NOTICE OF LAND DEVELOPMENT APPLICATION IN THE STELLENBOSCH MUNICIPAL AREA

APPLICATION FOR CONSENT USE ON ERF 15827, STELLENBOSCH

10/03/2022

Dear Sir/Madam

The following land use application in terms of the Stellenbosch Land Use Planning Bylaw, 2015, refers:

Application Address: Merriman Avenue, Stellenbosch

Applicant: Adriano Rodrigues / Warren Petterson Planning / 021 552 5255

Owner: Francois Christiaan Swart o.b.o Stellenbosch University / 021 808 4834

Application Reference: LU/ 13506

Description of land development application:

Application is made in terms of Section 15(2)(0) of the Stellenbosch Municipality Land Use Planning By-Law, 2015 for a Consent Use to install additional rooftop cellular communications antennas to the existing roof top base station on Erf 15827 Stellenbosch.

Notice is hereby given in terms of the said Bylaw that the above-mentioned application has been submitted to the Stellenbosch Municipality for consideration. The application is available for inspection on the Planning Portal of the Stellenbosch Municipal Website for the duration of the public participation process at the following address: https://www.stellenbosch.gov.za/planning/documents/planning-notices/land-use-applications-advertisements. If the website or documents cannot be accessed, an electronic copy of the application can be requested from the Applicant.

Written comments, which must include the reference to the application, the name, contact details and physical address of the person to submit the comments, the reasons for the comments, and the interest of the person in the application, may be submitted in terms of Section 50 of the said Bylaw to the Applicant by electronic mail as follows: Adriano Rodrigues / adriano@wpplanning.co.za. By lodging an objection, comment or representation, the person doing so acknowledges that information may be made available to the public and to the applicant.

The comments must be submitted within **30** days from the date of this notice to be received on or before the closing date of **11/04/2022**. For purpose of fair administrative action, it is deemed reasonable and justifiable in the circumstances to increase the prescribed minimum number of days for public comment from interested and affected parties over the core festive period. The notice period must exclude the first day on which the notice was served and include the last day, save for when the last day falls on a weekend day, in which case the closing date will be considered the following Monday, or if the closing day falls on a public holiday, in which case the closing date will fall on the next normal working day.

For any enquiries on the Application or the above requirements, or if you are unable to write and /or submit your comments as provided for, you may contact the Applicant for assistance at the e-mail address provided or telephonically at **082 819 1805/021 552 5255** during normal office hours.

KENNISGEWING VAN GRONDONTWIKKELINGSAANSOEK IN DIE STELLENBOSCH MUNISIPALE AREA

AANSOEK VIR VERGUNNING GEBRUIK OP ERF 15827, STELLENBOSCH

10/03/2022

Geagte Meneer/Mevrou

Adres van eiendom: Merriman Laan, Stellenbosch

Aansoeker: Adriano Rodrigues / Warren Petterson Planning / 021 552 5255

Aansoek Verwysing: LU/ 13506

Eienaar:

Beskrywing van grondontwikkelingsaansoek:

Aansoek word gedoen in terme van Artikel 15(2)(0)) van die Stellenbosch Verordeninge op Grondgebruikbeplanning (2015) vir 'n Vergunnings Gebruik aansoek om addisionele antennas the instaleer by die bestaande dak-telekomunikasie stasie op erf 15827 Stellenbosch.

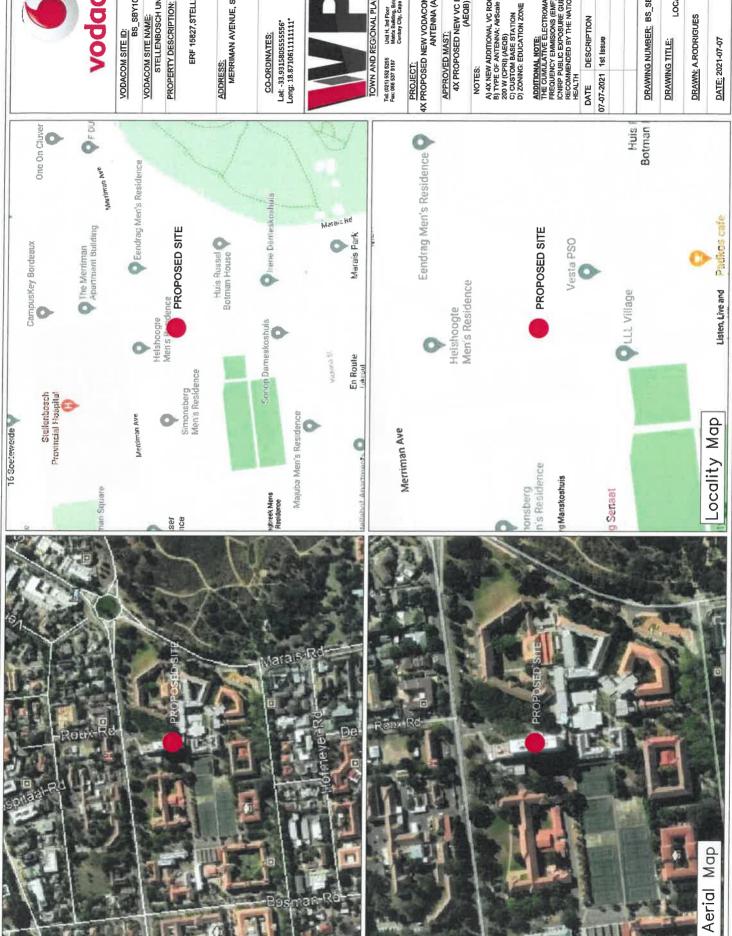
François Christiaan Swart, namens die Universiteit van Stellenbosch

Kennis word hiermee gegee in terme van die genoemde Verordeninge dat bovermelde aansoek by die Stellenbosch Munisipaliteit ingedien is vir oorweging. Die aansoek is beskikbaar vir insae op die Beplannings Portaal van die Stellenbosch Munisipaliteit se Webtuiste vir die tydsduur van die publieke deelname proses by die volgende adres: https://www.stellenbosch.gov.za/planning/documents/planning-notices/land-use-applications-advertisements. Indien die webtuiste of tersaaklike dokumente nie toeganglik is nie, kan die Aansoeker versoek word om 'n elektroniese kopie beskikbaar te stel.

Skriftelike kommentaar, wat besonderhede ten opsigte van die verwysings nommer van de aansoek, die name, fisiese adres en kontak besonderhede van die persoon wat die kommentaar lewer, die redes vir die kommentaar, en die belang van die persoon wat die kommentaar lewer in die aansoek, kan ingedien word in terme van Artikel 50 van genoemde Verordeninge aan die Aansoeker by wyse van elektroniese pos as volg: Adriano Rodrigues / adriano@wpplanning.co.za. Deur 'n beswaar, kommentaar of vertoë te rig, erken die persoon wat dit doen dat inligting aan die publiek en aan die aansoeker beskikbaar gestel kan word.

Die kommentaar moet binne 30 dae vanaf die datum van hierdie kennisgewing gestuur word en moet ontvang word voor of op die laaste dag van die sluitings datum van 11/04/2022. Met die oog op billike administratiewe optrede word dit as redelik en regverdigbaar geag om die voorgeskrewe minimum aantal dae vir openbare kommentaar van belanghebbende en geaffekteerde partye gedurende die kernfeestydperk te verhoog. Die kennisgewing periode moet die eerste dag van kennisgewing uitsluit en die laaste dag van die 30 dae periode insluit, tensy die laaste dag op enige naweeksdag val, in welke geval die sluitingsdatum die daaropvoilgende Maandag sal wees, of indien die sluitingsdatum op enige publieke vakansiedag val, sal die sluitingsdatum die eerste daaropvolgende normale werkersdag wees.

