impact are measured as cumulative impacts, taking into account the existing impacts on the resource. The significance of an impact can be measured as positive or negative. The impact assessment table used for calculating significance is provided below.

Table 1: Impact Assessment Table for Calculating significance

Category	Description	Score
<b>Extent</b>	Site only	1
	Local	2
	Provincial	3
	National	4
	Global	5
<b>Duration</b>	Immediate short-term (less than 3 months)	1
	Operational or decommissioning period	2
	For the life of the operation	3
	Permanent	5

<b>Intensity of impact on resource</b>	Will have an insignificant impact on the resource	1
	Will generate an impact of low intensity	2
	Will generate an impact of moderate intensity	3
	Will have a very significant impact on the resource	4
<b>Irreplaceable loss of resources</b>	No/minor irreplaceable loss	0
	Partial irreplaceable loss	1
	Major loss of irreplaceable resources	2
	Full loss of irreplaceable resources	5
<b>Probability</b>	Improbable	0.5
	Possible but unlikely	1
	Probable	2
	Highly probable	3
	Definite	4

Once the impact has been assessed using the above significance categories, a rating is calculated. The rating will indicate a specific significance of the impact as illustrated by the table below. By identifying whether the impact is positive or negative, the significance will be read from the relevant portion of the table.

**Table 2:- Impact Ratings and the implicated Significance.**

	<b>Score</b>	<b>Significance</b>
<b>Negative Impact</b>	60	Fatal flaw (unacceptable impact)
	40 to 60	High significance
	20 to 39	Moderate significance
	19 to 0	Low significance
<b>Positive Impact</b>	0 to 25	Low significance
	26 to 45	Moderate significance
	45	High significance

By calculating the significance rating of the impact, one can evaluate whether a negative impact can be mitigated and managed efficiently, or whether the impact is a fatal flaw, and thereby disallowing the proposed development from being approved. A positive impact will be a motivation to the proposed development and by assigning significance to the positive impact; this provides comparative information to decision-makers for approval or denial of the application.

**Table 1: Assessment of each identified potentially significant impact and risks**

Potential Impact (including the potential impact for cumulative impacts)	Aspects Affected	Phase in which impact is anticipated	Significance (if not mitigated)	Mitigation Type	Significance If mitigated
Ecological State of the natural areas is relatively good and their Ecological Importance and Sensitivity are relatively low in terms of biodiversity, habitat integrity  Lattice Mast Development carries the	Loss of habitat and biodiversity loss	Construction Phase	low to moderate	No natural vegetation is to be collected for use as firewood. Invader species and weeds must be removed and disposed of in accordance with existing legislation on a regular basis. An appointed ECO will be on site during the construction period of the project to ensure that minimal vegetation is encroached on. The extent of the area disturbed must be kept to the	Low

<p>potential of destroying habitats and the species they support. Even if the habitats are not directly removed by excavation, they can be indirectly affected and damaged by environmental impacts – such as changes to noise pollution can have a significant impact on some species and affect their successful reproduction.</p>				<p>minimum required to successfully implement the Lattice Mast Development activities, thus minimising the destruction of any fauna and flora.</p> <p>Rehabilitation of the Lattice Mast Development site i.e. through planting of vegetation will not be effective if soil erosion or instability problem has not been addressed. Therefore, removing the existing alien invasive species is recommended. The young alien plants will be removed continuously until the indigenous vegetation has become well established and alien species no longer grow. When choosing what to plant use local native species. Local species can be sourced from local nurseries. Rehabilitation of degraded backside habitats will improve their physical structure. Controlling the weeds around the planted trees will assist in reducing competition for light and water. Depending on seasonal conditions and how much soil moisture the plants were planted into, they may need continued watering. So, depending on the area in which plants are planted will determine the frequency of watering.</p>	
<p>The proposed Lattice Mast Development operation will require clearing, however, the impact on fauna is not considered to be significant as there were no animals spotted on site besides the livestock and the vegetation present on the proposed site is</p>	<p>Impact on Fauna</p>	<p>Operational Phase</p>	<p>Low</p>	<p>The use of indigenous vegetation to landscape disturbed areas within the development will provide some habitat for fauna. Planting some indigenous trees in suitable places around the mast will provide additional habitat and shelter for the Indigenous birds and terrestrial fauna that will frequent this area. No animals are to be disturbed unnecessarily and no animals can be shot, trapped or caught for any reason. No animals are to be disturbed unnecessarily and no animals are allowed to be shot, trapped or caught for any reason.</p>	<p>Very low</p>
<p>soil contamination will be caused by leakages from improper storage or poor handling of petroleum Products such as oil and fuel. Spillage during dispensing, as well as</p>	<p>Soil contamination</p>	<p>Construction Phase</p>	<p>Low</p>	<p>Storage of potential pollutants such as fuel and oil must be confined to a sealed surface to prevent soil contamination from accidental leaks or spillages. Best management practices need to be applied to reduce fuel usage. The EMP</p>	<p>low</p>

<p>improper disposal of used oils, hydraulic fluids and empty oil containers will also lead to soil pollution. The presence of machinery and vehicles on site during the Lattice Mast Development phase will result in the occurrence of hydrocarbon spills or leakages. Improper practices when conducting maintenance on vehicles/machinery will also result in hydrocarbon spills contaminating the soil</p>				<p>includes recommendations for handling of hydrocarbons on site, as well as mitigation measures in the event of accidental leakage or spillage. Vehicles and machinery must be well-maintained to conduct maintenance on vehicles/machinery will also result in hydrocarbon spills contaminating the soil.</p>	
<p>Lattice Mast Development activities can impact on stormwater in terms of Sedimentation and pollution. Litter or hydrocarbon spillages can also have an impact on stormwater</p>	<p>Storm Water Management and surface water</p>	<p>Operational and construction Phase</p>	<p>medium</p>	<p>Site inspections during and after Lattice Mast Development to ensure that pollutants and sediments are not released improperly. The site must be managed in a manner that prevents pollution of groundwater, due to suspended solids, silt or chemical pollutants. Temporary infiltration will be required to capture storm water and promote cut-off drains and berms. The area must be monitored by an ECO on a regular basis during construction.</p> <p><u>Sediment Diversions and Containment</u></p> <p>The Control of sediment is commonly achieved through the inclusion of stormwater settling facilities (also known as silt traps). Unlike chemically contaminated waters, silt laden waters (with high total suspended solids) require a slowing down of the water in order for the suspended solids to 'drop out'. It is therefore not necessary to fully contain the design storm events associated with 'chemically' dirty water areas. Rather, a smaller design storm can be considered when dealing with sediment generating areas.</p> <p><u>Dirty Water Containment (Containment Facility)</u></p> <p>Clean and dirty water systems must</p>	<p>Low</p>

