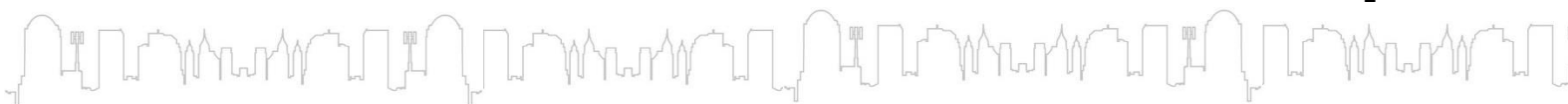


<b>PROPERTY DESCRIPTION:</b>	PORTION 113 OF THE FARM RUYGTE VALLEY NO. 205, KNYSNA RD
<b>MUNICIPAL AREA:</b>	KNYSNA MUNICIPALITY
<b>APPLICATION:</b>	APPLICATION FOR CONSENT USE, PERMANENT DEPARTURE AND REMOVAL OF RESTRICTIVE CONDITIONS TO PERMIT A <u>FREESTANDING CELLULAR COMMUNICATIONS BASE STATION</u>
<b>SITE NAME:</b>	SEDGEFIELD



<b>APPLICANT:</b>	WARREN PETTERSON PLANNING
<b>ON BEHALF OF/ FOR</b>	ATLAS TOWER
<b>OWNER:</b>	CASPER JOHANNES SCHMIDT
<b>DATE:</b>	MARCH 2020



**Knysna Municipality: Town Planning**

5 Clyde Street,  
Knysna,  
6570

2 March 2020

Dear Sir/Madam

**APPLICATION FOR CONSENT USE, PERMANENT DEPARTURE AND REMOVAL OF RESTRICTIVE CONDITIONS TO PERMIT A FREESTANDING CELLULAR COMMUNICATIONS BASE STATION ON PORTION 113 OF THE FARM RUYGTE VALLEY NO. 205, KNYSNA RD**

Kindly find attached in this application, the motivation and relevant documentation regarding an application to allow for the establishment of a freestanding cellular communication base station on Portion 113 of the Farm Ruygte Valley no. 205, Knysna Rd.

This proposal will be greatly beneficial for the inhabitants of Sedgefield – which includes local businesses and residents – as well as surrounding communities and commuters. This benefit relates to the fact that an improvement will be experienced in terms of network provision and coverage. In its end, this will enhance the level of health and safety (accessibility to emergency services e.g. ambulances, police, fire department etc.), social interaction (accessibility to social media e.g. Facebook, Instagram, Snapchat etc.) and economic efficiency (accessibility of businesses and individuals to faster, efficient and reliable internet and communication connectivity).

*This application is by no means a careless act as health and environmental aspects are taken into consideration with associated proof that this development holds no threat for inhabitants and/or commuters.*

Should the need arise for additional information, please do not hesitate to contact our office. We furthermore wish to thank you in advance for the positive consideration of this application.

Yours faithfully,



**DIRKO LOOTS**  
**WARREN PETTERSON PLANNING**

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### ANNEXURES:

ANNEXURE A: Plans of Proposal
ANNEXURE B: Power of Attorney
ANNEXURE C: Title Deed
ANNEXURE D: Conveyancer Certificate
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ANNEXURE F: Health and Safety Statements
ANNEXURE G: EIA Regulations
ANNEXURE H: Application Form

## LIST OF DEFINITIONS AND ABBREVIATIONS

This section represents the definitions and abbreviations that will be found in this application.

### DEFINITIONS:

**Please note:** *For the purpose of this application and its associated descriptions and motivation, and unless it appears otherwise in the text, the terms used herein are as follows:*

Table 1 - Definitions

<b>PROPERTY:</b>	Portion 113 of the Farm Ruygte Valley No. 205, Knysna Rd
<b>CLIENT:</b>	Atlas Tower
<b>APPLICANT:</b>	Warren Petterson Planning
<b>OWNER:</b>	Casper Johannes Schmidt
<b>CONSENT USE</b>	means a land use permitted in terms of a particular zoning with the approval of the City
<b>DEPARTURE</b>	means a permanent departure or a temporary departure
<b>RESTRICTIVE CONDITION</b>	means any condition registered against the title deed of land restricting the use, development or subdivision of land concerned, excluding servitudes creating real or personal rights
<b>SURVEYOR-GENERAL</b>	means the Surveyor-General as defined in the Land Survey Act

### ABBREVIATIONS:

**Please note:** *For the purpose of this application and its associated descriptions and motivation, and unless it appears otherwise in the text, the terms used herein are as follows:*

Table 2 - Abbreviations

<b>SPLUMA</b>	Spatial Planning and Land Use Management Act, 2013
<b>RBTS</b>	Rooftop Base Telecommunication Station
<b>FSBTS</b>	Freestanding Base Telecommunication Station
<b>TI</b>	Telecommunication Infrastructure
<b>TOA</b>	Top of Antenna
<b>SG-DIAGRAM</b>	Surveyor-General Diagram
<b>IDP</b>	Integrated Development Plan

## SECTION A: BACKGROUND

### A.1. THE APPLICATION

Application is hereby made for the following:

- ✓ **Consent Use** in terms of Section 15(o) of the Knysna Municipality: Standard Municipal Land Use Planning By-Law, 2016 for the purpose of erecting a 15m FSBTS.
- ✓ **Permanent Departure** in terms of Section 15(b) of the Knysna Municipality: Standard Municipal Land Use Planning By-Law, 2016 for the relaxation of the 30m northern building line to 20m in order to allow for the abovementioned consent.
- ✓ **Permanent Departure** in terms of Section 15(b) of the Knysna Municipality: Standard Municipal Land Use Planning By-Law, 2016 for the relaxation of the 30m western building line to 3.5m in order to allow for the abovementioned consent.
- ✓ **Removal of restrictive conditions** in terms of Section 15(f) of the Knysna Municipality: Standard Municipal Land Use Planning By-Law, 2016 in order to allow for the abovementioned consent.

### A.2. DETAILS OF THE DEVELOPMENT AREA

Table 3 - Details of the Development Area

<b>TITLE DEED DESCRIPTION</b>	PORTION 113 OF THE FARM RUYGTE VALLEY NO. 205, SITUATED IN THE MUNICIPALITY OF KNYSNA, PROVINCE OF THE WESTERN CAPE
<b>TITLE DEED NUMBER</b>	T14982/1974
<b>PROPERTY SIZE (m<sup>2</sup>)</b>	3.0081 HECTARES
<b>CURRENT ZONING</b>	AGRICULTURAL ZONE
<b>OWNER OF PROPERTY</b>	CASPER JOHANNES SCHMIDT



## SECTION B: CONTEXTUAL INFORMANTS

The following section includes information relating to the locality, current land use, zoning and surrounding area.