Indien daar enige navrae op die aansoek of bovermelde vereistes vir die lewer van kommentaar is, of indien dit nie moontlik is om geskrewe kommentaar te lewer of die kommentaar op die wyse te lewer soos voorsienning gemaak is nie, kan die Aansoeker geskakel word vir bystand by die vermelde elektroniese pos adres of telefonies by **082 819 1805/021 552 5255** gedurende normale kantoor ure.





vodacom

VODACOM SITE NAME: STELLENBOSCH UNIVERSITY A VODACOM SITE ID: BS_SBY1022

ERF 15827, STELLENBOSCH

<u>ADDRESS:</u> MERRIMAN AVENUE, STELLENBOSCH

Lat: -33.9315805555556* Long: 18.8710611111111* CO-ORDINATES:

ELEVATION: 126m TOWN AND REGIONAL PLANNING CONSULTANTS

Po Box 152, Century City, 7446 Tet: (021) 552 5255 Unit H., 3rd Floor Fax: 086 537 9187 Menth Building, Bridgeway, Century City, Cepe Town

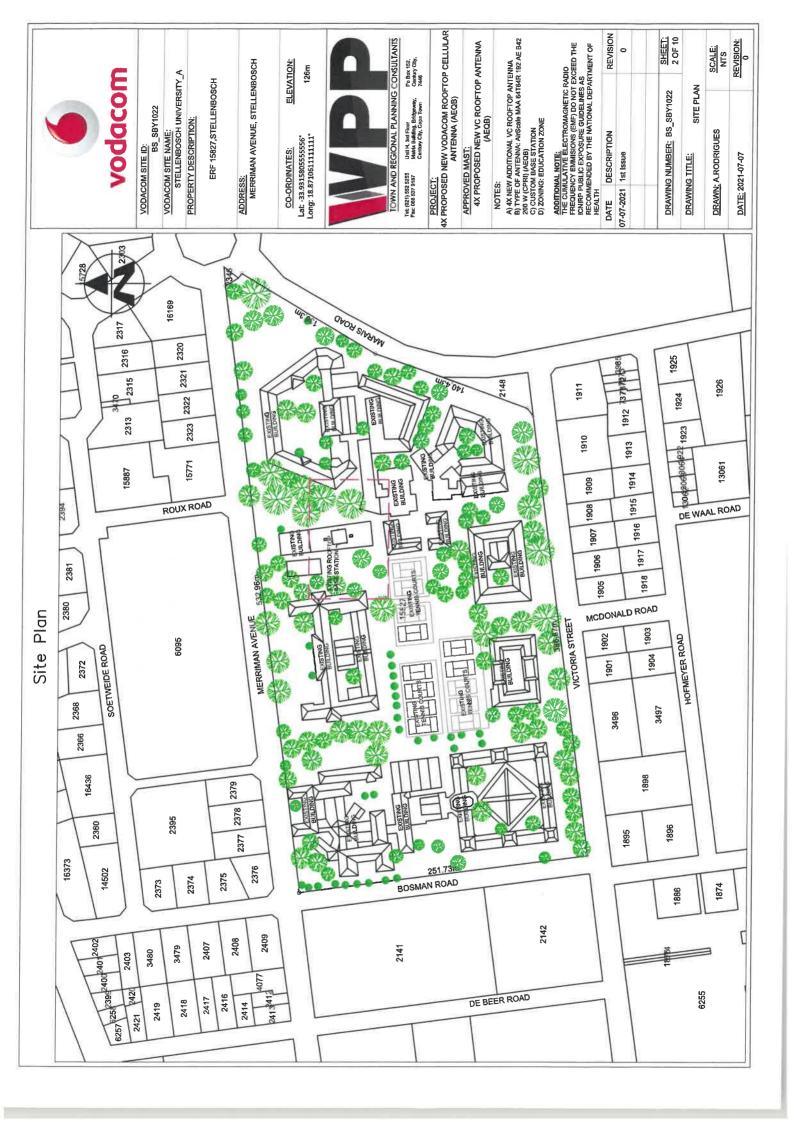
PROJECT: 4X PROPOSED NEW VODACOM ROOFTOP CELLULAR ANTENNA (AEQB)

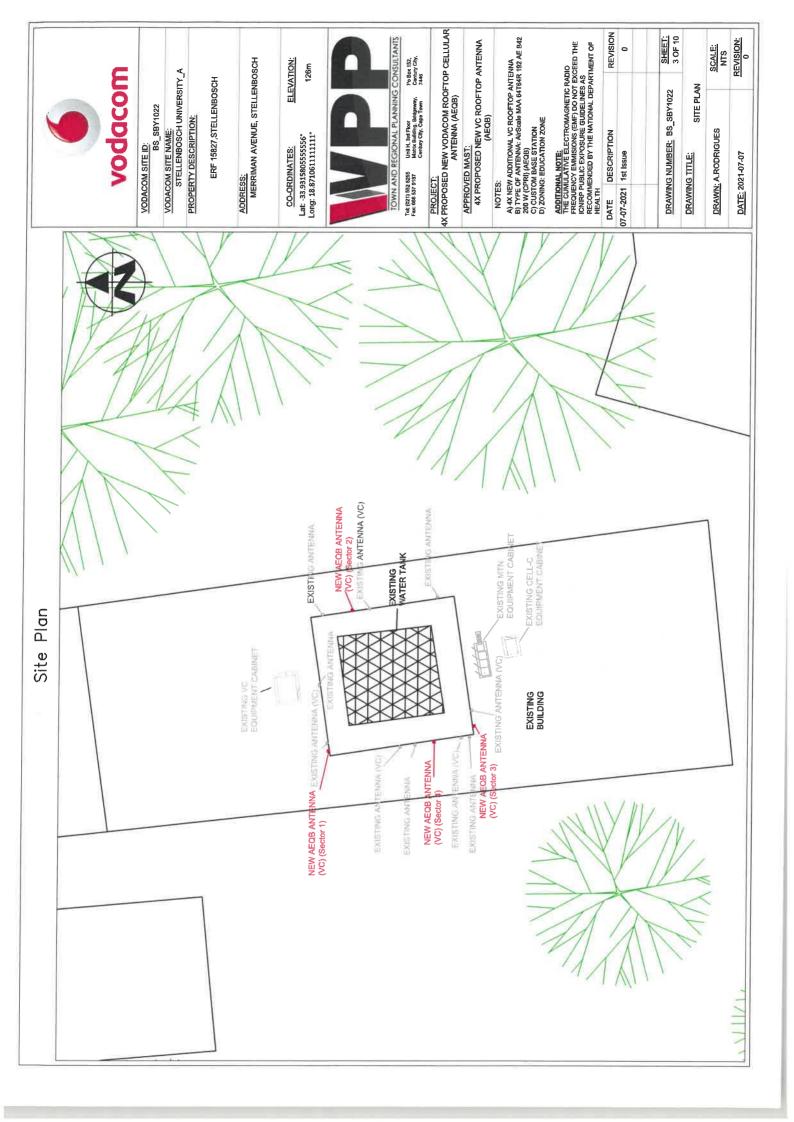
APPROVED MAST: 4X PROPOSED NEW VC ROOFTOP ANTENNA (AEQB)

A) 4X NEW ADDITIONAL VC ROOFTOP ANTENNA 31 TYPE OF ANTENNA: AIRSale MAA 64164R 192 AE B42 200 W (CPR) (ACB) C) CUSTOM BASE STATION D) ZONING: EDUCATION ZONE ADDITIONAL NOTE:
THE CUMULATIVE ELECTROMAGNETIC RADIO
THE CUMULATIVE ELECTROMAGNETIC RADIO
CONTRY PUBLIC EXPOSURE GUIDELINES AS
RECOMMENDED BY THE NATIONAL DEPARTMENT OF
FEALTH

| DESCRIPTION | 07-07-2021 1st Issue 0 | |
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| DATE | 37-07-202 | |

| MAP | SCALE: NTS | REVISION: |
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| LOCALITY MAP | <u> RAWN:</u> A.RODRIGUES | VTE: 2021-07-07 |

