

DEPARTMENT OF COOPERATIVE GOVERNANCE AND TRADITIONAL AFFAIRS

The MEC of The Department of Cooperative Governance and Traditional Affairs hereby publishes the Draft Consultation Paper and Draft Norms and Standards for Spatial Imperatives for Public Service Infrastructure for public comment in terms of the KZN Planning and Development Act No.6 of 2008.

Members of the public are invited to submit written comments within 30 calendar days of the publication of this notice to the following address:

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Comments received after the closing date will not be considered.

KWAZULU-NATAL
PLANNING NORMS AND STANDARDS COMMITTEE FOR
PUBLIC INFRASTRUCTURE

SPATIAL IMPERATIVES FOR PUBLIC SERVICE
INFRASTRUCTURE

TELECOMMUNICATION INFRASTRUCTURE

DRAFT CONSULTATION PAPER

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1.0 EXECUTIVE SUMMARY

- 1.1 Telecommunication has revolutionised the manner in which we communicate. Telecommunication facilities connect phones, computers, and other communication appliances. Along with the benefits brought about by telecommunication technology, there has been the concern over the impact of telecommunication facilities. Telecommunication facilities needs to be planned and managed to ensure sustainable development.
- 1.2 A municipality must consider the following matters when it considers an application for municipal approval for a telecommunication facility –
 - 1.2.1 site selection;
 - 1.2.2 visual impact and landscaping;
 - 1.2.3 noise;
 - 1.2.4 public health and safety; and
 - 1.2.5 interference with other services.

2.0 BACKGROUND

The introduction of electromagnetic telecommunications (referred to in the guidelines as Telecommunication Infrastructure) has revolutionised the manner in which communities and individuals navigate space and has transformed the lives of many people for whom the possibility of access to conventional telephones and the internet was impossible due to distance from main lines. In order for areas to become accessible there is a need to build telecommunication and Telecommunication Infrastructure e.g. cell phone base mast towers and antennae which permit the transmitting of radio waves for connecting phones, computers and other appliances. Along with the benefits brought about by the technological advance, has been the concern regarding the environmental, health and spatial impacts of these utilities particularly in relation to the level of exposure of radio electromagnetic waves emitted by cell phone towers. The location of Telecommunication Infrastructure Cellular can be explained using Central Place Theory and the development of an interlinked network overlaps with network growth theory in town planning.

If the problems associated with Telecommunication Infrastructure (including masts and antennae) are understood, then the future location of sites for Telecommunication Infrastructure can be managed more effectively to ensure sustainable development.

3.0 INTRODUCTION

This policy has been prepared by the provincial Planning Norms and Standards Committee for Public Infrastructure. In this instance, the Committee prepared a set of appropriate policy guidelines for Telecommunication Infrastructure. The control of the development and management of Telecommunication Infrastructure falls within the ambit of municipal planning and is informed by international protocols and national directives.

4.0 APPROACH

- 4.1 The approach undertaken in the preparation of this policy is one that recognizes the need for the location, development and management of telecommunication infrastructure in an optimal and sustainable manner without compromising the socio-economic and physical (biophysical and built) environment or negatively affecting the sense of wellbeing and health of the community.
- 4.2 With regard to the possible health risks posed by Electric Magnetic Radiation(EMR) this policy takes guidance from the National Department of Health (DoH) who have adopted the International Commission on Non-Ionizing Radiation Protection (ICNIRP) public exposure standard.
- 4.3 Contemporary research and debate on the continuous long term, full body exposure of EMR is still ongoing and the subject of international research. The negative effects of long terms exposure to EMR have not yet been conclusively proved or disproved. Thus this policy presents a precautionary approach to concerns. Additional provisions and requirements for service providers, planning consultants and officials have been included in the guidelines to ensure that this issue is addressed.

4.4 Six key concerns are addressed in the policy, namely:-

- i. Site selection, location and co-usage;
- ii. Visual impact, landscaping, public amenity and residential amenity;
- iii. Noise;
- iv. Public health and safety;
- v. Environmental impact and the protection of sites of architectural or heritage significance; and
- vi. The impact on existing infrastructure e.g. services and utilities.

All of the six elements are interrelated and need to be assessed as part of a holistic approach to this land use. In this document all six issues are addressed and in addition some general measures are outlined.

5.0 OBJECTIVES

The overarching objectives of this policy are:-

- 5.1 To provide a set of norms and standards for Telecommunication Infrastructure in terms of chapter 4 of the KwaZulu-Natal Planning and Development Act (No. 6 of 2008) that can be applied throughout the province;
- 5.2 To provide a set of guidelines in terms of which Telecommunication Infrastructure applications can be prepared by service providers in a consistent and sustained manner;
- 5.3 To provide a set of guidelines which can be used by planning consultants for the preparation of applications for Telecommunication Infrastructure both inside and outside the Scheme areas within a municipality; and,
- 5.4 To provide a set of guidelines in terms of which officials in the municipalities in KwaZulu-Natal can assess and approve applications submitted for the establishment and development of telecommunication infrastructure which are consistent with the provincial approach.

6.0 GENERAL POLICY MEASURES

The following general policy measures are proposed for Telecommunication Infrastructure applications in and outside the municipal scheme area.