				<p>be kept separate and must be designed, maintained and operated such that these clean and dirty water systems do not spill into each other as a result of storm events. Water accumulated in this containment facility during the wet season should be used as a priority in the process water circuit where possible, to ensure the capacity requirements are not compromised during periods of heavy/extended rainfall.</p>	
<p>Exposed soil resulting from Lattice Mast Development activities is prone to erosion by water or wind. Stripping and stockpiling of Topsoil will lead to erosion and degradation of soil quality. In addition, soil compaction will result following the Lattice Mast Development activities. Furthermore, within the Lattice Mast Development phase, some activities involving site establishment and preparation will cause soil destabilisation.</p>	Soil Erosion	Construction Phase	medium	<p>Reduce the amount of exposed soil by means of selective soil stripping. Mitigation measures and stipulations in this regard are elaborated on within the EMP. Soil erosion on site must always be prevented, i.e. pre, during and post Lattice Mast Development activities. Suitable Erosion control measures must be implemented in areas sensitive to erosion. These measures will include: The prompt rehabilitation of exposed soil area. The removal of vegetation, only as it becomes necessary for work to proceed. Preventing the unnecessary removal of vegetation especially on steep areas. Taking necessary precautions in terms of design and Lattice Mast Development and earthworks, cuts and fills must be taken. Replace topsoil from stockpiles to a thickness of on average 100mm and spread using plant that will minimise the risk of compaction. Establish vegetation on the footprints where topsoil has been replaced as well as on any unvegetated slopes. During all the phases of project, active soil erosion prevention and rehabilitation should occur. Active monitoring by the project Manager and ECO must occur to ensure prevention or early detection of soil erosion. Early detection will increase the successful chances of rehabilitation of that area. Surrounding trees and vegetation must be kept acting as screens that</p>	low

				reduce erosion. Areas susceptible to erosion must be installed with temporary and permanent works as soon as possible.	
Lattice Mast Development activities that, without mitigation, will give rise to visual impacts. The following temporary activities are included. Presence of storage and stockpile areas, Movements of Lattice Mast Development machinery in the Magangangozi Village etc. Visual impact is greatest in natural and residential areas where tall structures are obtrusive.	Visual Impact	Operational and construction Lattice Mast Development Phase	High	<p>During construction Dust from Stockpile areas, roads and other activities must be managed by means of dust suppression to prevent excessive dust.</p> <p>Lighting of structures must be shielded away from adjacent properties to prevent light pollution. Lights must be screened in such a way as to prevent light pollution. Antenna support structure and equipment room should be suitably painted (dark matt green is usually appropriate). Otherwise the antenna support structure should be painted a suitable colour (dark matt green is usually appropriate). Sites in visually exposed positions with poor screening mitigate using a mixture of fast and slow growing indigenous trees that are suitable for the area should be planted around the base station site to lessen its long-term visual impact</p>	Medium
Lattice Mast Development operations can have Radio Frequency (RF) Exposure as base stations receive and transmit electromagnetic signals.	Public health	Operational	Medium	<p>Erecting the masts away from densely populated and residential areas. Radio-frequency radiation is classified as non-ionizing radiation because the energy it carries is too low to cause ionization. Radio Frequency (RF) Exposure-base stations receive and transmit electromagnetic signals. Concerns have been raised about their effect on Human health due to emissions of radio frequency radiation, over both the short and long terms. The nearest household are situated 200m away from the proposed mast, therefore minimal health impacts are anticipated.</p>	Low

<p>Potential oil and petroleum/diesel spills from Lattice Mast Development vehicles and equipment will occur during the Lattice Mast Development phase of the development. Such spills will also be possible during the construction phase of the development and will pollute the soil</p>	<p>Hydrocarbon Spills</p>	<p>Construction Phase</p>	<p>Low</p>	<p>The following measures will prevent or reduce the likelihood of hydrocarbon spills: Use of drip pans where petroleum products are dispensed. Storage of potential pollutants such as fuel and oil must be done on sealed surfaces. Petroleum storage tanks must have bund walls around and must be high enough to contain any potential spillage; Used oil and lubricants must be collected and recycled. These measures are elaborated on within the EMPr.</p>	<p>Very low</p>
<p>The proposed development will supply employment opportunities to locals and this will supply them with skills development.</p>	<p>Socio Economic Impact</p>	<p>Construction phase</p>	<p>Low</p>	<p>Development will require minor unskilled labour employees thereby expanding employment opportunities and uplifting the rural community This will provide for the creation of employment opportunities for local people in the area. Staff that will be employed by the client will be trained for their jobs and are thereby provided skill for future employment</p>	<p>Very low</p>
<p>Noise pollution  Noise from construction of the mast operation will result into brief exposure to high levels of noise causes a temporary loss of hearing, often persisting for some hours after noise exposure ceases. This will cause warning signals to be heard less distinctly or not at all. If the exposure is repeated, the hearing loss can become permanent. The degree of permanent deafness depends, not only on the level of noise and its frequency, but also on the duration of exposure and individual susceptibility. Sufferers often do not realise that their hearing is being damaged. Noise induced hearing loss is incurable and in certain cases can be accompanied by ringing noises in the ear (tinnitus). Most hearing loss due to noise occurs</p>	<p>Noise to the Residents nearby</p>	<p>Construction Phase</p>	<p>Low</p>	<p>Working hours must be limited to day light only. Noise related to the Lattice Mast Development activities are to be scheduled to occur within prescribed normal working hours and must comply with the provisions of SABS 0400-1990 with respect to working hours (see EMPr Attached). In addition, Lattice Mast Development vehicles and machinery need to be fitted with the appropriate noise muffing devices and must be appropriately maintained so as to ensure that the machines and vehicles do not produce excessive noise disturbance. Lattice Mast Development activities must be undertaken according to during daylight working hours between the hours of 07:00 – 17:00 on weekdays and 07:30 – 13:00 on Saturdays. No Lattice Mast Development will be allowed on Sundays. With regard to unavoidable very noisy Lattice Mast Development activities in the vicinity of noise sensitive areas, the contractor and the ECO must liaise with local residents on how best to minimise impact, and the local</p>	<p>Low</p>