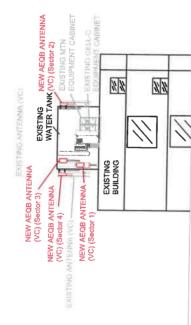




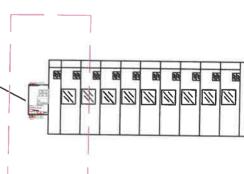
PROJECT: 4X PROPOSED NEW VODACOM ROOFTOP CELLULAR ANTENNA (AEQB) REVISION SHEET: 4 OF 10 A) 4X NEW ADDITIONAL VC ROOFTOP ANTENNA
B) TYPE OF ANTENNA: ArScale MAA 64T64R 192 AE 842
ZOW (CPRI) (AFCB)
C) CUSTOM BASE STATION
D) ZONING: EDUCATION ZONE REVISION: 0 TOWN AND REGIONAL PLANNING CONSULTANTS ADDITIONAL NOTE:
THE CUMULATIVE ELECTROMAGNETIC RADIO
FREQUENCY EMMISIONS (EMF) DO NOT EXCED THE
(ONIRP PUBLIC EXPOSURE GUIDELINES AS
RECOMMENDED BY THE NATIONAL DEPARTMENT OF 4X PROPOSED NEW VC ROOFTOP ANTENNA SCALE: NTS Po Box 152, Century City, 7446 ADDRESS: MERRIMAN AVENUE, STELLENBOSCH ELEVATION: 126m VODACOM SITE NAME:
STELLENBOSCH UNIVERSITY_A vodacom ERF 15827, STELLENBOSCH ELEVATION DRAWING NUMBER: BS_SBY1022 Unit H, 3rd Floor Matrix Building, Bridgeway, Century City, Cape Town VODACOM SITE ID: BS_SBY1022 PROPERTY DESCRIPTION: DRAWN: A.RODRIGUES DESCRIPTION Lat: -33.9315805555556* Long: 18.8710611111111 CO-ORDINATES: APPROVED MAST. 07-07-2021 1st Issue DATE: 2021-07-07 DRAWING TITLE: Fax: 021) 552 5255 Fax: 086 537 9187 NOTES: Advisory of warning signage including a pictogram may be a requiremnet for TMI. Susch signage shall identify the property and shall warn the general public as required. Such signage shall be to the Municipality satisfaction and may not be larger than 400mm x 500mm. 11/11/11 This application will comply with the Stellenbosch, Telecommunication Mast Infrastructure Policy, as approved by the Municipality. EXISTING ANTENNA (VC) 11 11 EXISTING CELL-C EQUIPMENT CABINET 11 11 **EXISTING ANTENNA** EXISTING ANTENNA EQUIPMENT CABINET 111 111 EXISTING MTN EXISTING ANTENNA (VC) 11111 WATER TANK EXISTING ANTENNA 11/11/11 NEW AEOB ANTENNA 11 11 (VC) (Sector 3) 11 11 11 **EXISTING ANTENNA (VC)** 11 11 Elevation 11 11 11 NEW AEDB ANTENNA (VC) (Sector 4) EXISTING ANTENNA (VC) **EXISTING** EXISTING ROOFTOP BASE STATION Western 11/11 NEW AEQB ANTENNA (VC) (Sector 2) 11/11 が関が関が **NEW AEQB ANTENNA** 11 11 **EXISTING ANTENNA** (VC) (Sector 1) EXISTING ANTENNA (VC) 11 11 EQUIPMENT CABINET 11 11 11 11 11 EXISTING VC 11 11 11 11/11 11/11/11 11/11 EXISTING BUILDING 11/11 11/11/11

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Southern Elevation



EXISTING ROOFTOP BASE STATION



NOTE:
Advisory of warning signage including a pictogram may be a requirement for Thi. Susch signage shall identify the property and shall warn the general public as required. Such signage shall be to the Municipality satisfaction and may not be larger than 400mm x

This application will comply with the Stellenbosch, Telecommunication Mast Infrastructure Policy, as approved by the Municipality.



vodacom

VODACOM SITE ID: BS_SBY1022

VODACOM SITE NAME: STELLENBOSCH UNIVERSITY_A

PROPERTY DESCRIPTION:

ERF 15827,STELLENBOSCH

ADDRESS: MERRIMAN AVENUE, STELLENBOSCH CO-ORDINATES:

ELEVATION

126m

Lat: -33.9315805555556" Long: 18.8710611111111"

TOWN AND REGIONAL PLANNING CONSULTANTS Po Box 152, Century City, 7446 Tel: (021) 522 5255 Unit H. 3rd Floor Fax: 086 537 9187 Matrix Building, Bridgeway, Century City, Cape Town

PROJECT:

4X PROPOSED NEW VODACOM ROOFTOP CELLULAR ANTENNA (AEQB)

APPROVED MAST:
4X PROPOSED NEW VC ROOFTOP ANTENNA
(AEQB)

A) AX NEW ADDITIONAL VC ROOFTOP ANTENNA B) TYPE OF ANTENNA: AirScale MAA 64T64R 192 AE B42 200 W (CPRI) (AEGB) C) CUSTOM BASE STATION D) ZONING: EDUCATION ZONE

ADDITIONAL NOTE:
THE CUMULATIVE ELECTROMAGNETIC RADIO
FRECUENCY EMMISIONS (EMF) DO NOT EXCEED THE
CONIED PUBLIC EXPOSURE GUIDELINES AS
RECOMMENDED BY THE NATIONAL DEPARTMENT OF
HEALTH

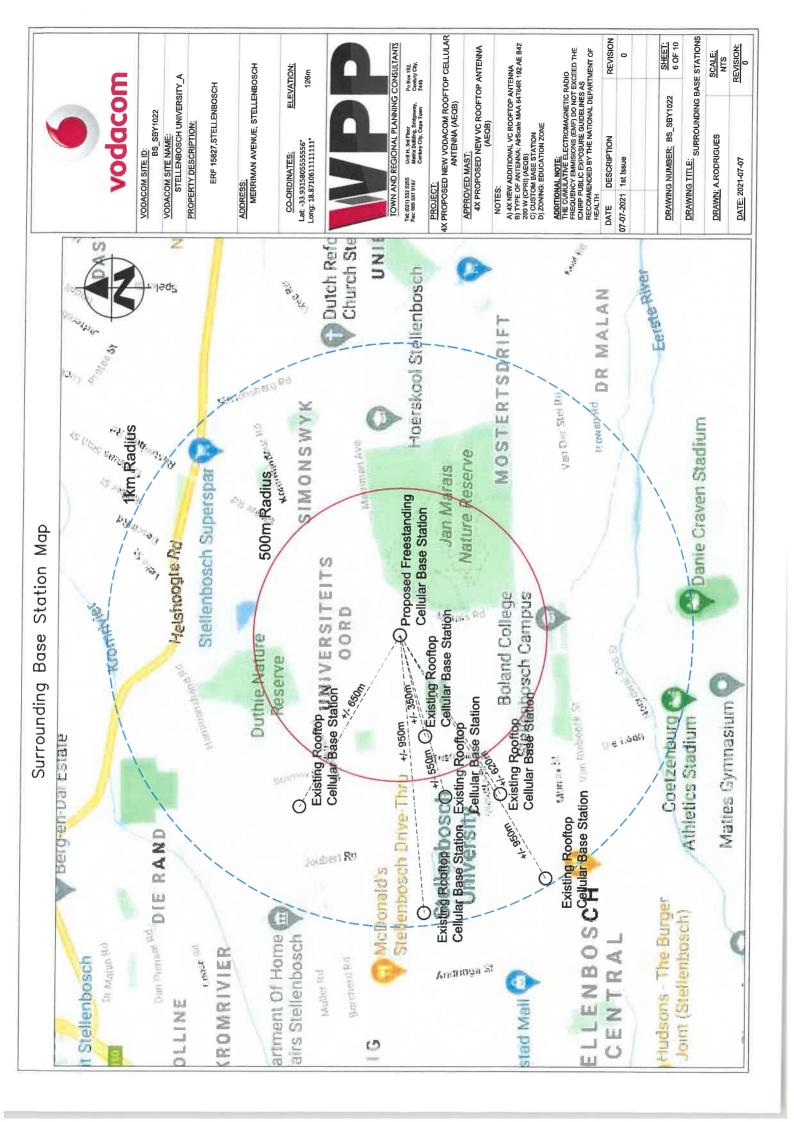
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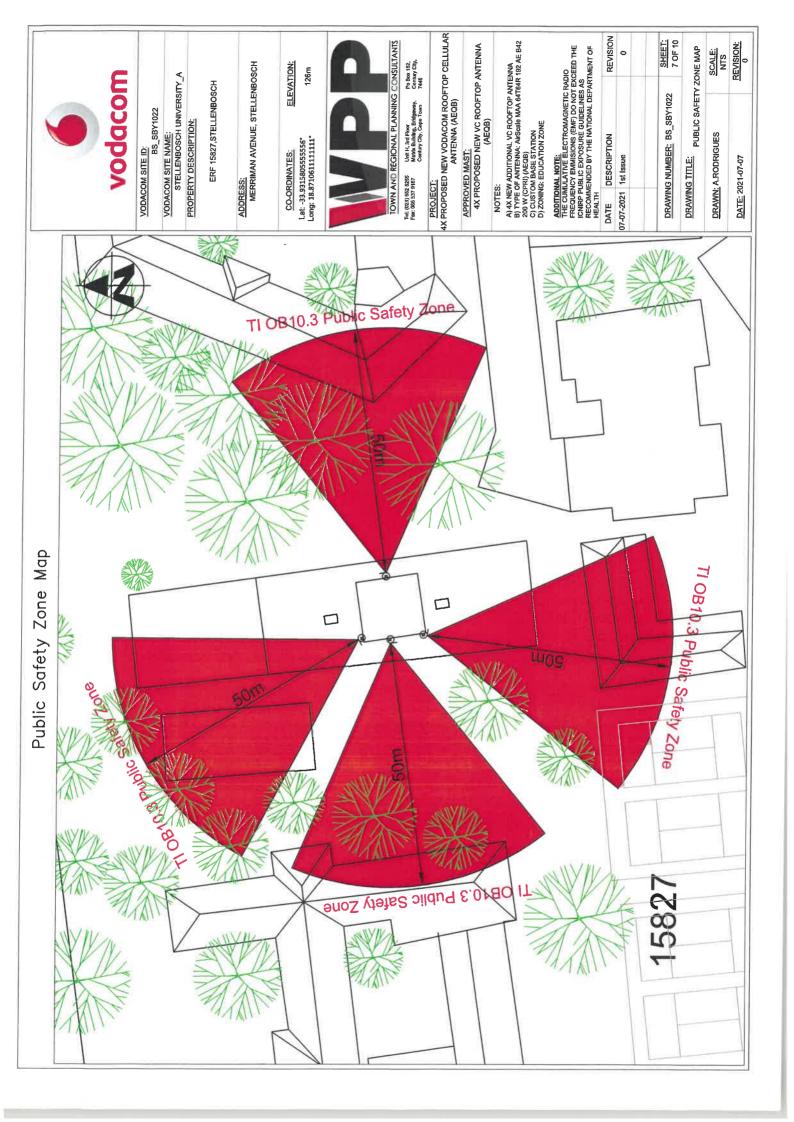
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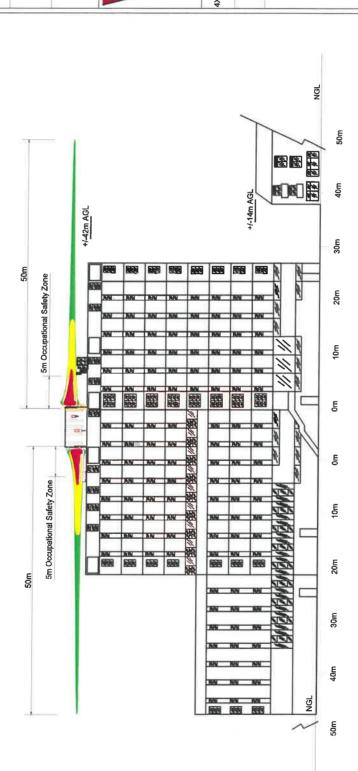
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|---------------------------|------------------|
| <u>DRAWN:</u> A.RODRIGUES | DATE: 2021-07-07 |