- 6.1. All applicants for the establishment of a Telecommunication Base Tower or mast shall submit to the Local Municipality a detailed report which includes the following items:-
 - I. The proximity to other development, including, importantly, residential;
 - II. The possibility of using other appropriate structures;
 - III. The current state and usage of the site;
 - IV. The aesthetic compatibility with surrounding land uses;
 - V. The proximity of the Telecommunication Base Tower to other communication installations;
 - VI. The proximity of the site to sensitive environment areas, wilderness areas, nature reserves, ecotourism destinations, Special Case Areas, and Nature Conservation or Biodiversity Reserves; and
 - VII. The proximity of the proposed Telecommunication Infrastructure to air fields and airports.
- 6.2 The application shall include the programme for consultation with interested and affected parties.
- 6.3 The application for a Telecommunication Infrastructure shall include a locality plan showing adjacent land uses.
- 6.4 An application for the sub-division of land for Telecommunication Infrastructure which falls outside the designated boundary of the scheme is subject to the Sub-division of Agricultural Land Act (Act No. 70 of 1970) and requires approval from the national Department of Agriculture, Forestry and Fisheries (DAFF). A copy of the sub-division application will be lodged with the provincial Department of Agriculture and Environmental Affairs (DAEA) for record purposes.
- 6.5 All applications for Telecommunication Infrastructure shall comply with the relevant requirements of the National Environmental Management Act (Act No. 62 of 2008) and the amended EIA regulations as listed in notice, (GN No. R. 1159 of 10 December 2010).

Where necessary, an application shall provide environmental authorisation and a copy of an approved Record of Decision (ROD) from the Department of Agriculture and Environmental Affairs (DAEA).

- 6.6 Any application for the establishment of a Telecommunication Infrastructure Lattice Tower will need to provide documentation and a detailed plan indicating that the facility is compliant with the requirements of section 24 of the National Constitution Act (No. 108 of 1996), the White Paper on Telecommunications 1996 as regulated by the Electronic Communications Act (Act No. 36 of 2005), the National Building Regulations and any other relevant legislation, bylaws and municipal policy guidelines.
- 6.7 An application for Telecommunication Infrastructure located on land or a building which is administered or the property of the Ingonyama Trust Board (ITB) must include the necessary approval required by the Ingonyama Trust Amendment Act (Act No. 9 of 1997).
- 6.8 An application for the establishment of Telecommunication Infrastructure shall indicate whether it is a shared or stand-alone facility.
- 6.9 An application shall provide a natural rehabilitation and maintenance plan for the post construction phase of the Telecommunication Infrastructure site and surrounding area.
- 6.10 An application for erection of Telecommunication Infrastructure shall include an agreement signed by the supplier for the removal of the infrastructure once it is redundant. This agreement shall include an approved rehabilitation plan for the restoration of the site to its original condition.

7.0 SITE SELECTION, LOCATION AND CO-USAGE

7.1 OBJECTIVES

- 7.1.1 To encourage the optimal site selection and location of Telecommunication Infrastructure so that there is maximum coverage and it has minimal impact on the surrounding land uses.
- 7.1.2 To ensure that the identification of a site for Telecommunication Infrastructure has taken into account all the environmental, visual aspects as well as the impact on health, well-being and safety.

- 7.1.3 To ensure that sites selected for Telecommunication Infrastructure are located in appropriate areas where such use of the site is compatible with adjacent land uses.
- 7.1.4 To ensure the co-use of, or sharing of, existing Telecommunication Infrastructure before a new site is approved in order to optimally use existing sites and minimise impact.

7.2 GUIDELINES

- 7.2.1 Since a precautionary approach is to be adopted by municipalities in terms of this policy, no application for Telecommunication Infrastructure may be approved or permitted where there is a residential, educational or health facility within a 500 metre zone directly in front of the antennae. In the case of office buildings no antenna or mast will be permitted where there are similar uses in adjacent buildings (at the same height as per section 6.5).
- 7.2.2 Wherever possible or feasible the location of Telecommunication Infrastructure should be located in industrial / commercial / business areas.
- 7.2.3 Where a new site for Telecommunication Infrastructure is proposed and the tower is 15 meters or more in height, compliance with the List 3 of the NEMA regulations, published in 2012, is required. To be either referenced here or as a footnote
- 7.2.4 In accordance with the NEMA regulations published in 2012 (same as above), no Telecommunication Infrastructure should be located within an estuary or abutting National Protected Areas and areas of environmental or biodiversity sensitivity significance (see Appendix 3). All possible alternative site locations must be explored during the feasibility stage of the planning process with a view to minimizing the impact of the Telecommunication Infrastructure on such sensitive environments, rather than relying only on camouflage to reduce the impact.
- 7.2.5 All existing and future potential sites where Telecommunication Infrastructure can be accommodated through co-location need to be identified as part of the infrastructural sector plan of the IDP.
- 7.2.6 Where possible the use of existing structures to accommodate Telecommunication Infrastructure is encouraged e.g. power lines, rooftops, water towers, highway overpasses, bridges, tall buildings, utility poles, light masts, billboards and smokestacks – provided that this does not conflict with any other relevant legislation.