<p>during the early years of exposure.</p>				<p>population must be kept informed of the nature and duration of intended activities.</p> <p>Noise reduction Reduce exposure to noise as far as is reasonably practicable by means other than ear protectors</p> <p>Excavators-These are usually diesel or electrically powered machines used for the excavation/loading of material and are controlled by an operator located in the driver's cabin. On new machines, the noise levels in the cabins need not be a problem. On older machines, soundproofing and physically dividing the engine and draw-works from the driver's cab will be necessary to reduce the noise to acceptable levels. Successful noise level reductions can only be maintained if the equipment is kept in good order and the doors and windows fit properly and are kept closed. Wheel loaders, dump trucks and other machines</p>	
<p>Air pollution to Residents nearby</p>	<p>Air pollution</p>	<p>Construction Phase</p>	<p>Low</p>	<p>Emissions into the air can be minimised by ensuring regular maintenance of Lattice Mast Development vehicles and equipment in order to reduce emission of exhaust fumes. The application of best management practices for dust suppression will also aid in reducing air pollution. Dust control measures can be achieved by means of the periodic application of water to open sandy surfaces and to temporary dirt roads. The EMP includes recommendations for dust suppression</p>	<p>Low</p>

<p>Heavy machinery will be employed. The potential for accidents among operators exists if machinery is not handled properly. This is likely to have a negative impact on the health of the workers. The lack of enforcement of health and safety regulations will impact negatively on Lattice Mast Development workers.</p>	<p>Health and Safety of workers</p>	<p>Construction Phase</p>	<p>Low</p>	<p>To limit the risk of accidents, safety procedures must be put in place and enforced by the foremen to ensure that vehicles and machinery only drive in designated places and are only driven by authorised personnel. Occupational Health and Safety Requirements must be enforced during the Lattice Mast Development phase of the proposed activities.  Fire fighting, containment of hazardous materials and First Aid are covered in the EMP. Members of the public adjacent to the Lattice Mast Development area must be notified of Lattice Mast Development activities in order to limit unnecessary disturbance or interference.  Dedicated pathways for pedestrians must be developed to ensure safe passage around Lattice Mast Development activities. All Lattice Mast Development workers handling chemical or hazardous substances must be trained in the use of such substances and the environmental, health and safety consequences of incidents.</p>	<p>Very low</p>
<p>The accumulation of waste by-products will need to be stored and managed somewhere that will not affect the environment in an adverse manner. Furthermore, the treatment and disposal of the waste will produce more negative impacts on the environment.</p>	<p>Waste management</p>	<p>Construction phase</p>	<p>Low</p>	<p>Dispose all relevant waste in appropriate landfill sites. During the Lattice Mast Development phase, the accumulation of waste by-products will need to be stored and managed somewhere that will not affect the environment in an adverse manner.</p>	<p>Low</p>
<p>Lattice Mast Development carries the potential of destroying habitats and the species they support. Even if the habitats are not directly removed by excavation, they can be indirectly affected and damaged by environmental impacts – such as noise pollution</p>	<p>Damage to Biodiversity</p>	<p>Construction and operational Phase</p>	<p>Low</p>	<p>With careful planning and management, it is possible to minimise the effect on biodiversity and in fact, quarries can also provide a good opportunity to create new habitats or to restore existing ones.</p>	<p>Low</p>

can have a significant impact on some species and affect their successful reproduction.					
Archaeological /Heritage	Archaeological /Heritage impact	Operational Phase	Medium	<p>This report is seen as ample mitigation as there will be no impact on any heritage resources. This includes Cathedral Peak, which will not be visually affected. The development site within 6km of the boundaries of the Cathedral Peak, a World Heritage site, but the distance between site and the physical Cathedral Peak is 19km. The scale of the mast (54m high with a footprint of 256m<sup>2</sup>) is thus is very limited, low impact at the most. This is especially due to the topography of the area with various foothills between the site and the WHS.</p> <p>The site also lies close to a rural village which may experience some low negative visual impact. The latter however needs to be weighed up against the positive impacts due to the accessibility of cell phone signal. Houses from the nearby village are only to be found to the south west of the proposed site. Thus, impact will be limited in only one direction as far as people are concerned. This impact will be approximately 1km as the rolling hills in the landscape would prevent the mast from being seen from further away.</p>	Low

## 21. Impacts that will result from the planning and design of the Lattice Mast Development

### 21.1 Impacts that will result from the planning and design phase

#### a. Site alternatives

Potential impacts associated with **Alternative S1 (preferred alternative)** that are likely to occur during the planning and design phase are:

#### Direct impacts:

- There are no anticipated impacts as the entire site and surrounding areas are highly transformed, covered with natural vegetation. Low impacts are anticipated on the flora and fauna, as site offer little if not any potential for habitation of animal species. The visual impact evidence is that the mast will be a permanent structure on site.
- However it must be mentioned that all anticipated impacts relate to ground disturbance (i.e. clearing and trenching). With the implementation of landscape and visual mitigation measures. The residual landscape and visual impact owing to ground disturbance and the establishment of the mast is considered acceptable with mitigation.
- Position & height should be as determined by SACAA.
- General installation safety for the general public, owners, technicians etc.: Engineering services incorporated in the design of the mast, foundations and other design and construction safety aspects of the base station;
- Base station to be surrounded with galvanised steel palisade fence to prevent unauthorised access to the base station area and mast.
- Visual impact: Evaluation of structure type, height & position, taking into consideration the purpose and objective of the planned activity in terms of mobile telecommunication coverage area and quality of coverage
- Unable to provide adequate network coverage in the area
- Visual Impact: Natural, semi-natural or suburban area or an open space area. Trees are an important feature of the residential landscape.

#### Indirect impacts:

- No impact is anticipated.
- The property coverage and development potential has been taken into consideration in selecting the position of the activity.

#### Cumulative impacts:

- No cumulative impacts relating to the design and planning phases are applicable.