Western Public Safety Zone Elevation





VODACOM SITE ID: BS_SBY1022

VODACOM SITE NAME: STELLENBOSCH UNIVERSITY_A PROPERTY DESCRIPTION:

ERF 15827,STELLENBOSCH

CO-ORDINATES:

ADDRESS: MERRIMAN AVENUE, STELLENBOSCH

ELEVATION: 126m

TOWN AND REGIONAL PLANNING CONSULTANTS Lat: -33.9315805555556* Long: 18.87106111111111*

Po Box 152, Century City, 7446

Tat. (021) 552 5265 Unit H. 3rd Phoer Fax: 086 537 9187 Madrix Building, Bridgeway, Century City, Cepe Town

PROJECT: 4X PROPOSED NEW VODACOM ROOFTOP CELLULAR ANTENNA (AEGB)

APPROVED MAST:

4X PROPOSED NEW VC ROOFTOP ANTENNA (AEQB)

NOTES:

A) 4X NEW ADDITIONAL VC ROOFTOP ANTENNA B) TYPE OF ANTENNA: Alscale MAA 64T64R 192 AE 842 210 W (CPRI) (AEOB) C) CUSTOM BASE STATION D) ZONING: EDUCATION ZONE

ADDITIONAL NOTE:
THE CUMULATIVE ELECTROMAGNETIC RADIO
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ICNIRP PUBLIC EXPOSURE GUIDELINES AS
RECOMMINISODES YTHE NATIONAL DEPARTMENT OF
HEALTH

REVISION 0 DESCRIPTION 07-07-2021 1st Issue

PUBLIC SAFETY ZONE

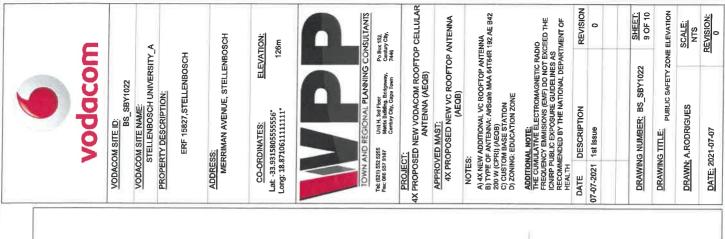
SHEET: 8 OF 10 DRAWING NUMBER: BS_SBY1022

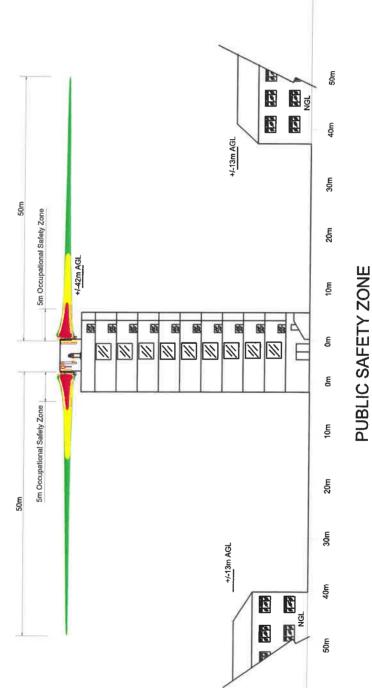
DRAWING TITLE: PUBLIC SAFETY ZONE ELEVATION

DRAWN: A.RODRIGUES

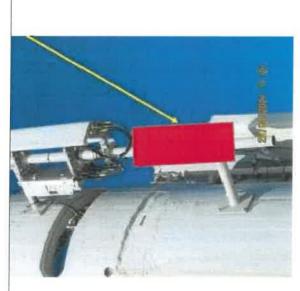
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Southern Public Safety Zone Elevation



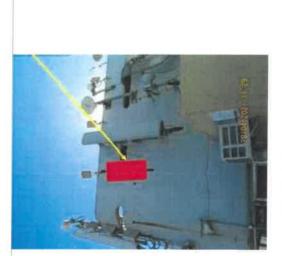


Artist Impression



SECTOR 1





SECTOR 3

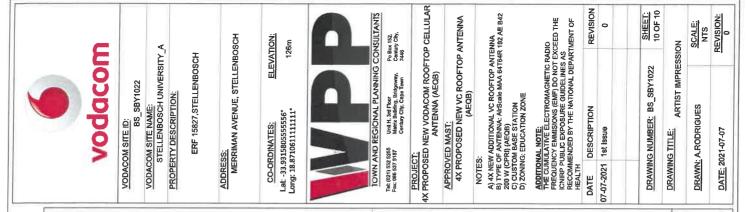
Superimposition of Proposed 4x New VC Antenna



SECTOR 2



SECTOR 4



APPLICATION FOR:

LOCAL AUTHORITY CONSENT USE APPLICATION TO ACCOMMODATE A ROOFTOP CELLULAR COMMUNICATIONS BASE STATION

PROPERTY DESCRIPTION:

ERF 15827, STELLENBOSCH

MUNICIPAL AREA:

STELLENBOSCH LOCAL MUNICIPALITY

SITE NAME:

STELLENBOSCH UNIVERSITY



APPLICANT:

ON BEHALF OF / FOR:

OWNER:

DATE:

WARREN PETTERSON PLANNING

VODACOM

STELLENBOSCH UNIVERSITY

NOVEMBER 2021







P.O. Box 152 Century City 7446 T: (021) 552 5255

F: (086) 537 9187

C: 082 819 1805

E: adriano@wpplanning.co.za

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

| PROPERTY: | Erf 15827 Stellenbosch | |
|--|--|--|
| CLIENT: Vodacom | | |
| APPLICANT: Warren Petterson Planning | | |
| OWNER: University of Stellenbosch | | |
| CONSENT USE | means a land use permitted in terms of a particular zoning with the approval | |
| CONSENT USE | of the municipality | |
| DEPARTURE means a permanent departure or a temporary departure | | |
| RESTRICTIVE condition registered against the title deed of land ruse, development or subdivision of land concerned, excluding creating real or personal rights | | |
| SURVEYOR- GENERAL | 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

| TI | Telecommunication Infrastructure |
|---|---|
| FSBTS | Freestanding Base Telecommunication Station |
| RBTS | Rooftop Base Telecommunication Station |
| | 2016 |
| SMTMIP | Stellenbosch Municipality Telecommunication Mast Infrastructure Policy, |
| SPLUMA Spatial Planning and Land Use Management Act, 2013 | |
| SMZS Stellenbosch Municipality Zoning Scheme 2019 | |
| SMDMS | Stellenbosch Municipality Development Management Scheme 2019 |



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1 APPLICATION

Application is hereby made for the following:

✓ Consent Use in terms of Section 15 (2)(O) of the Stellenbosch Municipality Land Use Planning By-law, 2015 for the construction/installation of additional rooftop antennas at an existing rooftop telecommunication base station.