- 7.2.7 Wherever possible, the design and location of Telecommunication Infrastructure and associated ancillary land uses, building or containers should be designed so that they can be integrated into the surrounding land uses.
- 7.2.8 Wherever the integration of Telecommunication Infrastructure is not possible all measures must be taken to minimise the negative impact of this land use on the amenity of the surrounding area.
- 7.2.9 An application for Telecommunication Infrastructure shall present an analysis of the benefits of co-location which will be weighed up against any possible negative effects. The opportunity for co-location should not be considered as more important than other considerations identified by the municipality, local communities or these guidelines. Such consideration could include:-
- i. Increasing the height of a support structure to accommodate other service providers which may result in a tower that becomes visually unacceptable;
 - ii. The potential for an increase in power output from one location;
 - iii. The physical and technical limitations of a telecommunication tower or antenna which may not be able to support additional infrastructure; and
 - iv. The location may not be suitable for the required planned coverage needed by a service provider.

7.3 REQUIREMENTS

- 7.3.1 An application submitted to a municipality shall indicate if the Telecommunication Infrastructure, Base Tower or antenna is a shared or stand-alone facility.
- 7.3.2 Wherever possible the co-sharing of sites for the installation of Telecommunication Infrastructure shall be encouraged.

8.0 VISUAL IMPACT, LANDSCAPING, PUBLIC AND RESIDENTIAL AMENITY

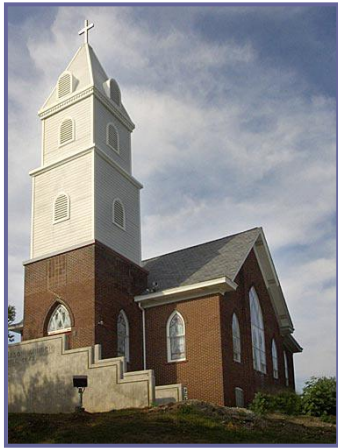
8.1 OBJECTIVES

- 8.1.1 To address the visual impact of Telecommunication Infrastructure on urban and rural landscapes.
- 8.1.2 To prevent the visual impact of Telecommunication Infrastructures in natural environments, environmentally sensitive and landscape areas where tall structures located on high points can be intrusive.
- 8.1.3 To encourage innovative design for Telecommunication Infrastructure and its ancillary uses.
- 8.1.4 To promote the provision of appropriate landscaping in and around Telecommunication Infrastructure sites so that the amenity of the surrounding areas is not adversely affected.
- 8.1.5 To ensure that Telecommunication Infrastructure sites are developed with minimal disruption and removal of natural vegetation.

8.2 GUIDELINES

- 8.2.1 The design and location of Telecommunication Infrastructure should be undertaken so that it minimises any potential negative visual impact on the character and amenity of the local environment including viewpoints e.g. prominent landscape features, general views in a specific locality and individual significant views.
- 8.2.2. Similarly, Telecommunication Infrastructure located in residential areas must be located, designed and constructed so as to have a minimal impact on or to mitigate or avoid adverse impacts on the visual character and amenity of the area.
- 8.2.3 Wherever possible or feasible, the design and attachment of Telecommunication Infrastructure to an existing building or support structure shall be undertaken in an integrated manner. Antennae shall not be attached to the side of a building in a haphazard fashion or protrude above the top or apex of the roof. It shall form an integral part of the building structure and conform to the building design and colour scheme. (See Figure 1 below).

Figure 1: Appropriate and Inappropriate Building Design for Telecommunication Infrastructure



Appropriate



Inappropriate

Source: <http://www.bariumblues.com> <http://www.ndtv.com/>

- 8.2.4 Telecommunication Infrastructure attached to heritage buildings, buildings of architectural merit, or those buildings older than 60 years and subject to an AMAFA application approval in terms of the KwaZulu-Natal Heritage Act (Act No. 4 of 2008), must be designed and located in such a manner as to preserve the integrity of the building.
- 8.2.5 There are a number of design techniques which may be utilised to minimise the adverse visual impacts for rooftop Telecommunication Infrastructure and these include:-
- i. An adjustment to the overall size (height and scale);
 - ii. The use of colour or cladding materials to match adjacent walls, or to complementing a facade thereby maintaining visual balance and integrity; and
 - iii. The creation of an architectural feature such as a spire, column, finial or screening to minimise visibility of the facility from adjacent areas.
- 8.2.6 Similarly, free standing Telecommunication Infrastructure can also utilise design measures to address negative visual impact as outlined above, but may also consider:-
- i. An adjustment to the overall size (height, width and dimension);
 - ii. Specific colour coding to match the predominant background (e.g. sky, vegetation);
 - iii. The design of the infrastructure as a work of urban art;