### B.1. LOCALITY

The property within the Knysna Municipality is located along the N2 National Road.

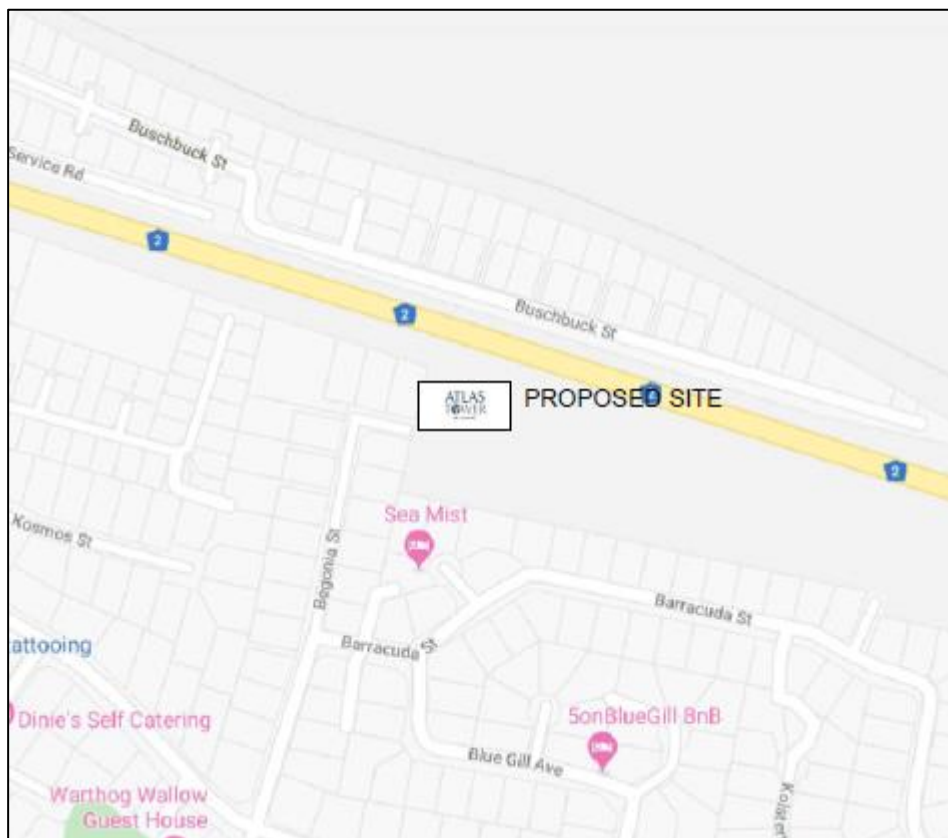


Figure 1 - Location of the property along N2 National Road

## B.2. CURRENT LAND USE AND ZONING

Table 4 - Current land use and zoning

<b>CURRENT LAND USE</b>	The property is being utilised for agricultural purposes
<b>ZONING</b>	Agricultural Zone

## B.3. SURROUNDING AREA

The surrounding land uses comprises mainly of residential properties. Suburbs in the nearby area includes Smutsville to the south, Sedgehill to the south-west and Cola Beach further to the south.

The N2 National road runs along the northern boundary of the property that serves as the main corridor in the area connecting to the surrounding towns.

## SECTION C: DEVELOPMENT PROPOSAL

### C.1. APPLICATION SPECIFICATIONS

The client, Atlas Tower wishes to apply for consent use in order to erect a FSBTS.

#### C.1.1 Development Concept

The application comprises the following proposed development parameters:

- ✓ A 15m Tree type mast,
- ✓ 4 x 3-sector antennas attached to the mast,
- ✓ Microwave dishes attached to the mast,
- ✓ 4 x Equipment containers, and
- ✓ A 2.4m high Palisade Fence.

The total ground coverage of the FSBTS 100m<sup>2</sup>.

#### C.1.2 Building Line Relaxation

In terms of the property's zoning of 'Agricultural Zone', building line restrictions of 30m are applicable (please read together with the Section 8 Zoning Scheme Regulations, 1988). The FSBTS is proposed



close to the north-western corner of the property within the 30m northern building line and 30m western building line.

Accordingly, the following permanent departure are applied for:

- ✓ **Permanent Departure** in terms of Section 15(b) of the Knysna Municipality: Standard Municipal Land Use Planning By-Law, 2016 for the relaxation of the 30m northern building line to 20m in order to allow for the abovementioned consent.
- ✓ **Permanent Departure** in terms of Section 15(b) of the Knysna Municipality: Standard Municipal Land Use Planning By-Law, 2016 for the relaxation of the 30m western building line to 3.5m in order to allow for the abovementioned consent.

The FSBTS is positioned within the building line. However, this will not obstruct the existing utility services, landscaping etc.

### C.1.3 Deletion of Restrictive Title Deed Conditions

The use of the property is restricted in terms of condition D on page 4 of the title deed T14982/1974. This title deed conditions reads as follows:

1. *“Mag slegs vir woondoeleindes gebruik word en geen besigheid mag daarop opgerig word nie. Nie meer as eenwoonhuis mag opgerig word nie. ‘n Boulyn van 20m gemeet vanaf die grootpadreserwegrens moet toegepas word. Geen verdere onderverdelings mag plaasvind nie.”*

An application is therefore required for the removal of these restrictive title deed conditions in terms of Section 15(f) of the Knysna Municipality: Standard Municipal Land Use Planning By-Law, 2016, to permit a 15m FSBTS.

### **Section 25 of the Constitution of South Africa:**

- No one may be deprived of property except in terms of law of general application, and no law may permit arbitrary deprivation of property.

(2) Property may be expropriated only in terms of law of general application— (a) for a public purpose or in the public interest; and (b) subject to compensation, the amount of which and the time and manner of payment of which have either been agreed to by those affected or decided or approved by a court.

(3) The amount of the compensation and the time and manner of payment must be just and equitable, reflecting an equitable balance between the public interest and the interests of those affected, having regard to all relevant circumstances, including—

- (a) the current use of the property;
- (b) the history of the acquisition and use of the property;
- (c) the market value of the property;

(d) the extent of direct state investment and subsidy in the acquisition and beneficial capital improvement of the property; and

(e) the purpose of the expropriation.