#### No-go alternative

- The no-go activity has been considered and assumes that should the proposed activity not proceed then the status quo would remain. This includes no clearing of land, no digging of trenches, no Lattice Mast Development operations on Site and no decommissioning at the end of the project life cycle.
- Thus, the no-go option will not be taken forward into this assessment phase
- Minimal environmental impacts on the Lattice Mast Development site
- Less pollution
- No job creation

**Mitigation measures to manage the potential impacts listed above:**

**Surface Water:**

- Ensure that all construction activities take place within the existing site
- Ensure that people and equipment are out of danger area
- Close supervision required
- Drivers must be competent
- Training
- Ensure level off loading area and supervise
- Use correct access point
- Notify all relevant communities and interested an affected party prior to construction phase
- The requirements of the Civil Aviation Authority must be determined and met.
- Antenna support structure and equipment room should be suitably painted (dark matt green is usually appropriate). Otherwise the antenna support structure should be painted a suitable colour (dark matt green is usually appropriate).
- Sites in visually exposed positions with poor screening mitigate using a mixture of fast and slow growing indigenous trees that are suitable for the area should be planted around the base station site to lessen its long-term visual impact

## **22. PROCESS, TECHNOLOGY, LAYOUT OR OTHER ALTERNATIVES**

**Impacts associated with any process, technology, layout or other alternatives that are likely to occur during the planning and design phase are:**

**Direct**

There are no activity or technology alternatives for the establishment of mobile telecommunication base stations.

**Indirect impacts:**

Inefficient empowering the people at Magangangozi and Cathedral peak

**Cumulative impacts:**

Negative Local upliftment impacts

Liabilities of local authority

**No-go alternative**

*Direct impacts:*

Status quo.

*Indirect impacts:*

Status quo.

*Cumulative impacts:*

Status quo.

### **22.1 Impacts that will result from the construction phase**

#### **a. Site alternatives**

Impacts associated with site alternatives that are likely to occur during the construction phase for the Alternative S1 (preferred site) are:

**Direct impacts:**

- The negative impacts during the construction phase, are temporary and will not have a long-term effect on the proposed development or immediate area. These impacts will last for a maximum of approximately few weeks only.
- Degradation, destruction and fragmentation of portions of sensitive habitats, if construction work or waste material is allowed to penetrate these habitats
- Displacement of faunal community due to habitat loss and disturbance (noise, dust and vibration) and/or direct mortalities
- Soil erosion within the project footprint, if no erosion control measures are implemented
- Generation of noise and limited air pollution from construction vehicles;
- Traffic congestion and delays caused by construction vehicles entering the site
- job creation opportunities for locals

- Generation of building rubble / redundant material (waste).
- Generation of excavated material (soil);
- Spillage of hydrocarbons and pollution to immediate and surrounding area / environment i.e. vegetation
- Poor air quality can affect the health and quality of life for residents and workers in the local area. These activities generate dust, exhaust fumes and noise emissions. The construction phase is likely to generate dust and noise emissions during daily activities. Dust is likely to be generated through the excavation and paving of the site, while noise is likely to be generated through activities and machinery on site. The potential increased noise and dust emissions may impact on the public and neighbouring land users.
- **Traffic Impacts:** The construction phase is likely to generate additional traffic in terms of construction vehicles and heavy vehicles delivering materials to the site. The additional traffic generated is likely to be well within the capacity of the existing road network. The significance of this negative impact is considered to be very low (local extent, low intensity, short-term duration and definite). The construction phase is likely to have limited impact on traffic on Main Road. The additional volume of labour and construction machinery and materials moving on to and off the site may cause additional pressure on the road system, especially during peak hour traffic (morning and afternoon). The number of construction vehicles accessing the site is likely to be low, with only a few private and construction vehicles accessing the site daily. This may spike during certain periods of the construction, as large equipment (e.g. earth moving vehicles) and large volumes of materials (e.g. concrete and building materials) are brought on to the site sporadically.
- **Socio economic Impacts**  
Positive economic impacts are anticipated during the construction phase of the proposed development. The construction phase of the proposed development will provide employment opportunities. The construction phase employment opportunities generated by the proposed development are considered a positive economic impact of low significance (regional extent, medium intensity, short-term duration and probable). The construction phase of the proposed development has the potential to generate employment opportunities for people within local communities and generate a positive socio-economic impact on the local area.

**Indirect impacts:**

- It will significantly increase the capability for recipient to obtain essential services faster due to better network coverage
- Soil erosion will potentially occur where ground stripped of vegetation is exposed to rainfall with the resultant washing away of topsoil and/or sub-soils
- Insignificant impacts on air quality due to emissions from vehicles and noise from construction; Positive economic impacts are anticipated during the construction phase of the proposed development

Visual Impact

- The construction phase has the potential to disrupt sense of place of the local area through visual impacts. The construction phase is proposed to be over a period of few weeks, during which there will be a change, the nature of the site, and have a visual impact on road users, tourists and surrounding residents. The potential impact on sense of place is therefore likely to be moderate and negative in nature.

**Cumulative impacts:**

- Insignificant impacts on air quality due to emissions from vehicles and noise from construction;
- Positive economic impacts are anticipated during the construction phase of the proposed development.

**No-go alternative**

**Direct impacts:**

- No potential of soil and surface or storm-water contamination
- No additional traffic volumes or associated impacts.
- No dust and noise nuisance to local land users and occupiers of adjacent properties
- No occupational health and safety risks.
- No job creation opportunity
- No improvement to the status quo will result in the MTN not being able to improve their coverage and technology

**Indirect impacts:**

- Community outrage due to poor due to lack of service infrastructure, poor network coverage thus lack of service delivery and development
- The proposed development will support local economic development through direct, indirect and induced economic spin-offs. These include direct and indirect employment opportunities.
- Should the proposed development not go ahead, and then these economic opportunities would be lost. Although low in impact,

**Cumulative impacts:**

- No increase in site disturbances and visual intrusions on the skyline.
- No job creation opportunity.
- Employment opportunities are critical from a local and regional point of view, as unemployment (especially amongst the youth) is high, and there is a need to boost the local economy to support the local population. This would be considered moderate negative impact on the local economy

**Mitigation measures to manage the potential impacts listed above are:**

**Alternative S1**

- Management of vehicles on sites; to ensure that no spillages or leakages occur within the site, ensure that speed limits are adhere to by all vehicles to minimise dust on site
- Management of stockpiles on sites; ensure that stockpiles are not disposed to windy areas, and there will be covered when bad weather conditions are experienced
- Control traffic around the construction site.
- Limit noise generation to daytime operations;
- Limit dust generation. Consider dust suppression will excessively dust result in complaints;
- All building rubble generated moved to certified landfill site and proof thereof kept on record;
- Minimize usage of natural resources by preventing wastage;
- Minimize the clearance of vegetation to avoid exposure of soil;
- Utilise indigenous vegetation for landscaping purposes;
- Ensure training of construction staff on EMPr;
- Monitor compliance with EMPr.
- Plants may be rescued and re-planted elsewhere.
- mast must be painted in natural colour to blend into the skyline to reduce the visual impact.
- The installed concrete cover slab will be dish shaped to capture any surface fuel spillage and impacted runoff.
- The separator system will be monitored and cleared regularly to prevent free phase hydrocarbon liquids from discharging off site.