- iv. Using stealth camouflage e.g. disguising the tower as another structure (e.g. a flagpole, a signpost, or a tree);
 - v. Matching or complementing a fencing style or type of roof pitch and repeating this design for the equipment room; and
 - vi. Using stone cladding for the equipment room to compliment natural boulders or stones on site.
- 8.2.7 An equipment room or container, which has an ancillary use, should be enclosed with a wall or fence constructed of appropriate materials e.g. metal, stone, wood or brick.
- 8.2.8 Alternatively, an equipment room could be housed in a specifically designed building that matches the other buildings on the site.
- 8.2.9 Where a container is utilised as an equipment room on a rooftop, such a container shall be set back as far as possible from the edges of the roof so that it is not visible from street level.
- 8.2.10 Wherever it is possible, underground cables should be used unless it is impractical to do so and there is no significant effect on visual amenity.
- 8.2.11 The use of ridgelines for Telecommunication Infrastructure should be avoided.
- 8.2.12 The use of appropriate sites with vegetation (trees), landforms or other features which will assist with the screening and reduce the visual impact of Telecommunication Infrastructure should be encouraged.
- 8.2.13 Where necessary, additional landscaping or the planting of trees shall be undertaken to reduce the visual impact of Telecommunication Infrastructure, the base tower and ancillary uses. In some instances, additional new tree line planting may be required to protect or screen the tower from more distant areas. Plants and trees shall be complementary to the natural vegetation and support biodiversity.
- 8.2.14 The obstruction of established viewpoints by Telecommunication Infrastructure e.g. significant vistas, important landmarks or any element of the cultural landscape should be avoided.

- 8.2.15 A service provider will need to motivate for the design of the support structure and indicate its applicability to the context of the site. Generally, the normative design for new base cellular towers is a slim line monopole in an urban context and a lattice mast in a rural context. A departure from the normative design must be motivated for as part of the application.
- 8.2.16 Where the construction of new access roads is required to service a free standing Telecommunication Infrastructure site, such roads will be appropriately landscaped with plants, trees and/or ground covers. Additional landscaping may be required in areas in and around the site that is not within the freestanding tower site itself.
- 8.2.17 Where a new power supply is required to support a base station site and excavation works are necessary, all alien vegetation shall be removed but no indigenous mature trees or vegetation may be affected.
- 8.2.18 No commercial advertising or signage is allowed on Telecommunication Infrastructure unless it has been approved under the applicable bylaw of the municipality.
- 8.2.19 Sites used for Telecommunication Infrastructure should be lit. Such lighting should be screened, energy efficient and tilted downwards.
- 8.2.20 Where the lighting from Telecommunication Infrastructure has a negative impact on surrounding land uses, additional shielding for lights may be required in order to mitigate visual disturbance
- 8.2.21 In instances where the negative visual impact or impact on the amenity of a base tower structure is such that it requires additional mitigation measures, a municipality may, in its conditions of approval, require that the developer makes an optional positive contribution that would directly benefit the local community where the structure is located. Such mitigation measures may include greening interventions e.g. the planting of trees or the establishment of a community garden, hard and/or soft landscaping and/or the provision of public amenities (e.g. street furniture, lighting, benches / dustbins.)

8.3 REQUIREMENTS

- 8.3.1 The applicant shall provide a description of what measures are to be taken to improve the aesthetic impact of the Telecommunication Base Tower or mast.

- 8.3.2 Any application for the erection of a cellular mast or antennae on the roof of a multi-storey building will show measures taken to reduce the visual impact of the mast including the location and siting of ancillary uses e.g. maintenance sheds or containers.
- 8.3.2 Where necessary, an application may include a landscaping plan to demonstrate how the impact on the visual amenity has been addressed.
- 8.3.4 An application for the establishment of new Telecommunication Infrastructure will include the specific design and mitigation measures undertaken to lessen the visual impact which will include the colour, cladding and camouflage used on site.
- 8.3.5 If required, an applicant will have to submit an alternative design option for the establishment of the Telecommunication Infrastructure that has a lower visual impact on site, e.g. adjustment in height, type of structure (a monopole or lattice), measures undertaken to disguise the structure, the use of natural colour and/or locality.
- 8.3.6 A Visual Impact Assessment may be requested from the applicant if the potential negative impact of the Telecommunication Infrastructure should warrant this additional information.
- 8.3.7 Photographic examples of the proposed design of the Telecommunication Infrastructure may be requested as an additional element of an application.

9.0 NOISE

9.1 OBJECTIVES

- 9.1.1 To reduce the levels of noise emitted by a Telecommunication Infrastructure site, where energy production is reliant on generators, through the installation of noise reduction panels.
- 9.1.2 To encourage the use of alternative green energy production, e.g. wind turbines to support telecommunication infrastructure where possible depending on the location and noise impact

9.2 GUIDELINES

- 9.2.1 An application for Telecommunication Infrastructure which requires power from a generator will indicate whether the use of green technology is possible, and if not, what measures are to be taken to prevent the negative impact on the amenity of the surrounding area through noise abatement measures.

9.3 REQUIREMENTS

- 9.3.1 An application for the installation of Telecommunication Infrastructure that requires a generator for power will include the mitigation measures taken to reduce noise.