(4) For the purposes of this section—

(a) the public interest includes the nation's commitment to land reform, and to reforms to bring about equitable access to all South Africa's natural resources; and

(b) property is not limited to land.

(5) The state must take reasonable legislative and other measures, within its available resources, to foster conditions which enable citizens to gain access to land on an equitable basis.

(6) A person or community whose tenure of land is legally insecure as a result of past racially discriminatory laws or practices is entitled, to the extent provided by an Act of Parliament, either to tenure which is legally secure or to comparable redress.

(7) A person or community dispossessed of property after 19 June 1913 as a result of past racially discriminatory laws or practices is entitled, to the extent provided by an Act of Parliament, either to restitution of that property or to equitable redress.

(8) No provision of this section may impede the state from taking legislative and other measures to achieve land, water and related reform, in order to redress the results of past racial discrimination, provided that any departure from the provisions of this section is in accordance with the provisions of section 36(1).

(9) Parliament must enact the legislation referred to in subsection (6).

#### **SPLUMA (Section 47):**

A restrictive condition may, with the approval of a Municipal Planning Tribunal and in the prescribed manner, be removed, amended or suspended.

If the removal, amendment or suspension will deprive any person of property as contemplated in section 25 of the Constitution then you have due regard for the respective rights of those affected, and to the public interest.

- The removal of restrictive condition will not deprive any person in the area of any rights as contemplated in section 25 of the Constitution. It can however be argued that the restrictive conditions are currently depriving the property owner from exercising his/her/its rights and permitted/consent uses as prescribed in the City of Cape Town By-law on Land Use Planning.
- As per section 25(5) of the Constitution the state must take reasonable legislative and other measures, within its available resources, to foster conditions which enable citizens to gain access to land on an equitable basis. In this respect it can be argued that the restrictive condition 5(c) in the title deed is limiting access to the property by not allowing any portion of the property to be sub-let.

The deletion of the relevant conditions will not be considered a deprivation of property. The proposed development falls within this category as it will improve the connectivity, communication and economy in a well located area without detracting from the character of the area. As indicated above,

the proposed development is consistent with the development and land use principles set out in SPLUMA and LUPA.

In terms of Section 39(5) of LUPA, 2014 (Act 3 of 2014), when a Municipality considers the removal, suspension or amendment of a restrictive condition the Municipality must have regard to at least the following:

	Condition 1	
a	The financial or other value of the rights	The restrictive condition prohibits certain consent and primary uses in terms of the application sites current zoning. The restriction therefore has a negative effect on the value and potential utilization of the property.
b	Personal benefit which accrue to the holder of rights	It is not considered that the holder has any benefit deriving from the restrictive condition. It should be noted that the restriction in its current form prohibits certain primary and consent uses in terms of the current zoning. The property owner and future owners still have to submit formal Consent Application for Certain uses that could have a negative impact on the surrounding area. Potential redevelopment or proposed future developments on the application site still require the approval of the Knysna Municipality.
c	Personal benefit which accrue to the person seeking the removal of the restrictive condition if it is removed	<p>1) The removal of the restrictive condition will allow the property owner and future owners to utilize the property according to the current zoning and uses allowed in terms of the By-Law.</p> <p>2) The restrictive condition prohibits some consent and even Primary uses. For this specific application the removal of restriction will allow the property owner to accommodate a FSBTS on the application site subject to Council Consent.</p> <p>3) The removal of the restrictive condition paves the way for the owner or future owners to redevelop the property as they see fit (subject to Council Consent).</p>

		4) The removal of the restrictive condition will increase the value of the property as the restrictive condition in its current form limits the potential of the applicant site.
d	Social benefit of the restrictive condition remaining in place in its existing form	Restrictive conditions were often inserted into title deeds in order to protect the amenity, unique character and sense of place experienced in an area. It is not considered that the restrictive in its current form adds any value to the above mentioned.
e	Social benefit of the removal of the restrictive condition	<p>1) The removal of the restrictive condition opens the door for some Consent and Primary uses which were previous unattainable due to the restrictive condition.</p> <p>2) This application relates to the Council's consent to a FSBTS on the application site.</p> <p>3) Atlas Tower envisaged constructing a FSBTS on the application site and allowing for colocation on this mast should all necessary approvals be granted.</p> <p>4) The proposed development will increase the level of coverage and capacity for all consumers in the catchment area.</p> <p>5) Visitors to the area, tourists and daily commuters will benefit by having access to improved network coverage and data capabilities.</p>
f	Whether the removal of the restrictive condition will completely remove all rights enjoyed by the beneficiary or only some of those rights	The removal of the restrictive condition paves the way for Atlas Tower to construct a FSBTS on the application site (subject to Council approval). It should however be noted that the restriction in its current form prohibits certain primary and consent uses in terms of the current zoning. The property owner and future owners still have to submit formal Consent Application for Certain uses that could have a negative impact on the surrounding area. Potential redevelopment or proposed future developments on the application site still require the approval of the Knysna Municipality.

## C.2. ACCESS

Access to the proposed FSBTS will be obtained via the access gate to the property located on the western side of the property, situated along Begonia Street, Sedgefield.

## C.3. SECURITY

The entire base station site will be surrounded by a 2.4m tall Palisade fence with an access gate that will be locked at all times. The proposed equipment will be secure inside the equipment units that will be kept locked at all times. The antennae will be secure given their position at the top of the mast.

These measures rule out the possibility of any public access to the equipment and serve to protect the equipment from being vandalized. Similar security measures are implemented at similar installations and have proved to be very effective.

## C.4. POWER

Power for the FSBTS will be obtained from the available on-site electrical supply to the property. Advances in technology (telecommunication related equipment) enable the FSBTS to utilise less electricity.

## C.5. ENVIRONMENTAL REGULATIONS

Environmental and social sustainability are regulated by The National Environmental Management Act (Act 107 OF 1998) (NEMA) - published in Government Notice No. R324. When read together with the National Environmental Management Act Regulations Listing Notice 3 of 2017 (promulgated 08 December 2014), an Environmental Impact Assessment (EIA) or Environmental Authorization (EA) is only applicable in the following circumstances:

*The development of masts or towers of any material or type used for telecommunication broadcasting or radio transmission purposes where the mast or tower:*

- i) is to be placed on a site not previously used for this purpose; and*
- ii) Will exceed 15 meters in height*

*But excluding attachments to existing buildings and masts on rooftops.*

The requirements in the Western Cape are defined in NEMA Listing Notice 3 of 2014 (as amended 2017):

*(f) In Western Cape:*

- i) All areas outside urban areas; or*

ii) *Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority, or zoned for a conservation purpose, within urban areas.*

Environmental Authorisation is not required in terms of NEMA as the proposed mast does not exceed 15m in height.