2 DESCRIPTION OF PROPERTY

According to the Stellenbosch Zoning Scheme (2019) the property is zoned as *Educational Zone*. The property is held under title deed number T15347/2012 and measures 11,6949 hectares in extent and is owned by *University of Stellenbosch*. The property is situated adjacent Merriman Street which connects the R310 and R44. The property mainly consists of the different Stellenbosch University Residences (Hostels), namely Dagbreek, Majuba, Sonop, Irene, Eendrag, Helshoogte, Simonsberg, Huis Visser and Huis Marais. There is currently an existing rooftop base station on Helshooghte Residence, as this building is high enough to provide coverage for the surrounding properties. Our client (Vodacom) proposed to construct additional Rooftop antennas at the existing rooftop base station to decrease the existing coverage capacity constrains for the surrounding area. This will enhance the quality by accommodating all traffic (simultaneous voice calls and data speeds) on a network at any given time of the day, making it more and easy to access.



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Figure 1 - Erf 15827 Stellenbosch

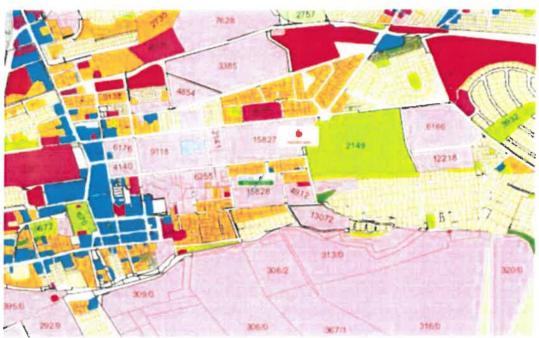


Figure 2 Zoning map of Erf 15827 Stellenbosch



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3 SURROUNDING AREA

The proposed site for the additional rooftop antennas is on Erf 15827 Stellenbosch. The surrounding area is predominantly characterised by residential properties and Stellenbosch University residences (hostels), which are very depended on efficient and reliable internet and communication connectivity. Merriman Avenue, which is adjacent to the proposed property, is one of the busiest streets in Stellenbosch as this leads to the R310, the daily commuters utilising this road will benefit from the additional rooftop antennas as the network coverage will be improved.

4 PROPOSAL

4.1 Development

The position for the additional antennas is proposed at -33.93158°, 18.87106°. Vodacom approach our company to obtain council approval for the instillation of additional rooftop antennas on the existing building (Helshoogte men's residence), as the position is high enough and will be optimally placed between existing FSBTS, which will provide the necessary coverage for the surrounding university residences (hostels) and residential properties in this specific area of Stellenbosch.

This consent use application applies for the installation of additional rooftop antennas which comprises of the following:

 4 x New AEQB sector antennas installed against the existing water tank which is placed on the existing building

The total ground coverage for the additional rooftop antennas will be +/- 9m²

4.2 Access

Access to the proposed additional rooftop antennas, which will be installed at the existing rooftop telecommunication base station, is obtained from the entrance to the property found on the northern side, adjacent to Merriman Avenue.



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4.3 Security

The proposed additional antennas will be secure given their position at the top of the existing building. As previously mentioned there is already an existing rooftop telecommunication base station active on the rooftop of the building (Helshoogte Residence), and the existing 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.

4.4 Power

The base station is connected to the existing power supply on the property. The electricity supply has been surveyed by a registered electrical engineer who confirmed that the existing power supply has the spare capacity required to successfully and safely operate the existing base station with the additional proposed rooftop antennas. Advances in technology (telecommunication related equipment) also enable the rooftop telecommunication base station to utilise less electricity

4.5 EIA Regulations

Environmental and social sustainability are regulated by *The National Environmental Management Act (Act 107 OF 1998) (NEMA)*. When read together with the National Environmental Management Act Regulation Listing Notice 3 of 2014 (as amended April 2017, GNR 324), an Environmental Impact Assessment (EIA) or Environmental Authorization (EA) is only applicable under the following circumstances:

The requirements in the Western Cape:

(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; or
- iii) Areas zoned for use as public open space or equivalent zoning within urban areas.



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The proposed development does not constitute a listed activity as this proposed antennas will be installed on the existing building.

4.6 Stellenbosch Municipality Telecommunication mast infrastructure policy, 2016

For ease of reference the table below illustrates how this proposal complies with the SMTMIP, 2016 (Table 5).

Table 3 - Compliance of application with objectives 1-10 of the SMTMIP, 2016

| | Objective content: | Compliance to Objective |
|----|--|---|
| 01 | To improve and maintain communication | This application is in line with this objective as it aims at providing the residents and students from Stellenbosch University with effective and efficient voice and data coverage |
| 02 | To ensure that the TMI is placed in the best possible location | The proposed rooftop antennas will be positioned optimally between existing sites in order to ensure that no additional masts will be required in the near future to serve the surrounding area. |
| 03 | To ensure the co- location or sharing of TMI wherever possible | |
| 04 | To retain the visual integrity, special character and amenity of the Stellenbosch municipality | The proposed additional antennas will blend in with the existing antennas which is situated on the building. No negative visual impact will be caused from the installation of the additional rooftop antennas. |
| 05 | To design with the landscape and use modern mitigation measures to reduce impact | The proposed additional antennas will be installed next to the existing rooftop antennas and will blend in with the existing rooftop base station. |



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| 90 | To retain and improve the environmental and heritage quality of the public arena | The proposal has no impact on the environmental and heritage quality of the public arena. |
|-----|---|--|
| 07 | To preserve areas of environmental or heritage significance | This application will have no effect on the natural or cultural (heritage) environment. |
| 80 | TMI must be situated and operated in a manner so as not to interfere with any other utility functions | This application is in line with this objective as no utilities services are nearby and the equipment being used is ICASA approved |
| 60 | Where possible TMI should be placed on other structures such as light posts, road signs etc. | The existing building where the existing rooftop base station is situated, is high enough to provide coverage to the surrounding area. This proposed additional antennas will also be installed at the existing rooftop base station and will comply with this objective. |
| 010 | To protect the health, safety and wellbeing of the inhabitants of Stellenbosch | This installation will contribute to health and safety of the inhabitants of Stellenbosch, as less drop calls will be experienced leading to accessibility to emergency services e.g. Ambulances, fire and Police. There are no conclusive studies linking emissions to any health effects and scientific research that may reveal such a link is ongoing. No habitable structures are within 50m directly in front of the antennas (Please refer to the <i>Health Issues – ICNIRP and World Health Organisation –</i> section in this motivation) |

4.6 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):



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Table 1 - Compliance of application with Principles 7a-7e of SPLUMA, 2013

| | HOW DOES THIS APPLICATION COMPLY WITH THIS PRINCIPLE? | |
|--|---|--|
| <u>Principle 7a:</u> Spatial Justice | 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. | |
| <u>Principle 7b:</u> Spatial Sustainability | 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. | |
| Principle 7c: Spatial Efficiency RTBS is placed in an area (optimally situated between planned and exist stations) with a reason. This reason is to incorporate various factors (example of the place of the p | | |
| <u>Principle 7d</u> : Spatial Resilience | 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. | |
| Principle 7e: Good administration | 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. | |



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4.7 Other policies and legislation

Other policies and legislative frameworks include: Stellenbosch's fourth generation five-Year Integrated Development Plan (2017/2022, and the Stellenbosch Municipality Spatial Development Framework (SMSDF), 2017.

4.7.1. Fourth Generation Five-Year Integrated Development Plan (2017/2022)

The Five-Year IDP (2017/2022) refers to the enhancement of TI in order to provide Stellenbosch with information communicative technologies as set out in section 6.15.