10.0 PUBLIC HEALTH AND SAFETY

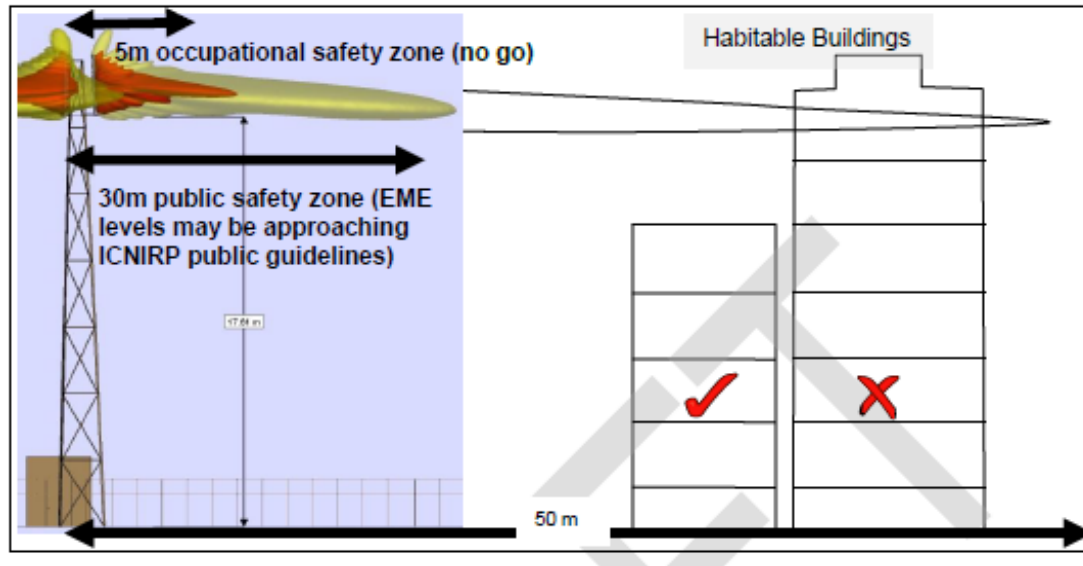
10.1 OBJECTIVES

- 10.1.1 To outline a set of normative measures required for Telecommunication Infrastructure to ensure that the health, well-being and safety of the residents are protected.

10.2 GUIDELINES

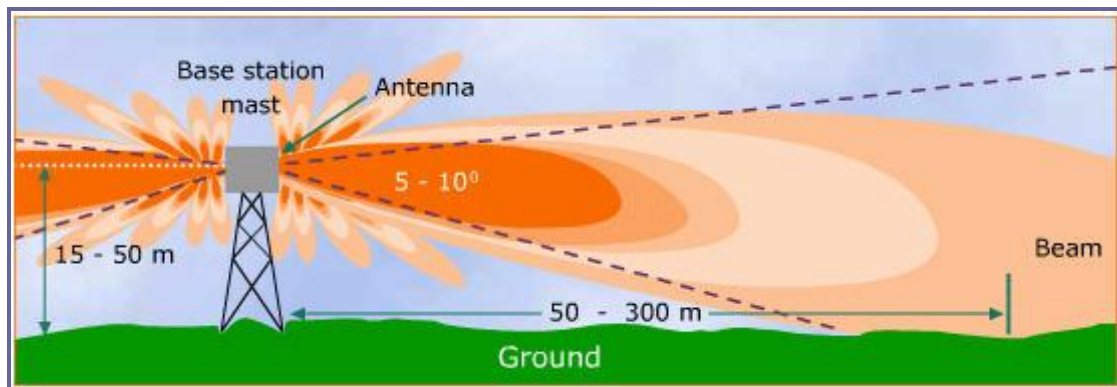
- 10.2.1 Where necessary, appropriate precautionary measures, preventive action and reactive investigation and remedial measures may be needed to address EMR levels above acceptable levels of safety.
- 10.2.2 All antennae will need to be constructed and positioned so that no habitable structures are within a zone of 50 meters directly in front of them at the same height. The following diagram in Figure 1 illustrates the normative standards for the acceptable and unacceptable positioning of antennae.

Figure 2: Zone sizes depicted here are for a typical shared cellular operator, tri-band (GSM900,DCS 1800 and UMTS) site



Source: Draft Telecommunication Infrastructure Policy City of Cape Town revised 2011