## SECTION D: POLICY AND LEGISLATION

### D.1. SPATIAL PLANNING AND LAND USE MANAGEMENT ACT, 2013

This application complies with the land development principles (Chapter 2, SPLUMA, 2013) as referred to in section 42 of the *Spatial Planning Land Use Management Act, 2013* (Act 16 of 2013) (SPLUMA):

Table 5 - Compliance of application with Principles 7a-7e of SPLUMA, 2013

	HOW DOES THIS APPLICATION COMPLY WITH THIS PRINCIPLE?
<b><u>Principle 7a:</u></b> <b><i>Spatial Justice</i></b>	In a broader sense, spatial justice refers to an intentional incorporation of spatial (geographical) aspects. This refer to the fair and equally distributed services and enhanced accessibility of these services. The aim of this proposal is to provide excellent communication service to the inhabitants of an area.
<b><u>Principle 7b:</u></b> <b><i>Spatial Sustainability</i></b>	Spatial sustainability is an explicit concept which describe the relations between environmental, economic and socio-cultural facets related to a societal environment. Enhanced signal in an area will promote all three the dimensions of sustainability (economic, social and environmental facets). Economically, businesses in the area will benefit from enhanced connectivity. The social facet is addressed as more people will have access to emergency services (e.g. Healthcare, Police, Fire response etc.). The third dimension (Environmental facets) will be promoted as the sensible placement of telecommunication base stations and the possibility of co-location will limit the amount of base stations should there be sufficient signal in an area.
<b><u>Principle 7c:</u></b> <b><i>Spatial Efficiency</i></b>	Spatial efficiency relates to the concept of minimum distance to be travelled between a specific location and intended destination. FSTBS and RTBS is placed in an area (optimally situated between planned and existing stations) with a reason. This reason is to incorporate various factors (e.g. amount of users, quality of service etc.) when considering the placement in order to promote effectiveness and is not merely placed by random.
<b><u>Principle 7d:</u></b> <b><i>Spatial Resilience</i></b>	Spatial resilience can be defined as the ability of a region to withstand possible arising shocks (e.g. economic crisis, social disruptions etc.). However, FSTBS and RTBS will be a service that will always be necessary. In a state of crisis, communication plays an integral role in a societal environment.
<b><u>Principle 7e:</u></b> <b><i>Good administration</i></b>	This installation will be lawful and reasonable, following an equal and fair public participation process in order to incorporate the views and opinions of all relevant parties.

## D.2. CELLPHONE TOWER POLICY, 2008

- Annexure F relates to the required documentation that addresses the health and safety aspects.
- There are no structures in the nearby surrounding area that are tall enough to accommodate the proposed base station. A mast is the only feasible solution.
- The mast is proposed as a tree in order to blend in with the 'forest' character of Sedgfield.
- The alternative sites are discussed on page 18 of this motivation report. On page 19 alternative designs and colour solutions are discussed.
- The mast provides for the co-location of three service providers.
- The mast is proposed at a minimal height of 15m in order to ensure that there are no habitable structures in direct line of sight from the antennas.
- In order to comply with the last point of the policy, it can be proposed to plant small trees and a few bushes around the base station for additional mitigation.

## SECTION E: MOTIVATION

This section is seen as the motivation of the application as it provides information with regard to the need and desirability, development parameters, site characteristics, visual impact, health and safety and alternative candidates relating to this specific application.

### E.1. BACKGROUND

Over recent years' cellular communication in South Africa has evolved from merely a means of convenience to an essential business tool, means of communication and safety measure. Initial high tariff rates limited the accessibility of the product and its service. However, over time more reasonable consumer tariffs and packages have been introduced, making cellular communications more accessible to a much larger sector of the population.

Data usage on the mobile networks is also becoming faster, more affordable, and more accessible. User behaviour patterns are continuously changing in reaction to cheap internet, new data intensive smartphones, data intensive applications and websites, and an increasingly social-media-driven society. These factors resulted in the average consumer data usage doubling every year.

The current cellular infrastructure is not equipped to handle this level of high demand. As a result, the networks become congested with connection problems and dropped calls on the voice network and limited or unstable internet connections on the data network.

Cellular service providers are taking steps to improve their network by keeping abreast with the advances in communication technology and providing increased capacity in terms of coverage in the



areas where there is an increased demand. Atlas Tower strives to make this technology available to a wider spectrum of the population.

Newer technology such as LTE provides faster internet to more users which alleviates the pressure on the base station, however its range is very limited. A single old generation GSM voice based base station could cover dozens of kilometres. The new LTE base stations have a maximum coverage range of 500m depending on the number of users.

The congestion of existing sites together with the decrease in its coverage range necessitates that the distance between base stations decreases, resulting in the need for construction of new freestanding and rooftop cellular base stations.

It is estimated that cellular network operators in South Africa will build more than 4000 new base stations over the next 5 years.

The proposed site is located at a nominal point as identified by Atlas Tower network planners. By utilizing sites located at the networks' nominal points the number of future base stations is limited and an effective service network can be developed.

## E.2. DEVELOPMENT MOTIVATION

Please read together with previous sections in this application. This consent use in order to allow for the erection of a FSBTS should be supported based on the following grounds:

### E.2.1. Need and Desirability

In a modern-day society, the dependency on communicative technology becomes increasingly higher. This is due to the society's utilisation of more mobile devices and more than one device per household which mainly relies on internet connectivity (e.g. smartphones, portable computers, tablets/ipads etc.). These devices are used for multiple purposes including socialisation, business related uses and accessibility to important emergency services. Due to factors including densification, urbanisation and influx of seasonal guests especially over festive seasons and holidays, in a tourist attractive place like Sedgfield, poor network coverage (related to both voice and data) is experienced. Atlas Tower identified several positions in the area that need to be equipped with base stations to alleviate the pressure and to cater for the ever-increasing demand.