Stellenbosch is faced with the following ICT Industry trends:

- Cloud Computing (Remote hosting) which will bring its own unique challenges to balance systems integration complexities, security measures and potential cost savings.
- Convergence of ICT technologies enabling corporate data and information exchange in a seamless processing environment. Also referenced in the industry as Multi-media —Anytime from anywhere. Social Media — enabling instant collaboration/communication between individuals and between groups. Also referenced in the industry as SMS, Twitter, Blogs, e-mails, photo's, videos and more.
- The Internet of Things (IoT) is the network of physical objects—devices, vehicles, buildings and other items—embedded with electronics, software, sensors, and network connectivity that enables these objects to collect and exchange data

This application is in line with addressing these ICT industry trends as the TI installed on the said property will provide the sought-after services (e.g. Optic-Fibre, 4G and LTE coverage).

D.3.2. Stellenbosch Municipal Spatial Development Framework, 2017

The proposed application is by no means a careless act as it complies with the Integrated Development Plan (IDP) principles as set out in the Stellenbosch Municipal Spatial Development Framework, 2017. These principles are also echoed in the National Development Plan (NDP) and the Provincial Spatial Development Framework (PSDF). The core focus of the IDP principles and the MSDF, are to ensure the spatial transformation through the integration of communities. Spatial transformation in this sense is only possible through the development of denser and more inclusive neighbourhoods. Denser and more inclusive neighbourhoods are possible through the harness of advances in energy, water, transport and telecommunication to improve resource efficiency. Therefore, this application is in-line with the MSDF of Stellenbosch.



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5. MOTIVATION

5.1 Historical Background

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.

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 portion 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.

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. Vodacom strives to make this technology available to a wider spectrum of the population.

This proposed base station will also aim to assist network operators (Vodacom) with their emergency network rollout plans during the Covid-19 lockdown period. Cellular network operators have been experiencing high network congestion during peak and off-peak hours as a result of residents working from home and relying on network cellular services on a continuous basis. As part of the Disaster Management Act, ICASA allowed network operators, such as Vodacom, an increase in network spectrum to address the issue of dropped calls, slow internet speeds, etc. The Stellenbosch University also implemented online courses during the Covid-19 lockdown period which had an effect on the daily life of the students. High network congestion was also experience during peak and off-peak hours as a result of student attending online classes from their residence (hostels) and used their mobile devices as a study tool.



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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 additional rooftop antennas as identified by Vodacom network planners will accommodate all the capacity constraints experienced in this area of Stellenbosch.

5.2 Planning Motivation

Please read together with previous sections in this application. This consent use application to allow the installation of the additional rooftop antennas at the existing rooftop telecommunication base station should be supported based on the m following grounds:

5.2.1. 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 of the students, urbanisation and influx of seasonal guests especially over festive seasons and holidays, in a tourist attractive place like Stellenbosch, dropped calls and poor network coverage (related to both voice and data) are experienced. Vodacom identified several positions in the area that need to be equipped with additional antennas at the existing telecommunication base stations to alleviate the capacity pressure and to cater for the ever-increasing demand.

The increase in coverage brought by the proposed additional antennas will assist the surrounding students in the area. Residents, businesses and commuters will have a more secure connection to emergency services and armed response which will have a huge social impact.



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The proposed additional antennas will not interfere with the current use of the property as these antennas will be installed at the existing rooftop telecommunication base station and there are no negative impacts on the surrounding land uses and environment and will in fact improve/supplement the coverage at the Stellenbosch. No trees need to be removed and no buildings with heritage value will be affected.

The proposed use will have no impact on the external engineering services, transport or traffic related considerations, or on the biophysical environment. 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.

5.2.2. Area of existing coverage

The following map illustrate the existing Vodacom coverage map (LTE Advance) for the area of Stellenbosch.

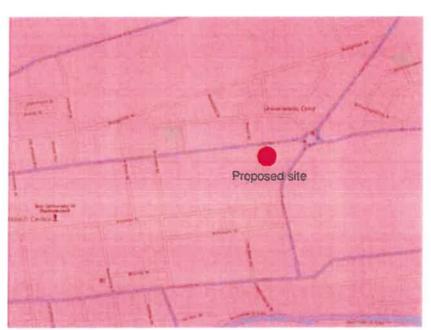


Figure 3 - Vodacom LTE Coverage (Purple) map



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It should be noted that although the area shows full coverage, these additional antennas proposed at the existing rooftop telecommunication base station at Erf 15827 Stellenbosch is to accommodate and alleviate the capacity problems as explain in the previous section of this motivation document.

5.2.2.1. 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 as capacity demand is efficient. Figures 4-6 strive to explain how the need for an increase in cellular infrastructure evolves in a typical urban area.

Cellular infrastructure explained:

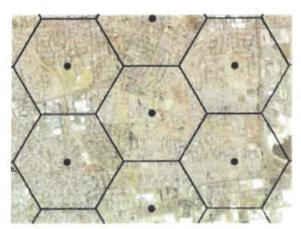


Figure 4-Initial coverage (cell) provided by Telecommunication Base Stations

Figure 4 is an illustration of optimum network and data coverage. This is explained by envisioning the octagonal shape of a honeycomb (cells).



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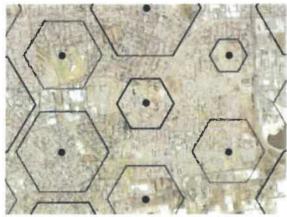


Figure 5 - Coverage decrease due to increase in network users cell size decreases

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.

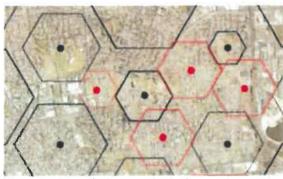


Figure 6 - Additional telecommunication base stations required to fill the gaps

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 or capacity (refer to Figure 4- 6). This need for coverage/capacity arises from the daily use of mobile devises by people in the modern world we live in today. If a need for coverage/ capacity demand does not exist in a specific area, no company would invest capital to build a telecommunication base station in the said area. As explained in the previous section we live in a world where technology (especially mobile phones) became an important tool for our daily life, especially for the students who are depended on these devices for study purposes. The illustration below indicates the existing surrounding telecommunication base stations which is situated around this proposed application. The nearest installation is a rooftop base station +/- 350 from the proposed mast, and will not be able to enhanced/provide the required coverage to decrease the capacity demand around Erf 15827 Stellenbosch.



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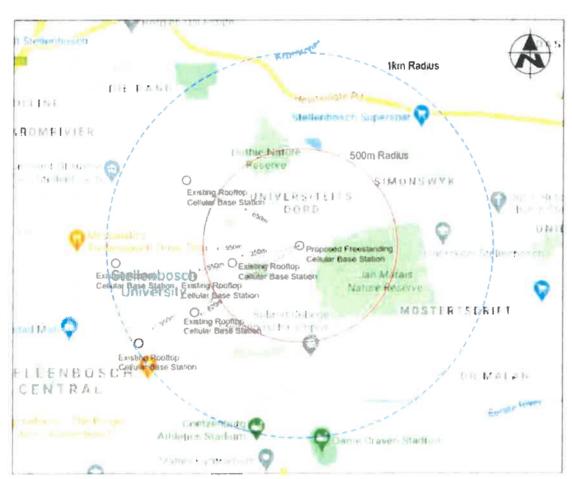


Figure 7 Surrounding Base stations

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.

5.2.3. Alternative sites considered and 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.



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Alternative sites were not considered in this application as previously mentioned, our client (Vodacom) would like to install additional antennas on the existing rooftop telecommunication base station to alleviate the network capacity pressure and to cater for the ever-increasing demand. Erf 15827 Stellenbosch is zoned Educational Zone which allow for a consent use, to install the additional rooftop antennas.

This site was selected for several reasons, namely:

- The additional antennas will be installed on the existing rooftop base station, which
 is optimally placed between planned and existing sites,
- There is a large demand for improved network coverage, especially to cater for the students of Stellenbosch Municipality, in the Stellenbosch 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,

5.2.4. Visual Impact

The additional proposed rooftop antennas will blend in with the existing telecommunication infrastructure on the roof of Helshoogte residence (hostel). As seen in Figure 8 these proposed rooftop antennas will not have a negative impact on the surrounding area and will reduce the need for more base stations in the area as the service provider (Vodacom) will be able to provide the surrounding area with efficient coverage.



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Figure 8 | Superimposition of the proposed new Vodacom antennas

5.2.5. 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 antennas and base stations emit radio waves, their frequency is not considered high enough to pose a health risk. Antennas mounted on towers, masts, rooftop buildings, 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



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Radiation Protection), an independent scientific organization established in 1992. Emissions from the base stations and antennae comply with these guidelines.