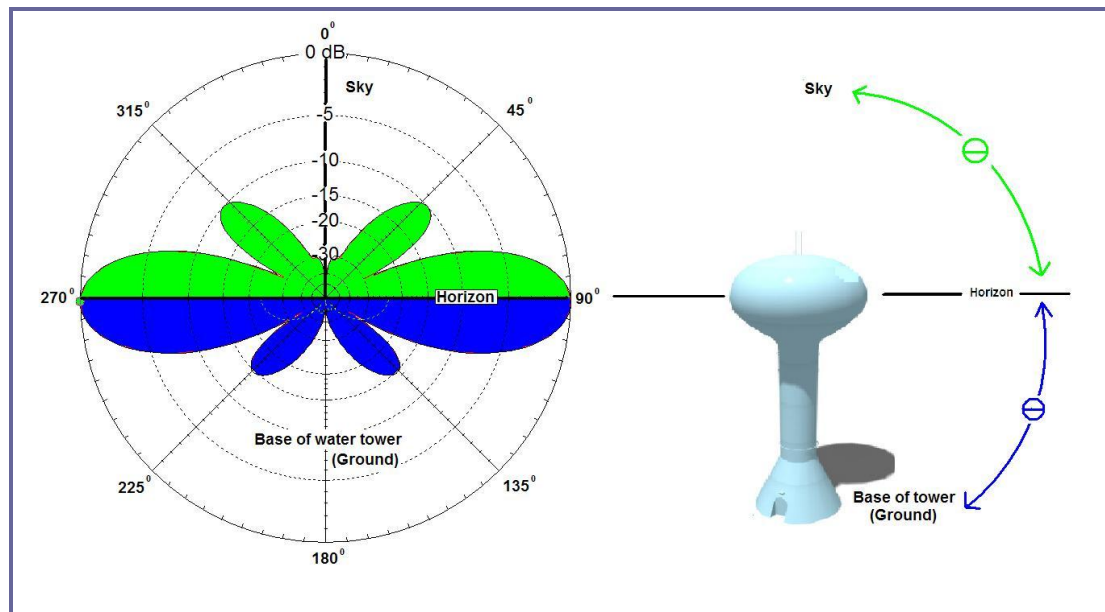
Figure 3: Illustration indicating the EMR emitted from Telecommunication Towers



Source: <https://www.mobinil.com/en/about/company-overview/social-responsibility/health/>

[PublishingImages/BeamShapeDirection.jpg](#)

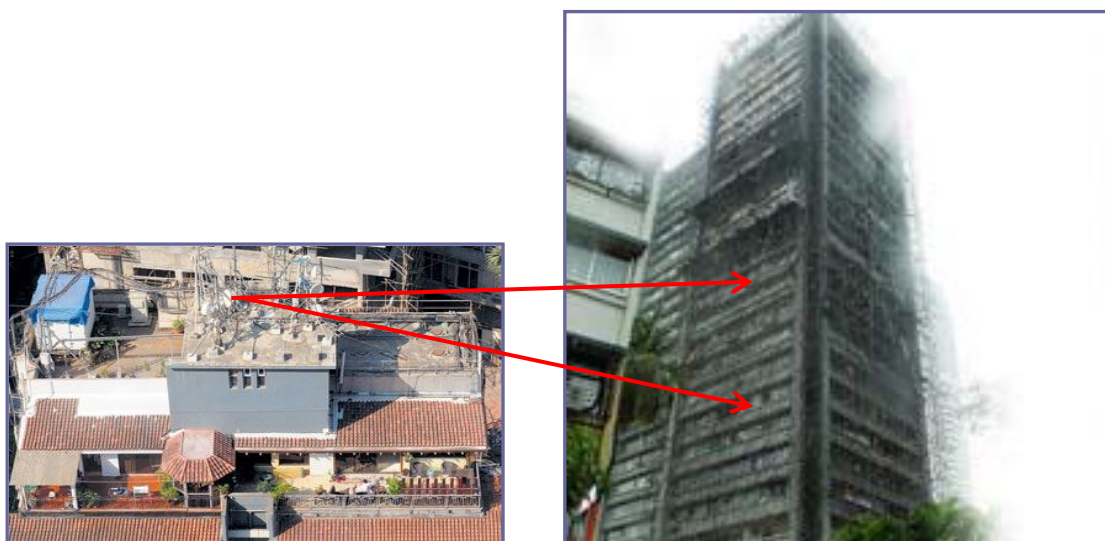
Figure 4: Diagram illustrating the Direction and Extent of EMR from the Base Tower



Source: <http://www.mobilemark.com/images/horizontal.jpg>

10.2.3 No Telecommunication Infrastructure may be placed on the roof of a building that is lower than the surrounding buildings (see Figure 4)

Figure 54: EMR Emissions Impact from Low Building Roof Top Antennae



Source: Case Study Ushi Kiran Building Mumbai 5th – 8th and 10th floors affected by TI from an smaller building on the opposite side of the street

10.3 REQUIREMENTS

- 10.3.1 Service providers submitting an application to a municipality for Telecommunication Infrastructure will ensure that at no time will the public be exposed to EMR levels that exceed the International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines or those prescribed under other policies or national legislation for public exposure
- 10.3.2 Service providers for Telecommunication Infrastructure will include in their application an additional form which confirms their adherence to ICNIRP Public Exposure Guidelines. (See Appendix 3).
- 10.3.7 Any application for Telecommunication Infrastructure shall include a safety zone plan indicating the extent of EMR from the mast for a delineated area of 50 to 500 meters (see figures 2 and 3 below).
- 10.3.8 The safety zone plan shall indicate both the central and side EMR radiation beams and where there are more than two antennae (e.g. on shared towers) will illustrate the full extent of the EMR from all antennae mounted on the mast.