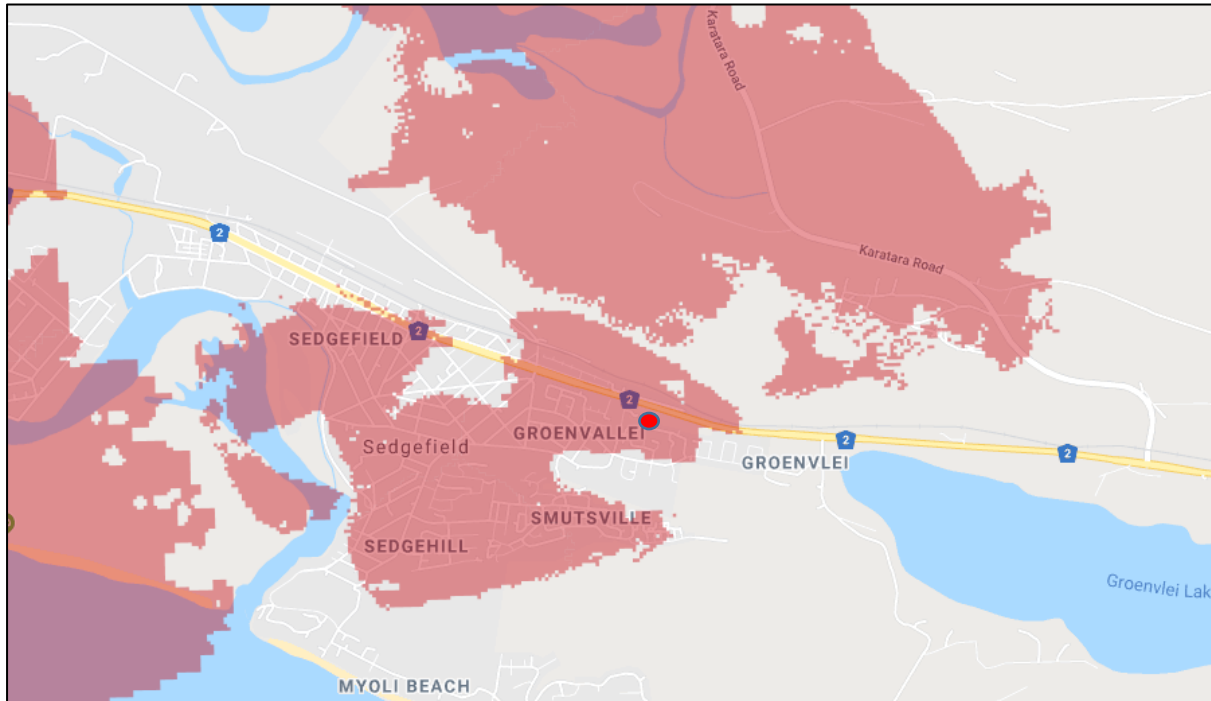


Figure 2 – Fixed LTE Coverage for MTN for the area of Sedgefield (red)

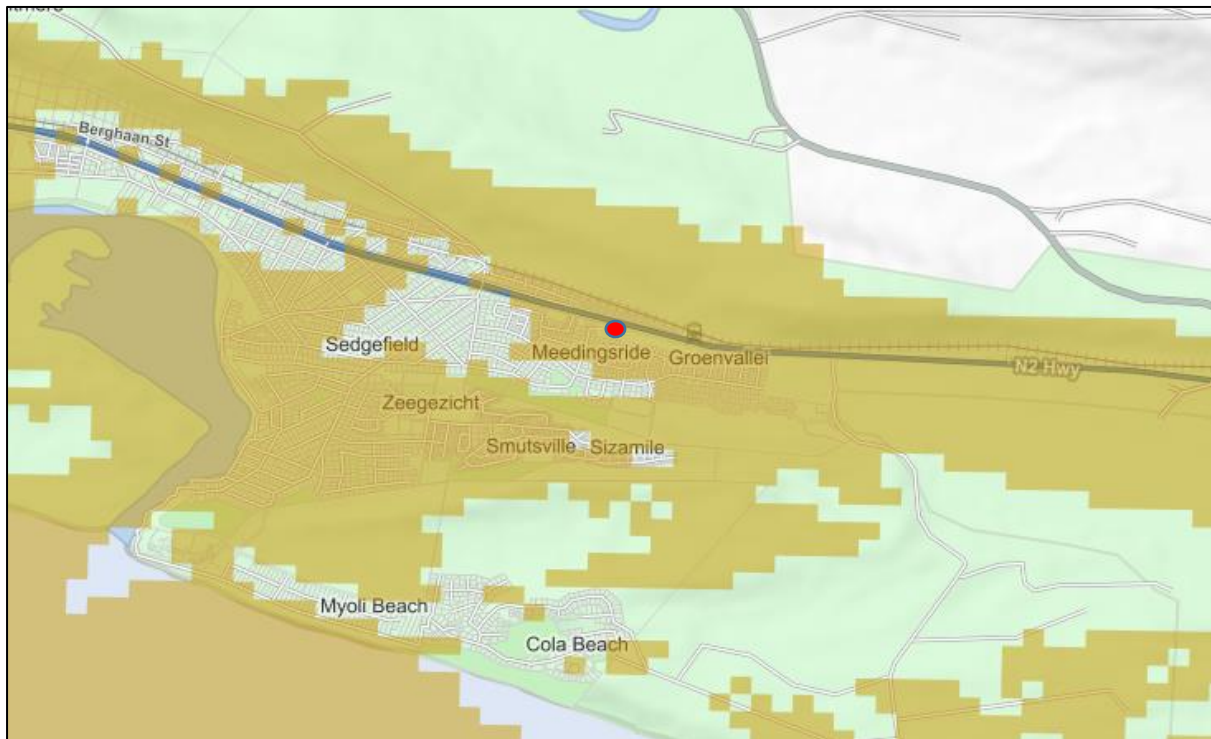


Figure 3 – Advanced LTE Coverage for Vodacom for the area of Sedgefield (Orange)