**Temporary Employment Opportunities:**

- It is recommended that the developer prioritise the appointment of a local construction contractor (i.e. one based within the area) if feasible.
- Contractual agreements will ensure that, where possible, labour is sourced from within the area, to maximise the benefits to the local economy and communities

**Spillage and Incident**

- All hazardous substances will be stored on an impervious surface in a designated bunded area, able to contain 110% of the total volume of materials stored at any given time; the storage of hazardous substances with be stored where the site office will be situated
- Provide proper warning signage to make people aware of the activities within designated areas;
- Employees will record and report any spillages to the responsible person;
- Access to storage areas on site will be restricted to authorized employees only;
- Contractors will be held liable for any environmental damages caused by spillages.
- Where hydrocarbon leaks are identified associated with trucks and equipment, drip trays will be placed

**Safety:**

- Ensure the appointment of a Safety Officer to continuously monitor the safety conditions during construction.
- All construction staff will have the appropriate PPE.

- The construction staff handling chemicals or hazardous materials will be trained in the use of the substances and the environmental, health and safety consequences of incidents.
- Report and record any environmental, health and safety incidents to the responsible person.

**Soils:**

- Strip topsoil prior to any construction activities.
- Reuse topsoil to rehabilitate disturbed areas.
- Topsoil will be kept separate from overburden and will not be used for road construction purposes or maintenance or access roads.
- Minimise the clearance of vegetation to avoid exposure of soil.
- Protect areas susceptible to erosion with mulch or a suitable alternative.
- Implement the appropriate topsoil and stormwater runoff control management measures as per the EMPr to prevent the loss of topsoil.
- Topsoil will only be exposed for minimal periods of time and adequately stockpiled to prevent the topsoil loss and runoff.
- Any materials that may hamper re-growth of vegetation will be removed prior to rehabilitation and disposed of at an appropriate site.

**Fauna and Flora**

- No cutting down of indigenous vegetation because it encourages wildlife to reside in the area.
- All site disturbances will be limited to the areas where structure will be constructed.
- Large excavations for the contractor laydown area, storage areas or waste areas are not permitted.
- Ensure that contractors and staff are well managed and adhere to the mitigation and management measures.
- Weeds and alien vegetation will be removed and prevented from spreading.
- No cutting down of trees for firewood
- Training of contractors on environmental awareness and the importance of flora and fauna.
- The cutting of vegetation will be done considering the potential for subsequent risk of contaminant infiltration or spills into surface water / erosion.
- Site rehabilitation will aim to restore vegetation as far as is feasible.

**Surface Water:**

- Water for domestic consumption will be provided at or near the contractor laydown area and from a licensed water source.
- Ensure the establishment of stormwater diversion berms around the contractor laydown area and other potential contaminated areas
- All contaminated standing water will be immediately removed and treated or disposed of appropriately.
- All incidents will be reported to the responsible site officer as soon as it occurs.

**Noise**

- All construction activities will be undertaken according to daylight working hours between the hours of 07:00 – 17:00 on weekdays and 7:30 – 13:00 on Saturdays.
- No construction activities may be undertaken on Sunday.
- All earth moving vehicles and equipment will be regularly maintained to ensure their integrity and reliability.
- Employees will have the appropriate Personal Protective Equipment (PPE) as indicated in the Draft EMPr.
- A complaints register will be made available and will any complaints be received; these will be logged in the complaints register and reported to the responsible person on site.
- All operations will meet the noise standard requirements of the Occupational Health and Safety Act (Act No 85 of 1993).
- The Environmental Management Programme (EMPr) for the construction phase will include: Dust and noise management measures, to effectively minimise or eliminate the risk and nuisances associated with the construction activities; and A grievance mechanism for the reporting of environmental, health and safety incidents, and concerns by the public to the construction site manager. The grievance mechanism will include publicly available contact details (including telephone and email), for a representative of the construction management team or similar, and a protocol for investigating and resolving any issues raised by the public.

**Air Quality**

- To reduce the liberation of dust it is recommended that water be sprayed on access roads transported material.
- There will be strict speed limits on dusty roads to prevent the liberation of dust into the atmosphere.
- Adequate communication and education of personnel of the need to mitigate against dust.

**General Waste:**

- General waste disposal bins will be made available for employees to use throughout the project area.
- Waste will be temporarily stored on site (less than 40 days) before being disposed off appropriately.
- General waste will be disposed of an approved waste disposal facility.
- Records of all waste being taken off site will be recorded and kept as evidence.
- Evidence of correct disposal will be kept.
- Building rubble will be used, where possible, in construction or buried with the necessary town planning approvals. Where this is not possible, the rubble will be disposed of at an appropriate site.



**Hazardous Waste:**

- Hazardous materials will be generated if there are spillages during construction and maintenance periods. This waste will be cleaned up using absorbent material provided in spill kits on site.
- Absorbent materials used to clean up spillages will be disposed of in a separate hazardous waste bin.
- The storage area for hazardous material will be concreted, bunded, covered, labelled and well ventilated.
- Provide employees with appropriate PPE for handling hazardous materials.
- All hazardous waste will be disposed of in a registered hazardous waste disposal facility.
- Records of all waste being taken off site will be recorded and kept as evidence.

**Sewage waste:**

- On-site chemical toilets will be provided for domestic purposes during construction phase.
- The contractors will be responsible for the maintenance of the chemical toilets.
- Should any spills or incidents occur; the material will be cleaned up immediately and disposed off appropriately
- All incidents will be reported to the responsible site officer as soon as it occurs.
- During the construction phase chemical toilets will be provided for use on site. The chemical toilets will be cleaned and maintained on a weekly basis, minimising the potential for the generation of odours on site.

**Safety:**

- Ensure the appointment of a Safety Officer to continuously monitor the safety conditions during construction.
- All construction staff will have the appropriate PPE.
- The construction staff handling chemicals or hazardous materials will be trained in the use of the substances and the environmental, health and safety consequences of incidents.
- Report and record any environmental, health and safety incidents to the responsible person.