Figure 6: Delineated Safety Zone from Telecommunication Infrastructure



Source: <http://thetechieguy.com/2013/05/29/school-puts-a-cell-phone-tower-on-top-of-a-classroomway-too-close-for-comfort/>

- 10.3.3 Telecommunication Infrastructure will not be permitted on educational or health facility sites unless there is adequate safety zone distances between the antennae and the buildings that ensure the safety of users (e.g. 500 meters from classrooms, playing fields, offices, consulting rooms and wards¹).
- 10.3.4 An application for Telecommunication Infrastructure will address what security measures are to be put in place to prevent the unauthorised access to the Telecommunication Infrastructure, Base Tower or antenna located on the roofs of buildings. This will include safety doors, fencing, secured access points and warning notices on site, in buildings and along access roads.
- 10.3.5 All necessary safety measures shall be provided to ensure that no member of the public or unauthorised person shall be able to gain access to rooftop antennae or come within 5 meters thereof.
- 10.3.6 Once a Telecommunication Infrastructure site is operational, a municipality may request an independent test be carried out by a certified company to ensure that the EMR levels emitting from that site are compliant with (ICNIRP) guidelines for public safety. The cost of carrying out such tests shall be borne by the service provider.

11.0 ENVIRONMENTAL IMPACT AND THE PROTECTION OF SITES OF ARCHITECTURAL OR HERITAGE SIGNIFICANCE

11.1 OBJECTIVES

- 11.1.1 To ensure that wherever possible Telecommunication Infrastructure is not located within an area of environmental or biodiversity sensitivity or heritage significance.

¹ Recent international policy guidelines from Canada, Australia and the USA are proposing a minimum setback or buffer of 500 meters for the erection of Telecommunication Infrastructure in proximity to crèches, educational and health facilities and retirement complexes in response to public concern about safety issues and EMR levels. In Australia, a no development buffer of 500 meters is required for the construction of masts in proximity to residential areas in certain municipalities.

- 11.1.2 To ensure that if Telecommunication Infrastructure has to be located within an area of environmental or biodiversity sensitivity or heritage significance, the necessary guidelines are available to mitigate its impact on the amenity and importance of these areas.
- 11.1.3 To ensure that where Telecommunication Infrastructure is located adjacent to such environmentally or biodiversity sensitive areas or heritage sites, that its design and management is undertaken in such a manner that the integrity of the landscape or resource is not negatively impacted on in any way.
- 11.1.4 To identify a typology of typical environmental, architectural and heritage sites which will require careful consideration in terms of mitigating impacts from Telecommunication Infrastructure (See Appendix 2).

11.2 GUIDELINES

- 11.2.1 Wherever possible Telecommunication Infrastructure should not be erected in an area which has biodiversity, environmental or heritage significance.
- 11.2.2 Wherever possible the location of Telecommunication Infrastructure shall not interfere with a public viewing point or landscape view open to the public.
- 11.2.3 Applications for Telecommunication Infrastructure located on a listed site, in terms of NEMA regulations of 2010, (full reference or footnote – ibid) will need to comply with those regulations for approval.
- 11.2.4 Where it is not possible to find an alternative site due to network coverage or other technical reasons, the requirements outlined in point 6.3 above will apply.
- 11.2.5 In the construction of Telecommunication Infrastructure in environmentally sensitive areas, appropriate methods must be used to ensure that disruption to, and damage of, the natural habitat is minimised. Natural habitats disturbed during construction shall be rehabilitated by the service provider at their own cost and to the satisfaction of the municipality and the provincial Department of Environmental Affairs and Agriculture (DAEA).

- 11.2.6 For the construction of Telecommunication Infrastructure on sites that are environmentally sensitive or have a heritage status, a site plan will be provided indicating the natural vegetation and how it is to be retained or rehabilitated or re-planted?.
- 11.2.10 Where an application indicates the proposed removal of trees or vegetation from a site, it must also provide a strategy for the potential relocation of adult trees to alternative sites and the replanting of natural vegetation in the post construction phase.

11.3 REQUIREMENTS

- 11.3.1 An application for Telecommunication Infrastructure in or adjacent to areas that are environmentally sensitive or have heritage status, will need to comply with NEMA, this policy guideline and other requirements of the municipality within which the site is located.
- 11.3.2 An application must demonstrate what consideration has been given to the environmental impact of the Telecommunication Infrastructure on the site and what remedial measures are to be taken to address any adverse impacts of the proposal.
- 11.3.3 An Environmental Management Plan including rehabilitative strategies for the site can be requested from an applicant or service provider as an additional component of an application and can include any ancillary works or access roads.

12.0 THE IMPACT ON EXISTING INFRASTRUCTURE E.G. SERVICES AND UTILITIES

12.1 OBJECTIVES

- 12.1.1 To ensure that Telecommunication Infrastructure is located and operated in a manner so as not to interfere with any other service or utility functions.

12.2 GUIDELINES

- 12.2.1 Wherever possible the use of an underground electricity supply is to be used to provide for Telecommunication Infrastructure and meet ESKOM supply, operational and safety standards.
- 12.2.2 The use of green energy sources e.g. wind and solar power, where the current electricity supply is inadequate, should be considered.
- 12.2.3 Telecommunication Infrastructure sites located on roof tops shall have their electrical cabling placed in a properly sealed metal channelling.
- 12.2.4 Interference from Telecommunication Infrastructure with television or satellite reception is to be prevented and where it does occur shall be investigated to establish the cause of the problem. Should the service provider be at fault for any interference, remedial action shall be at the cost of the service provider.
- 12.2.5 Public access to Telecommunication Infrastructure sites (base towers and roof top installation) is to be restricted through the installation of appropriate safety measures as outlined in 6.3.4 above.