In a statement made by the Department of Health dated 8 September 2020 on the Health Effects of base stations states the following:

"Considering the very low exposure levels and research results collected to date, there is no convincing scientific evidence that the weak RF signals from base stations and wireless networks cause adverse health effects"

"A large number of studies have been performed over the last two decades to assess whether mobile phones pose a potential health risk. To date, no adverse health effects have been established as being caused by mobile phone use"

There are no conclusive studies linking emissions at these levels to any health effects and scientific research that may reveal such a link is ongoing. The steps taken by the cellular communication companies to ensure the safety of the public against any possible harmful emissions, along with the above facts, concerns about health issues can be allayed.

5 CONCLUSION

This consent use application for the proposed additional rooftop antennas at the existing telecommunication base station on erf 15827 Stellenbosch, will provide an essential and sort after service to the community, daily commuters and students of the Stellenbosch Municipality. This application is in line with the current policy and legislation on a local level. Furthermore, this application is in compliance with the Stellenbosch Fourth Generation Five-Year Integrated Development Plan (2017/2022), and the Stellenbosch Municipal Spatial Development Framework (SMSDF), 2017.

We would like to emphasise the positive contribution this additional rooftop antennas will have on the immediate as well as the surrounding community and passing commuters:

• Students and daily commuters 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, especially for the student as online classes was conducted this year due to the Covid 19 Pandemic, it follows that service providers are responsible for supplying a high level of network coverage.



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• Please note: The residents and students in the area are not the only ones being provided with these services. Visitors to the area, 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.

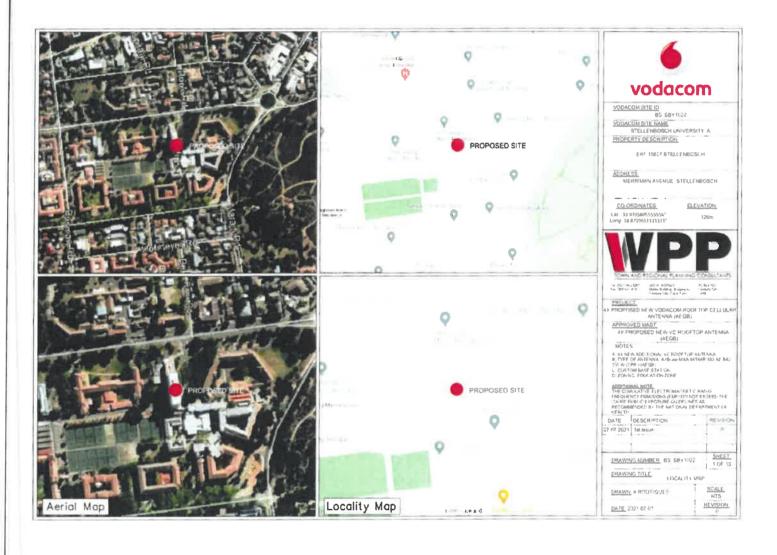
Finally, we would like to emphasize that communications companies deliver an important service to the wider public, and in terms of their license with ICASA they have to meet certain standards in order to retain their licenses. One of these standards is to supply adequate network coverage to their demanding customers. The additional rooftop antennas will reduce the capacity constraints in the specific area of Stellenbosch and this installation refrain Vodacom from constructing another base station in this area.

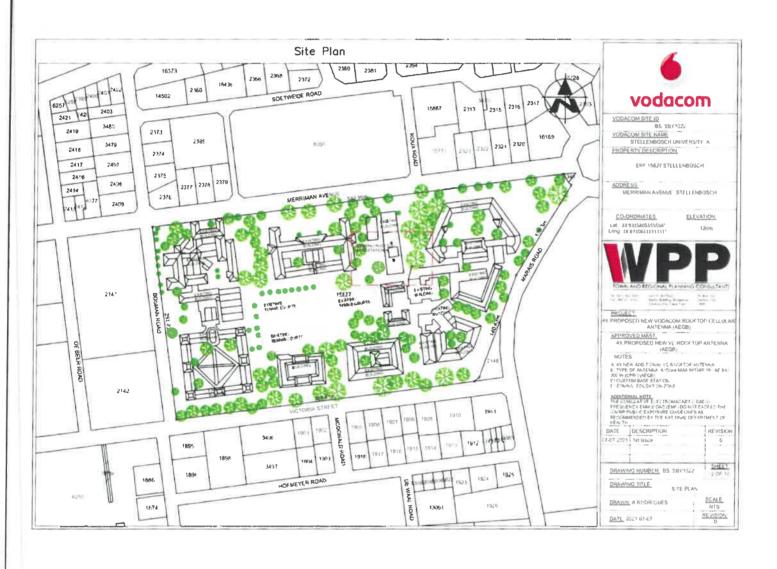
Please notify us should any additional information be required. We look forward to your positive consideration of this application.

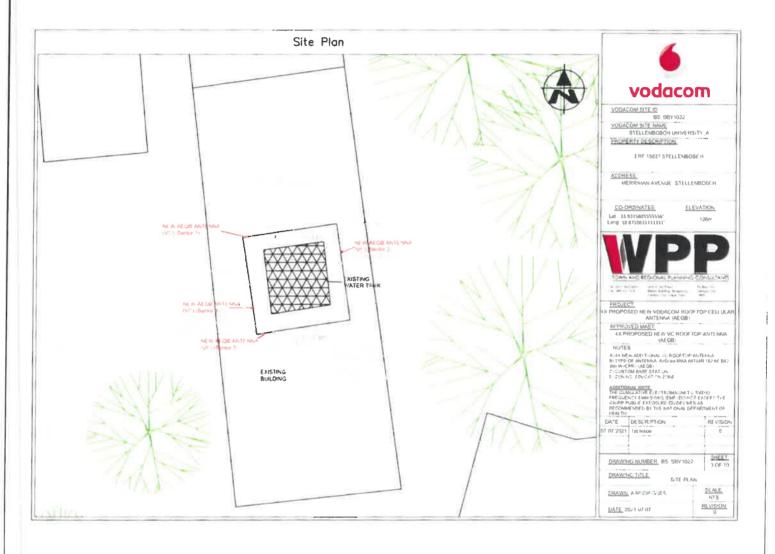


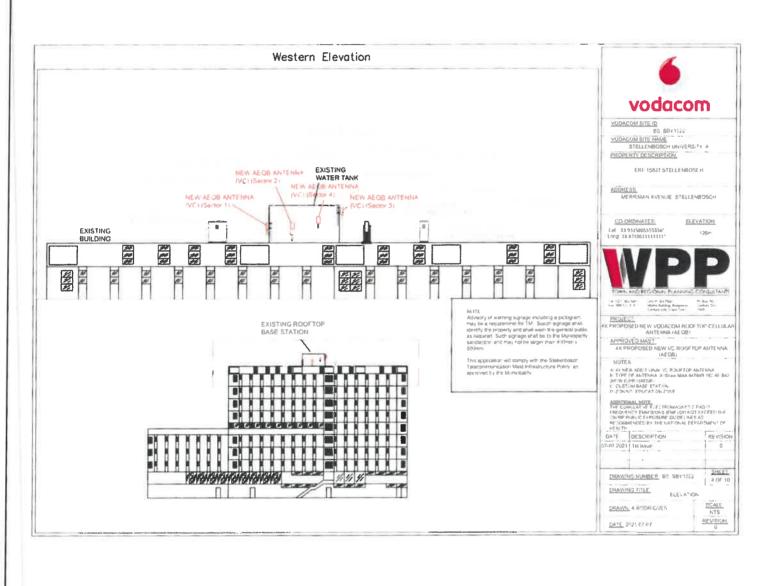
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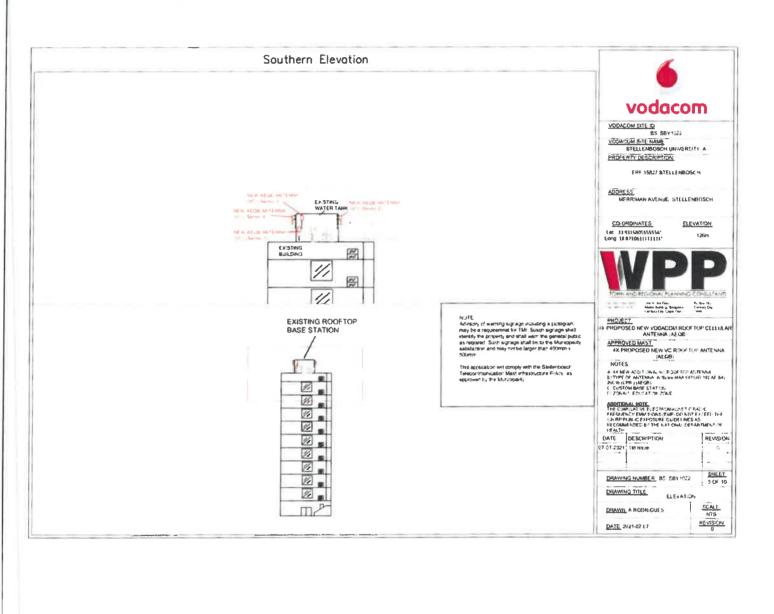
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Friedlaender,

Components:

1. The figure Akih represents Erf 2143 Stellenbosch, vide Diagram No. 6038/1945, D/T 1946-

2. The figure hjkBCDEFG represents Erf 4906 Stellenbosch, vide Diagram No. 7841/1970, D/T 1971S.G. No.

4292/2011

Approved.