**Increased traffic and road user disruption:**

- The EMPr for the construction phase will include a traffic management plan or measures to effectively minimise the risk and nuisances associated with the construction vehicles. This will include: Ensuring large vehicles and machinery only access the site outside peak commuting hours (e.g. 7-8 am and 4-5 pm), or as appropriate; Road signage to ensure motorists are aware of construction activities; and Point or flag men to assist truck drivers to access or exit the site safely and warn motorists. An evaluation of the potential traffic impacts of the construction activities will be undertaken by the Environmental Control Officer (ECO) throughout the construction phase, and mitigation options implemented through the site engineer or contractor.

**Visual Impact:**

- The EMPr for the construction phase will include the following: Shade cloth or similar materials will be used to shroud the site from neighbouring residents, to minimise the visual impact of the site. Where possible, vegetation will be left in place to screen the site from neighbouring land users. An evaluation of the visual impact of the construction activities will be undertaken by the ECO throughout the construction phase, and mitigation options implemented through the site engineer or contractor.

**b. Process, technology, layout or other alternatives**

Impacts associated with process, technology, layout or other alternatives that are likely to occur during the construction phase:

- Ensure the appointment of a Safety Officer to continuously monitor the safety conditions during construction.
- All construction staff will have the appropriate PPE.
- The construction staff handling chemicals or hazardous materials will be trained in the use of the substances and the environmental, health and safety consequences of incidents.
- Report and record any environmental, health and safety incidents to the responsible person

**No-go alternative (compulsory)**

**Direct impacts:**

- No impacts will occur on any site should the no go option be decided upon. However, there will be no improvement to the status quo of lack of network coverage on the area.
- No potential of soil and surface or storm-water contamination
- No additional traffic volumes or associated impacts.
- No dust and noise nuisance to local land users and occupiers of adjacent properties.
- No occupational health and safety risks.
- No job creation opportunity.

**Indirect impacts:**

- Community outrage due to poor due to lack service infrastructure, poor network coverage and development
- The proposed development will support local economic development through direct, indirect and induced economic spin-offs. Should the proposed development not go ahead, then these economic opportunities would be lost. Although low in impact, it will remain a loss on a local level.

**Cumulative impacts:**

- No job creation opportunity.
- development. Should the project not go ahead, these opportunities would be lost. Employment opportunities are critical from a local and regional point of view, as unemployment (especially amongst the youth) is high, and there is a need to boost the local economy to support the local population. This would be considered moderate negative impact on the local economy
- No increase in site disturbances and visual intrusions on the skyline.

### 23. Impacts that will result from the Lattice Mast operational phase

#### c. Site alternatives

Potential impacts associated with **Alternative S1 (preferred site)** that are likely to occur during the operational phase are:

**Direct impacts:**

- Erosion of adjacent areas
- Increased mobile telecommunication network capacity

**Public Health:**

- There is a significant difference between radiofrequency radiation (Cellular technology operates on) and the well-known X-ray radiation. X-ray radiation is classified as ionizing radiation. Radio-frequency radiation is classified as non-ionizing radiation because the energy it carries is too low to cause ionization. All scientists agree on this point and for this reason various international regulating bodies have compiled standards or guidelines for limiting human exposure to radio-frequency radiation.
- Noise generation by air conditioning units and by backup generator.
- Radio Frequency (RF) Exposure- base stations receive and transmit electromagnetic signals. Concerns have been raised about their effect on Human health due to emissions of radio frequency radiation, over both the short and long terms. The National Department of Health has issued no written notification stating that RF emissions are hazardous.

**Visual impact of the mast**

- Visual impact is greatest in natural and residential areas where tall structures are obtrusive.
- Indirect impacts:
  - Socio-economic impact During the establishment phase, jobs will be created for the Lattice Mast Development and related
  - Employees will be sourced from the local community thereby benefiting the community.
  - Interfere with the sense of place
  -

**Cumulative impacts:**

- Increased telecommunication infrastructure availability and quality.

**No-go alternative (compulsory)**

- No good network coverage in the area and thus lack of service delivery
- Loss of tourism industry for cathedral peak
- The no-go activity has been considered and assumes that should the proposed activity not proceed then the status quo would remain. This includes no clearing of land, no digging of trenches, no Lattice Mast Development operations on
- Site and no decommissioning at the end of the project life cycle. This project is in an area of mineral potential and that the proposed Lattice Mast Development would lead to job creation, contribution to the GDP of the municipality and the province and be an opportunity to improve the local socio-economic situation. Thus, the no-go option will not be taken forward into the assessment phase.
- There would be Minimal environmental impacts on the Lattice Mast Development site
- No job creation

Mitigation measures to manage the potential impacts listed above:

### **Spillage and Incident**

All hazardous substances must be stored on an impervious surface in a designated bunded area, able to contain 110% of the total volume of materials stored at any given time; the storage of hazardous substances  
Provide proper warning signage to make people aware of the activities within designated areas;

### **Visual Impact:**

- The applicant must ensure that the structure has an on-going maintenance schedule to
- keep it visually attractive.
- Lighting of structures must be shielded away from adjacent properties to prevent light pollution.
- Lights must be screened in such a way as to prevent light pollution.
- Lights must be screened in such a way as to prevent light pollution.
- Antenna support structure and equipment room should be suitably painted (dark matt green is usually appropriate). Otherwise the antenna support structure should be painted a suitable colour (dark matt green is usually appropriate).
- Sites in visually exposed positions with poor screening mitigate using a mixture of fast and slow growing indigenous trees that are suitable for the area should be planted around the base station site to lessen its long-term visual impact

### **General Waste:**

- General waste will be disposed of an approved waste disposal facility during maintenance of the facility.

### **HYDROLOGY**

- Erosion and storm water from site to be checked regularly.
- Should erosion take place, the storm water situation to be rectified.

### **SOCIAL WELLBEING AND QUALITY OF THE ENVIRONMENT**

- Site to be secured and regular check-ups on fencing.
- Mast to have markings

### **Public Health**

- No lattice should be located at least 50m from any habitable structure or even positioned as such. The national Department of Health has over the years endorsed that Telecommunication Infrastructure (TI) or combination of infrastructure may not at any time cause the public to be exposed to RF levels that exceed the International Commission on Non-Ionizing Radiation Protection (ICNIRP).
- Erecting the masts away from densely populated and residential areas.
- Radio-frequency radiation is classified as non-ionizing radiation because the energy it carries is too low to cause ionization. Radio Frequency (RF) Exposure- base stations receive and transmit electromagnetic signals. Concerns have been raised about their effect on Human health due to emissions of radio frequency radiation, over both the short and long terms. The nearest household are situated 200m away from the proposed mast, therefore minimal health impacts are anticipated.