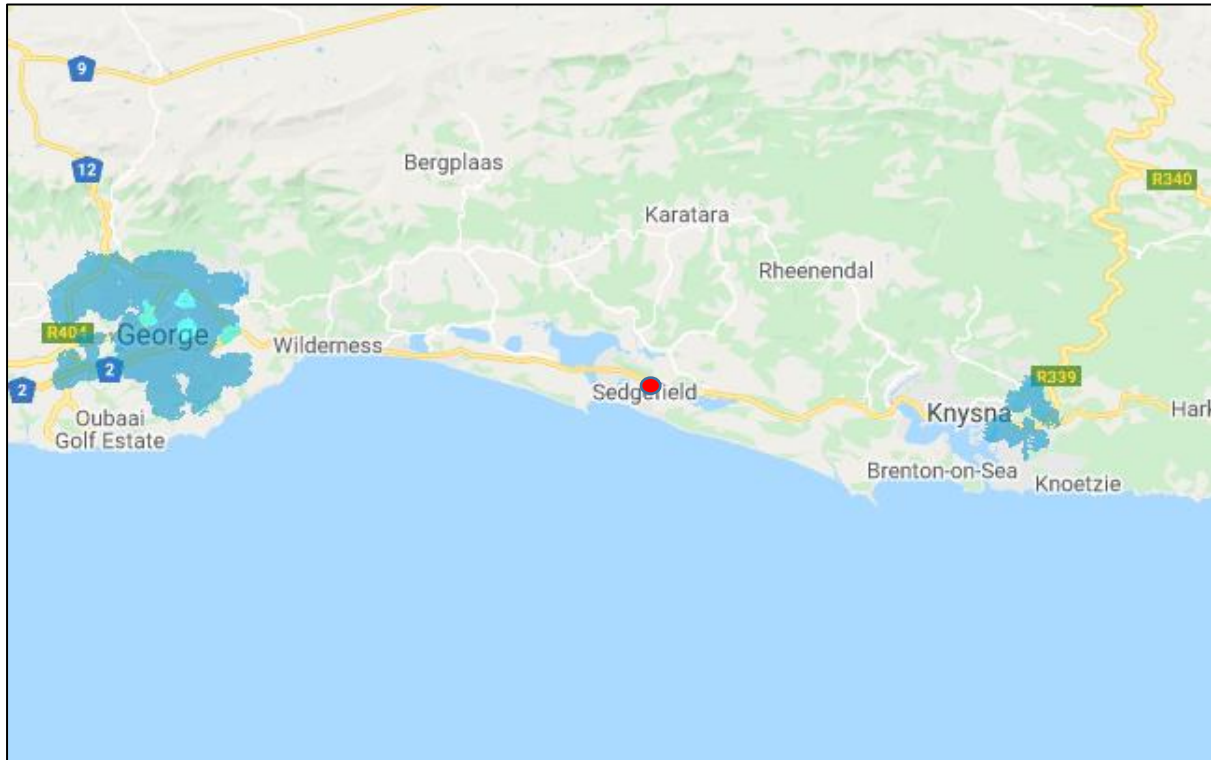


Figure 4 - Fixed LTE Coverage for Cell C for the area of Sedgefield (Blue)

Figures 2 to 4 illustrate the current coverage in Sedgefield. It should be noted that some areas have very limited or no LTE coverage. Therefore, a FSBTS as proposed in this application will increase the amount of coverage in this area.

The increase in network strength brought by the proposed FSBTS will aid the local businesses and can unlock growth potential which will have a positive economic impact. Residents, businesses and commuters will have a more secure connection to emergency services and armed response which will have a huge social impact.

The FSBTS will be erected at a cost of approximately R1.5mil. These high costs are a very good reason to rather co-locate on existing freestanding base stations or to settle for a rooftop base station in lieu of building a new freestanding base station.

The surrounding land uses mainly consists of residential properties. The proposed base station will not interfere with the current use of the property and there are no negative impacts on the surrounding land uses and environment. No trees need to be removed to build the base station and no buildings with heritage value will be affected.

The proposed use will have no impact on the external engineering services, on transport or traffic related considerations, or on the biophysical environment. Every possible measure has been taken to make the design as aesthetically pleasing as possible.

It is our submission that the proposed use will have no detrimental impact on the surrounding properties and will provide an essential service to the surrounding community.

### E.2.2. Site selection methodology

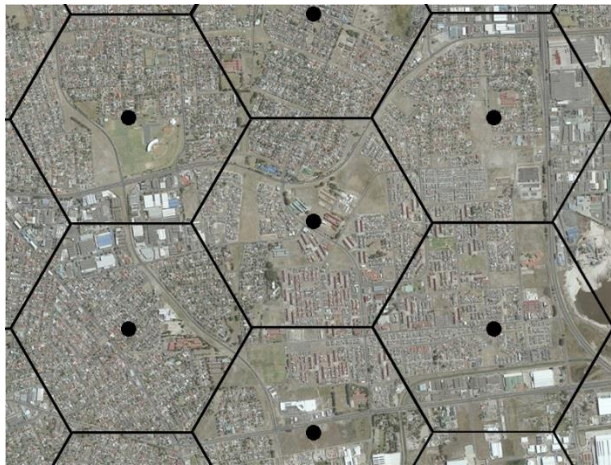
The current roll out of telecommunication infrastructure by cellular network providers is undertaken to upgrade and improve network coverage and quality to all customers. Telecommunication networks experience peak demand in the evenings between 18:00 and 23:00. This is because during these times people are at their homes and use internet intensive devices. Thus, a large portion of the network upgrade is aimed at residential areas. Business and other activity areas have been prioritised over the past 20 years, for commercial reasons and given the fact that legislation and policies steered proposals of this nature, towards non-residential areas.

When choosing a site for a telecommunication base station, service providers are guided by nominal points indicating the areas where poor signal is being experienced.

#### E.2.2.1. Choice of site

These points are selected because of an increase of customer complaints, within an area. As an increase in the number of users occurs, the area which is covered by the existing network decreases, leading to poorer network coverage. Figures 5-7 strive to explain how the need for an increase in cellular infrastructure evolves in a typical urban area.

*Cellular infrastructure explained:*



*Figure 5 is an illustration of optimum network and data coverage. This is explained by envisioning the octagonal shape of a honeycomb (cells).*

*Figure 5 - Initial coverage (cell) provided by Telecommunication Base Stations*



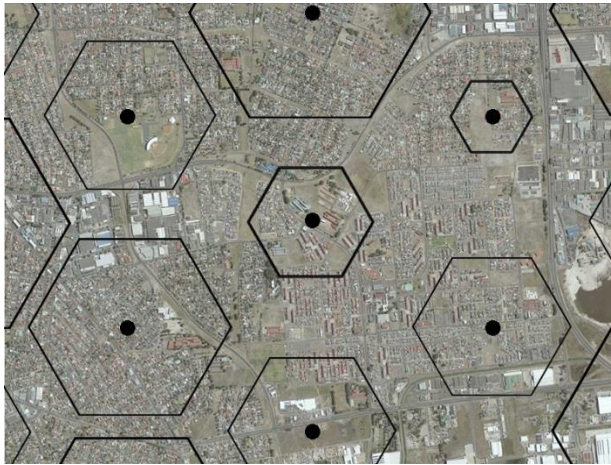


Figure 6 - Coverage decreases due to increase in network users  
- cell size decreases

*As network users increase, the cells shrink which leads to gaps within this network of cells. This leads to dropped calls, weak/limited signal and the failure to access the latest technologies in communication innovations.*