6 Am about

Surveyor - General Date : 05 DEC 2011

Servitude Note:

The line xy represents the Western boundary of a water furrow servitude 3,15m wide, vide Diagram No.10412/1955, 8/7 D/S No. 156/1958

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The figure ABCDEFG 11,6949 represents

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ERF 15827 STELLENBOSCH and comprises 1. and 2. as above

Situate in the Stellenbosch Municipality Administrative District of Stellenbosch Compiled in November 2011 by me

Province of Western Cape

PLS 0907 MB Straughan Pr Land Surveyor

This diagram is annexed to | The original diagrams are No. 000015347/2012 Dated 0 3 APR 7012 i.f.o.

as quoted above

File No. S/2641/63 (V.1) S.R. No. Compiled Comp. BHSZ-1423 (M2779) BHSZ-1451 (M2781)

Registrar of Deeds

LPI C0670022

Erf 15827 Stellenbosch

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| CONVEYANCER'S CERTIFICATE | | | | | | | | | | |
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| T15347/2012 | | T | | | | | | | | |
| 3. LIST OF RESTRICTIVE TITLE | CONDITIONS Please | note: If any clause is sel | ected, Addendum A needs to be | completed for each property. | | | | | | |
| Categories | Title deed and clause number of restrictive conditions. Conveyancer to provide details of any necessary interpretation of conditions. | | | | | | | | | |
| | Title deed number | Clause number | Interpretation | 175 | | | | | | |
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ADDENDUM A



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Components:

- 1. The figure Akjh represents Erf 2143 Stellenbosch, vide Diagram No. 6036/1945, D/T 1946- -19912
- 2. The figure hjkBCDEFG represents Erf 4906 Stellenbosch, vide Diagram No. 7841/1970, D/T 1971- -12091

S.G. No.

4292/2011

Approved.

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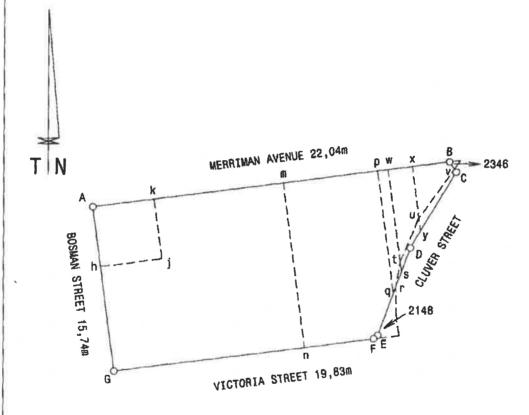
for

Surveyor - General Date : 05 DEC 2011

Servitude Note:

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616



SCALE 1 : 5000

The figure ABCDEFG represents 11,69

11,6949 hectare

of land, being

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Situate in the Stellenbosch Municipality Administrative District of Stellenbosch Compiled in November 2011 by me

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PLS 0907 MB Straughan Pr Land Surveyor iagrams are | File No. S/2641/63 (V.1)

This diagram is annexed to No. C.C.T. 15347/2012

Dated i.f.o. The original diagrams are as quoted above

S.R. No. **Compiled**Comp. BHSZ-1423 (M2779)
BHSZ-1451 (M2781)

Province of Western Cape

Registrar of Deeds LPI C0670022

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Directorate: Radiation Control Private Bag X62 BELLVILLE 7535 921 957 7483 Fax: 021 946 1589

E-mail: Leon.DuTolt@sahpra.org.za

Enquiries:

LL du Toit

Date:

8 September 2020

To whom it may concern

HEALTH EFFECTS OF CELLULAR BASE STATIONS AND HANDSETS

The Directorate: Radiation Control was the section within the National Department of Health that was responsible, from the viewpoint of human health, for regulating electronic products producing non-ionising electromagnetic fields (EMF), i.e. where the frequency of such EMF is less than 300 GHz. The Directorate Radiation Control has since been transferred to the South African Health Products Regulatory Authority (SAHPRA). In carrying out its responsibility, the Directorate has been utilising the World Health Organization's (WHO) International EMF Project (www.who.int/peh-emf/en/) as its primary source of information and guidance with respect to the health effects of EMF. The International EMF Project was established by the WHO in 1996 to (i) assess the scientific evidence for possible adverse health effects of non-ionising electromagnetic fields on an on-going basis, (ii) initiate and coordinate new research in this regard, and (iii) compile health risk assessments for different parts of the electromagnetic spectrum. The Department of Health has been a member of the International Advisory Committee of the International EMF Project since 1998.

In June 2005 the International EMF Project hosted a workshop that was specifically aimed at considering the possible health consequences of the emissions from cellular base stations and wireless networks. The findings of this workshop were summarised in a 2-page Fact Sheet (http://www.who.int/peh-emf/publications/facts/fs304/en/). The following extract from this Fact Sheet is still considered by the WHO as a summary of the findings to date, i.e. "Considering the very low exposure levels and research results collected to date, there is no convincing scientific evidence that the weak RF signals from base stations and wireless networks cause adverse health effects."

Another WHO Fact Sheet was published in June 2011 and reviewed in October 2014, i.e. Electromagnetic fields and public health: mobile phones. This Fact Sheet can be found at http://www.who.int/mediacentre/factsheets/fs193/en/) and the conclusion is stated as follows:

"A large number of studies have been performed over the last two decades to assess whether mobile phones pose a potential health risk. To date, no adverse health effects have been established as being caused by mobile phone use."

The WHO recommends utilising internationally recognised exposure guidelines such as those that were published in 1998 by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) and reconfirmed in 2009. The 1998 guidelines were replaced by the updated 2020 version for the frequency range 100 kHz – 300 GHz (i.e. including all the frequencies employed by the cellular industry). The Department of Health likewise recommends the use of these ICNIRP guidelines to protect people against the known adverse health effects of EMF.

The numerous measurement surveys, which have been conducted around the world and in South Africa, have shown that the actual levels of public exposure as a result of base station emissions invariably are only a fraction of the ICNIRP guidelines, even in instances where members of the public have been really concerned about their exposure to these emissions. At present there is **no** confirmed scientific evidence that points to any health hazard associated with the very low levels of exposure that the general public would typically experience in the vicinity of a cellular base station. The Department is therefore satisfied that the health of the general public is not being compromised by their exposure to the microwave emissions of cellular base stations. This also means that local and other authorities, in considering the environmental impact of any particular base station, do not need to and should not attempt, from a public health point of view, to set any restrictions with respect to parameters such as distance to the mast, duration of exposure, height of the mast, etc.

The Department of Health is not able to make any pronouncements about the specific levels of EMF that a member of the public would experience at any particular base station site when it is in operation. However, generally-speaking unless a person would climb to the top of a mast (or other structure supporting an antenna) and position him/herself not more than a few meters away right in front of the active antenna, such a person would have no real possibility of being exposed to even anywhere near the afore-mentioned ICNIRP guideline limits. Since these base stations are typically cordoned off by means of barbed wire fencing and locked gates/doors in order to protect the sensitive and expensive technology, getting to a mast and actually climbing it despite the afore-mentioned security measures would certainly not be considered responsible behaviour. Even then the only real threat to the health of the person would be falling at any height from the structure in question. Based on the results of numerous global and local surveys, the experience has been that the exposure to base station EMF at ground level is typically in the range of between 0.001 – 1.0 % of the

afore-mentioned ICNIRP guideline limits. Against this background of available data, there would be no scientific grounds to support any allegation that adverse health effects might be suffered by a responsible member of the public due to the EMF emitted by a base station.

Although the Department of Health currently neither prescribes nor enforces any compulsory exposure limits for electromagnetic fields, the Department does advise all concerned (whether they be a government department, the industry or the public) that voluntary compliance with the afore-mentioned ICNIRP exposure guidelines is the recommended and science-based way to deal with any situation involving human exposure to the non-ionising electromagnetic fields emitted by cellular base stations and handsets.

Yours sincerely,

LL du Toit

DEPUTY DIRECTOR: RADIATION CONTROL

Adul En