### **Safety and security**

- All structures are fenced or walled to limit public access to it. If mast is a secured building, enough precaution must be made to prevent access to the mast support structure. Access to the area must be strictly controlled through a locked gate. If the structure will be co-used to put up lights for security purposes, written consent of surrounding land users must be obtained.

## 24. Impacts that will result from the decommissioning or closure phase

### d. Site alternatives

Potential impacts associated with site alternatives that are likely to occur during the closure phase:

#### Alternative S1 (preferred site)

##### Direct

- Removal of the equipment will cause some degree of disturbance, but the character of these sites is such that most of the equipment and infrastructure can be removed from site without any impacts and leaving no trace at all. The only impact will be the footprint that will have to be rehabilitated through re-vegetation.
- soil erosion, by decommissioning the cumulative impact will be reduced and thus have a positive impact on the environment and visual impacts. storm water issues, safety risks invasion of alien plant specie
- During the decommissioning phase failure to comply with the closure requirements will result in unnecessary environmental degradation and failure to obtain a closure certificate
  
- Noise pollution
- Air Quality pollution
- General Waste production
- Hazardous Waste:
- Hazardous materials will be generated if there are spillages during closure.

##### Indirect

- Complaints
- safety
- soil erosion
- All the equipment must be discarded at registered sites only, and other equipment may be recycled or re-used.

##### Cumulative

- Complaints
- safety
- By decommissioning the cumulative impact will be reduced and thus have a positive impact on the environment and visual impacts.

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#### Mitigation measures to manage the potential impacts listed above:

All moveable equipment must be removed from site, re-used elsewhere, disposed of at registered sites only, or recycled where appropriate. Physical structures should be broken down and all debris must be removed from site and disposed of at registered sites only. Footprint of structures must be cleaned and rehabilitated through re-vegetation and alien eradication programmes.

#### Noise

- All closure activities must be undertaken according to daylight working hours between the hours of 07:00 17:00 on weekdays and 7:30 – 13:00 on Saturdays.
- No closure activities will be undertaken on Sunday.
- All earth moving vehicles and equipment must be regularly maintained to ensure their integrity and reliability.
- Employees must have the appropriate Personal Protective Equipment (PPE) as indicated in the Draft EMPr.
- A complaints register must be made available and should any complaints be received, these must be logged
- In the complaints register and reported to the responsible person on site.
- All operations must meet the noise standard requirements of the Occupational Health and Safety Act (Act No 85 of 1993).

#### **Air Quality**

- To reduce the liberation of dust it is recommended that water be sprayed on access roads transported material.
- There must be strict speed limits on dusty roads to prevent the liberation of dust into the atmosphere.
- Adequate communication and education of personnel of the need to mitigate against dust.

#### **General Waste:**

- General waste disposal bins will be made available for employees to use throughout the project area.
- Where possible waste must be recycled or sold to the community.
- Waste will be temporarily stored on site (less than 30 days) before being disposed of appropriately.
- General waste will be disposed of an approved waste disposal facility.
- Records of all waste being taken off site must be recorded and kept as evidence.
- Evidence of correct disposal must be kept.

#### **Hazardous Waste:**

- Hazardous materials will be generated if there are spillages during closure. This
- Waste must be cleaned up using absorbent material provided in spill kits on site.
- Absorbent materials used to clean up spillages must be disposed of in a separate hazardous waste bin.
- The storage area for hazardous material must be concreted, bunded, covered, labelled and well ventilated.
  
- Temporary storm water management systems must be in place and preferential runoff channels be filled with
- aggregate and/or logs (branches included) to dissipate flows, limiting erosion and sedimentation particularly
- around the workshop and offices;
  
- Silt traps and sediment trapping berms must be in place in drainage lines around the office and workshop site;
  
- The footprint area of the must be kept a minimum. The footprint area must be clearly demarcated to avoid unnecessary disturbances to adjacent areas;
  
- The contractors used for the project must have spill kits available to ensure that any fuel or oil spills are clean-up and discarded correctly;
- All chemicals and toxicants to be used must be stored outside the delineated buffer area and in a bunded area;
  
- All machinery and equipment must be inspected regularly for faults and possible leaks, these must be serviced off-site;
  
- Adequate sanitary facilities and ablutions must be provided for all
- All solid waste generated on-site during operation must be adequately managed. Separation and recycling of different waste materials must be supported

#### **No-go alternative**

##### **Direct impacts:**

- All equipment will remain in place and get dilapidated. This may cause more environmental damage than having everything removed from site, which is possible and preferred.
- There would be Minimal environmental impacts on the Lattice Mast Development site
- Less pollution
- No job creation
- No soil erosion

**Indirect impacts:**

- Same as above. Leaving equipment may over time cause soil pollution and even water table contamination resulting from breaking down of equipment left un-attended and un-managed.

**Cumulative impacts:**

- Leaving decommissioned equipment in place will significantly increase the cumulative impact by increasing the impacts associated with it as described above.

## **25. Proposed MONITORING and auditing**

**ALL WASTE TO REGISTERED LANDFILL;**

- limit lattice mast development activities resulting in noise generation to daytime only;
- optimise re-use of existing infrastructure;
- limit dust generation and implement dust suppression if required;
- minimise usage of natural resources through prevention of wastage;
- demarcate no-go sensitive areas;
- demarcate lattice mast development sites / areas and prevent public access to these sites;
- Monitor complaints, investigate and implement rectifying measures;
- monitor areas for pollution and degradation. ensure implementation of identified rectifying measures;
- compliance of empr & environmental authorisation by contractors. operation:
- reduce waste to landfill by minimizing wastage on site, and sorting & recycling waste generated on site; revegetation of indigenous species must be established and make use of the plant species that specifically do not demand high water volume of water in that specific area.
- rehabilitation of any damage to sensitive areas, including potential erosion from lattice mast development activities;
- ensure appropriate annual budgets for maintenance and implement appropriate maintenance;
- implement a process to capture & address public recommendations, complaints and / or requests. audit: empr adherence;
- appoint environmental control officer;
- the objective of the rehabilitation monitoring program will be to track the recovery of the site. the monitoring program should be designed to collect information to demonstrate that the rehabilitation objectives have been achieved. the program will include:
- vegetation monitoring to determine the success of re-established vegetation and to monitor the success of the alien eradication plan

## **26. Findings of a specialist**

Heritage Impact Assessment Report

The development site is within 6km of the boundaries of the Cathedral Peak, a World Heritage site, but the distance between site and the physical Cathedral Peak is 19km. The scale of the mast (54m high with a footprint of 256m<sup>2</sup>) is thus very limited, low impact at the most. This is especially due to the topography of the area with various foothills between the site and the WHS. The site also lies close to a rural village which may experience some low negative visual impact. The latter however needs to be weighed up against the positive impacts due to the accessibility of cell phone signal. Houses from the nearby village are only to be found to the south west of the proposed site. Thus, impact will be limited in only one direction as far as people are concerned. This impact will be approximately 1km as the rolling hills in the landscape would prevent the mast from being seen from further away.