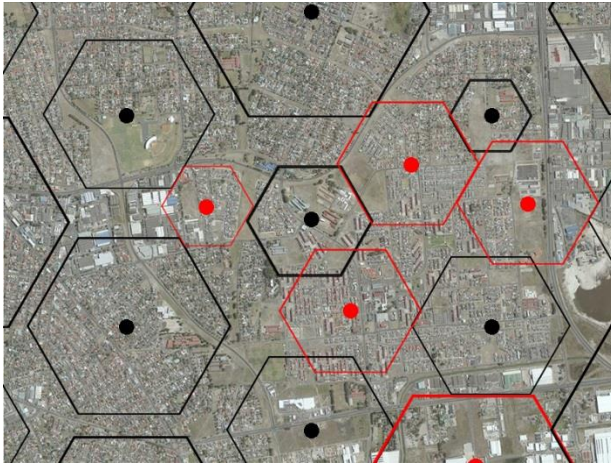


Figure 7 - Additional telecommunication base station required to fill the gaps

*Gaps between cells require new/additional telecommunication base stations to be placed in these gaps to retain good network coverage*

Locations for telecommunication infrastructure are primarily chosen within areas where a need exists for coverage (refer to Figure 6). If a need for coverage does not exist in a specific area, no company would invest capital to build a telecommunication base station in the said area. The fact that there are only a few telecommunication base stations in the surrounding area supports the statement that there is a clear need for coverage in the area.

The need for coverage is however not the only determining factor when identifying a possible position for a telecommunication base station. Other determining factors include altitude, zoning and the visual impact of the proposed base station. Distance away from existing base stations in the surrounding area is also an influencing factor.

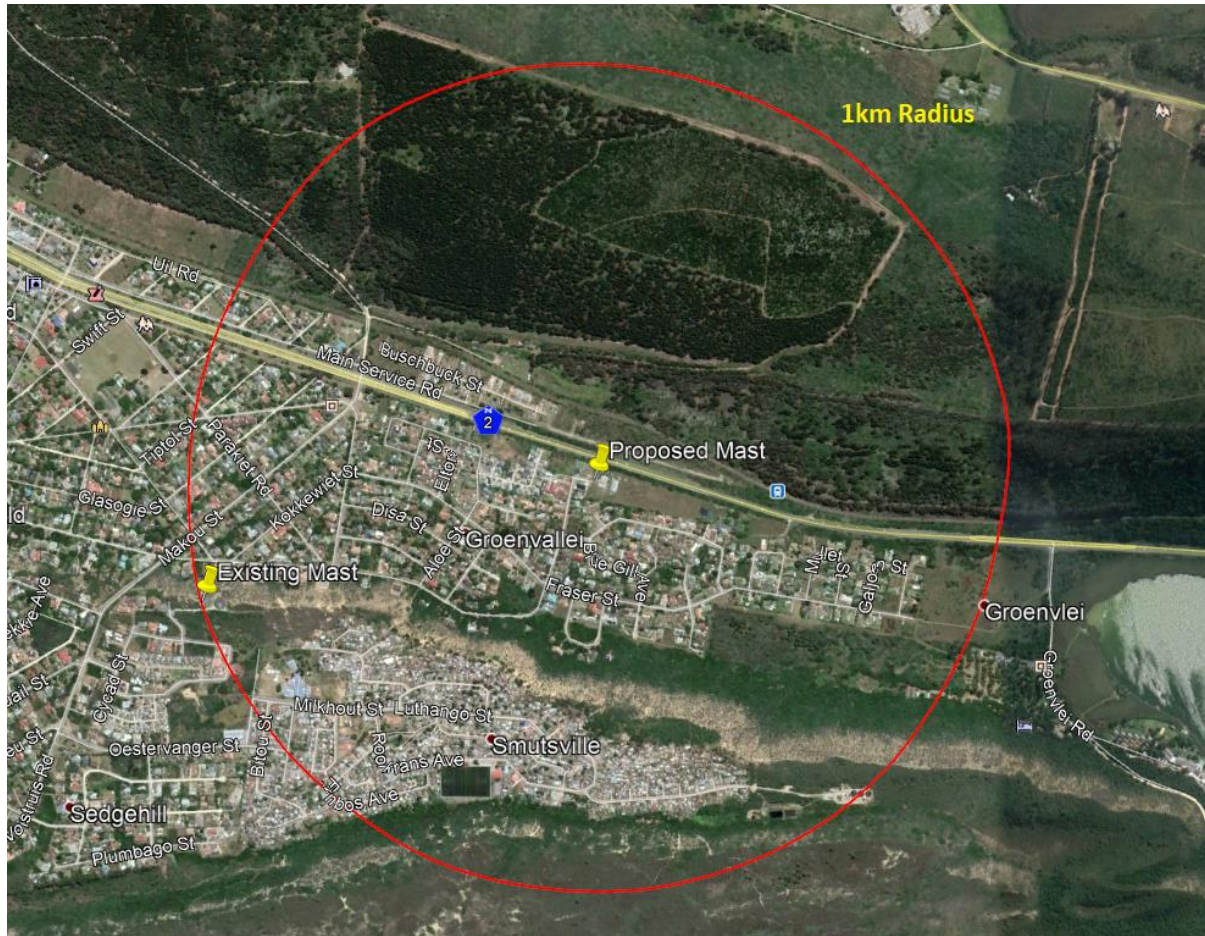


Figure 8 - Surrounding base stations

Considering the information in Figure 8 the need for the proposed FSTBS is clear. Existing base stations are not sufficient to provide coverage as there is only one existing base station within 1km from proposed FSTBS. The existing base station is located approximately 980m from the proposed base station. Due to the large number of cellular users in the area, the existing base station is experiencing congestion, especially during peak hours of the day. Another base station is therefore required.

Alternative sites were considered during the initial stages of the process, but the selected site was deemed more appropriate. The alternative explored is located on the same farm as the nearby surrounding area consists mainly of residential properties.