The development may thus continue. This may continue after receiving the necessary comments from the Kwazulu-Natal Provincial Heritage Resources Authority (AMAFA) and implementing their decision.

It should be noted that the subterranean presence of archaeological and/or historical sites, features or Arti-facts is always a distinct possibility. It may only become known later. Therefore, operating controls and monitoring should be introduced, aimed at the possible unearthing of such features. Care should therefore be taken when development commences that if any of these are discovered, a qualified archaeologist be called in to investigate the occurrence.

Ecological Assessment Report

It is clear from the regional ecological overview, as well as the baseline data collected to date that the project area has been altered (historically and currently) predominantly by agricultural land use and alien invasive plant species. Nevertheless, natural to semi-natural habitats are present that provide habitat for local fauna and provide a corridor for the movement of species. The impacts associated with the proposed development activities will have a significant impact on the local environment and ecological processes. Careful consideration must be afforded

each of the recommendations provided herein. All of the terrestrial ecosystems associated with the development are rated as poorly protected; Based on the South African National Biodiversity Institute's Protected Areas Map and the National Protected Areas Expansion Strategy (NPAES) the project area does not overlap with any formally or informally protected area; Based on the Plants of Southern Africa (BODATSA-POSA, 2019) database, 377 plant species are expected to occur in the broader landscape. None were regarded as of conservation concern. An alien invasive plant management programme in compliance of section 75 of the Act must be implemented to prevent encroachment of IAPs within the development footprint.

### **27. Summary of key findings of the Environmental Impact Statement;**

The proposed Lattice Mast Development will have a minimum negative impact on the environment provided sensitive areas are respected and correct Lattice Mast Development procedures are followed. The primary sensitive area relating to this development areas are the soils, residents nearby, WHS (Cathedral Peak) and the minimal disturbed on the vegetation along the Lattice Mast Development. The footprint created by Lattice Mast Development activities must be kept to a minimum wherever possible so that the soil is not eroded or negatively impacted in any way; Environmental Control Officer must be consulted first. During the planning and design phase failure to comply with existing policies and legal obligations will lead to the project conflicting with local, provincial and national policies, legislation etc. This will result in legal non-compliance, fines, overall project failure or delays in Lattice Mast Development activity and undue disturbance to the natural environment. The permanent visual impact of the mast is the highest contributing negative impact of the proposed activity on the receiving environment. The mast provides maximum mitigation of the visual impact on the short to long range viewpoints. No cellular masts or telecommunication infrastructure or combination of such infrastructure may at any time cause the public to be exposed to RF levels that exceed the appropriate ICNIRP public exposure guideline in any location, where the reasonably can access. Subject to the level of RF exposure within the area to which the public reasonably has access, as certified by a qualified person the ICNIRP public exposure guideline, shall be provided as part of every application (new, changing or modification) of cellular telecommunication infrastructure. All mast support structures are to be designed to blend in with the local environment or associated building(s) with the use of natural, non-reflective, compatible colours and finishes where possible.

The base station must be suitably designed to blend in with the surrounding environment, i.e. the equipment room could either be walled or fenced (metal/wood /brick) or could be housed in a specially designed building.

All fenced or walled base station must be suitably fenced and maintained.

No advertising signage will be permitted on cellular telecommunication infrastructure unless agreed by both the municipality and the applicant.

### **28. Reason why the project should be authorised**

The proposed Lattice Mast Development will have a minimum negative impact on the environment provided sensitive areas are respected and correct Lattice Mast Development procedures are followed. The primary sensitive area relating to this development areas are the soils, residents nearby, WHS (Cathedral Peak) and the minimal disturbed on the vegetation along the Lattice Mast Development. The footprint created by Lattice Mast Development activities must be kept to a minimum wherever possible so that the soil is not eroded or negatively impacted in any way; Environmental Control Officer must be consulted first. The EMP must note the soil and sensitive areas and recommendations made to prevent degradation as well as plans laid out for the control / rehabilitation of potential contamination events should they occur.

The outcome from the HIA specialists further indicate that the development site is within 6km of the boundaries of the Cathedral Peak, a World Heritage site, but the distance between site and the physical Cathedral Peak is 19km. The scale of the mast (54m high with a footprint of 256m<sup>2</sup>) is thus is very limited, low impact at the most. This is especially due to the topography of the area with various foothills between the site and the WHS. The site also lies close to a rural village which may experience some low negative visual impact. The latter however needs to be weighed up against the positive impacts due to the accessibility of cell phone signal. Houses from the nearby village are only to be found to the south west of the proposed site. Thus, impact will be limited in only one direction as far as people are concerned. This impact will be approximately 1km as the rolling hills in the landscape would prevent the mast from being seen from further away". The ecological I assessment further confirms that the "terrestrial ecosystems associated with the development are rated as poorly protected; Based on the South African National Biodiversity Institute's Protected Areas Map and the National Protected Areas Expansion Strategy (NPAES) the project area does not overlap with any formally or informally protected area; Based on the Plants of Southern Africa (BODATSA-POSA, 2019) database". The above two above mentioned specialist provides

concrete evidence that the proposed mast will have minimal impact ecologically and, on the WHS., However appropriate mitigations are to be adapted to further limit the impacts identified.

The EMPr must be implemented by the relevant parties during all phases of development of the project i.e. Planning & Design, construction & Operational phase of Lattice Mast Development and Closure/Decommissioning phase. The proposed development may therefore be granted environmental authorisation considering the above is within the environmental condition's authorisation. Should the activity not be authorised it will result in an incomplete network hampering and restricting communication quality and quantity on the network. The negative impacts on the surrounding environment are of low significance.



**SECTION G: APPENDIXES**

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Specialist reports

Appendix D: public participation process

Appendix E: Environmental Management Programme (EMPr)

Appendix F: Other information