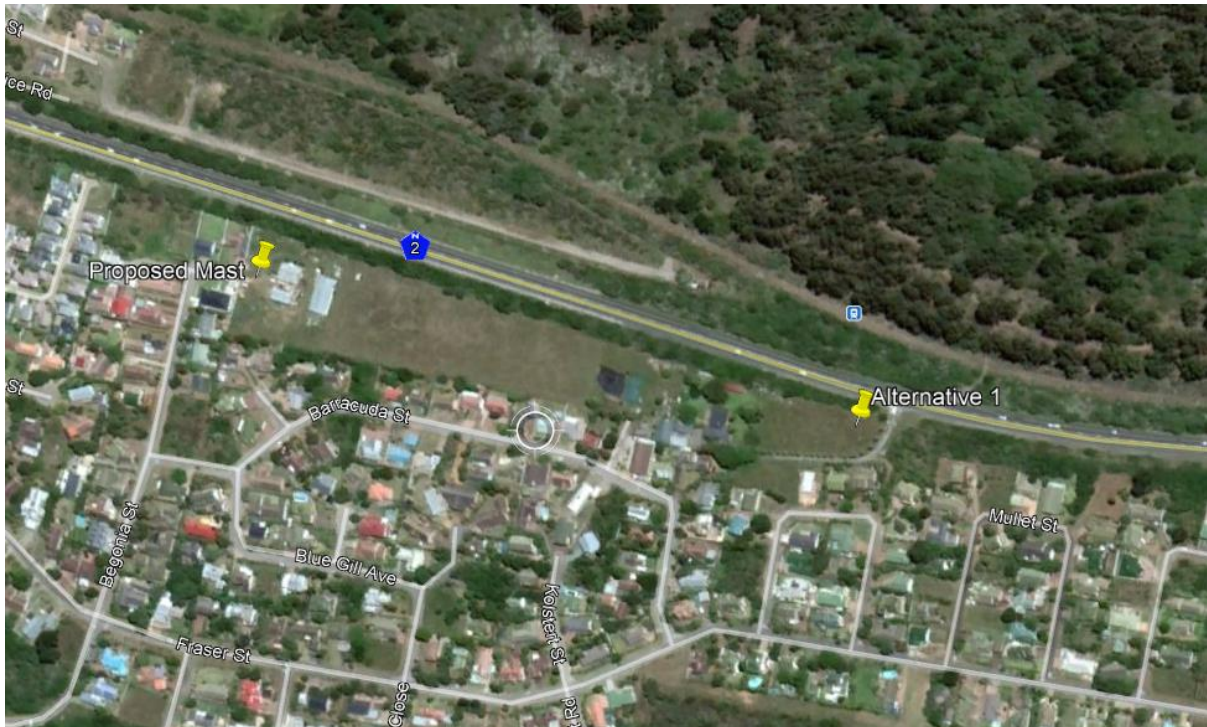


Figure 9 - Alternative sites

Alternative 1 is located on the same farm, but considering that there are no existing buildings at this location, the visual impact will be greater on the surrounding area.

It was however decided to propose the base station closer to the existing buildings on the property as these will assist in reducing the visual impact of the base station. In addition, the power is supplied from the existing building right next to the proposed location for the base station.

#### E.2.3. Site characteristics

Special consideration is given to geographical aspects so that each base station is positioned to ensure optimum functionality. This reduces the number of base stations necessary to provide an optimal network. At the same time, special attention is also given to ensure that there is minimal impact on the local, social, physical, natural and visual environments.

This site was selected for several reasons, namely:

- It is situated optimally between planned and existing sites,
- There is a huge demand by cellular users in this area and the surrounding base stations are unable to provide an acceptable level of coverage to the area,
- It is accessible to contractors during construction and maintenance,
- The proposal and location of the base station is the best solution to the coverage problem of the area with the least negative impacts,
- The proposal is secure due to its locality, and



- Most importantly it will serve the complaint area (the area with the lowest levels of cellular reception due to locality and high volumes of users) optimally.

It is important to note that the nature of such development is dependent on a “willing landlord” scenario. The theoretically best position is determined by the radio engineers and the closest properties that adhere to the above guidelines are targeted. Often several properties are targeted before a willing landlord is discovered that terms can be agreed with.

#### E.2.4. Visual Impact

The proposed FSTBS will create an opportunity for other service providers to co-locate, as other structures of this height do not exist in this area.

It is proposed that the mast should be camouflaged as a tree in order to reduce the visual impact. There are a row of trees along the northern boundary of the property as well as a large number of trees on the opposite side of the N2 National Road. The existing trees will assist in reducing the visual impact of the proposed tree mast.

In addition, the proposed equipment and mast can be colour coded (painted grey or green) to match the backdrop to further mitigate the visual impact and ultimately blend in with its surroundings. Alternative designs such as a monopole (painted green) or lattice can also be proposed at this location.



*Figure 10 - Superimposition of proposed 15m mast viewed from N2*



*Figure 11 - Superimposition of 15m tree mast viewed from Klipvis Street*

#### E.2.5. Health concerns

There has been increasing public concern about health risks associated with cellular communication. Current scientific research is yet to produce conclusive evidence suggesting adverse health effects associated with, working with or living close to cellular technology. Although antennae and base stations emit radio waves, their frequency is not considered high enough to pose a health risk. Antennae mounted on towers, masts or any other structures are usually substantially elevated above ground level, and as radio waves are emitted at this level thereby further reducing the amount of radiation at ground level. Furthermore, regular tests regarding the compliance to safety regulations add to reducing the health risk factor.

South Africa's Department of Health has published EMF exposure limit guidelines. These are based on guidelines endorsed by the ICNIRP (International Commission on Non-Ionising Radiation Protection), an independent scientific organization established in 1992. Emissions from the base stations and antennae comply with these guidelines.

## **SECTION F: CONCLUSION**

This consent use application for a proposed FSTBS on Portion 113 of the Farm Ruygte Valley No. 205 will provide an essential and sought after service to the surrounding community, businesses and commuters. This application is in line with the current policy and legislation on a local level. We would like to emphasise the positive contribution this base station will have on the immediate as well as the surrounding community and passing commuters:

- Most households in the surrounding area depend on the services of the cellular telecommunications providers, including internet and social networking media (Facebook, Twitter etc.). With such a high demand for their products, it follows that service providers are responsible for supplying a high level of network coverage.
- *Please note:* The residents in the area are not the only ones being provided with these services. Visitors to the area, businesses and daily commuters will benefit by having access to improved communication facilities.
- Mobile communication has become an important safety and security element in modern society. In an emergency, such as housebreaking, medical alert or fire, a member of a household can quickly and easily contact the emergency services for help. However, if the coverage of mobile service providers' is poor, then contacting emergency services becomes a difficult task.

Finally, we would like to emphasize that communications companies deliver an important service to the wider public, and in terms of their license with ICASA they have to meet certain standards in order to retain their licenses. One of these standards is to supply adequate network coverage to their demanding customers. The proposal also allows for all other service providers to share this installation and refrain from constructing another base station in this area.

Please notify us should any additional information be required. We look forward to your positive consideration of this application.

