12.3 REQUIREMENTS

- 12.3.1 A notice not larger than 400 mm x 500 mm in size shall be erected on all sites where Telecommunication Infrastructure and antennae are constructed and shall include warnings to the general public in writing and pictogram format.
- 12.3.2 An application for the establishment of Telecommunication Infrastructure shall include a review of potential conflict with other infrastructure and how this has been addressed by the service provider.

13.0 COMMENCEMENT OF THE NORMS AND STANDARDS

- 13.1 These Norms and Standards for Telecommunication Infrastructure will come into effect on _____ 2018, having been approved by the MEC of Cooperative Governance and Traditional Affairs, KwaZulu-Natal.

14.0 RELATED PROVINCIAL NORMS AND STANDARDS

There are no related provincial norms and standards at this stage.

Appendix 1

1.0 BACKGROUND NOTES

The introduction of electromagnetic telecommunications (referred to in the guidelines as Telecommunication Infrastructure) has revolutionised the manner in which communities and individuals navigate space and has transformed the lives of many people for whom the possibility of access to conventional telephones and the internet was impossible due to distance from main lines. In order for areas to become accessible there is a need to build telecommunication and Telecommunication Infrastructure e.g. cell phone base mast towers and antennae which permit the transmitting of radio waves for connecting phones, computers and other appliances. Along with the benefits brought about by the technological advance, has been the concern regarding the environmental, health and spatial impacts of these utilities particularly in relation to the level of exposure of radio electromagnetic waves emitted by cell phone towers. The location of Telecommunication Infrastructure Cellular can be explained using Central Place Theory and the development of an interlinked network overlaps with network growth theory in town planning. If the problems associated with Telecommunication Infrastructure (including masts and antennae) are understood, then the future location of sites for Telecommunication Infrastructure can be managed more effectively to ensure sustainable development.

2.0 LEGAL CONTEXT FOR NORMS AND STANDARDS IN KWAZULU-NATAL

There are a number of laws that create the framework in terms of which the development, implementation, amendment and withdrawal of provincial planning and development norms and standards. The overview below outlines this framework in brief:-

2.1 The Constitution of the Republic of South Africa Act (Act No 108 of 1996)

2.2 The National Spatial Planning and Land Use Management Act (Act No. 16 of 2013)

The issue of development principles, norms and standards are outlined in chapter 2 sections 6-8 of the Act. In regard to norms and standards the legislation the following is stated:-

“8. (1) The Minister must, after consultation with organs of state in the provincial and local spheres of government, prescribe norms and standards for land use management and land development that are consistent with this Act, the Promotion of Administrative Justice Act, 2000 (Act No. 3 of 2000), and the Intergovernmental Relations Framework Act.

(2) The norms and standards must—

- (a) reflect the national policy, national policy priorities and programmes relating to land use management and land development;**
- (b) promote social inclusion, spatial equity, desirable settlement patterns, rural revitalisation, urban regeneration and sustainable development;**
- (c) ensure that land development and land use management processes, including applications, procedures and timeframes are efficient and effective;**
- (d) include:-**
 - (i) a report on and an analysis of existing land use patterns;**
 - (ii) a framework for desired land use patterns;**
 - (iii) existing and future land use plans, programmes and projects relative to key sectors of the economy; and (iv) mechanisms for identifying strategically located vacant or under-utilised land and for providing access to and the use of such land;**
- (e) standardise the symbology of all maps and diagrams at an appropriate scale;**
- (f) differentiate between geographic areas, types of land use and development needs; and**
- (g) provide for the effective monitoring and evaluation of compliance with and enforcement of this Act.**

(3) The Minister may, in consultation with or at the request of another Minister responsible for a related land development or land use function and after public consultation, prescribe norms and standards to guide the related sectoral land development or land use”

Note the Act does not provide a definition of a norm or standard as part of its contents.

2.3 The KwaZulu-Natal Planning and Development Act (Act No. 6 of 2008)

Chapters 11 of the KwaZulu-Natal Planning and Development Act (Act No. 6 of 2008) sets out the introduction, development and withdrawal of provincial norms and standards. The chapter has four parts as outlined below:-

- Part 1:** sections 135 -138 focuses on the introductory provisions, contents, and legal effects of provincial planning and development norms and standards ‘
- Part 11:** sections 139 – 145 deals with the adoption of provincial planning and development norms and standards;
- Part 111:** sections 146 -155 addresses with the amendment of provincial planning and development norms and standards; and
- Part IV:** sections 152- 154 outlines the withdrawal of provincial planning and development norms and standards.

Appendix 2

TYPICAL AREAS OF ENVIRONMENTAL AND HERITAGE SIGNIFICANCE²

1. Land zoned Public Open Space or Conservation ;
2. Large Boulders / rocky outcrops on the site;
3. Site abutting Vacant / Open space / public passage;
4. Site abutting or is within a conservation / nature area or place with Provincial / Local protection / status.;
5. River/stream/drainage channel on or within 32 metres of the site;
6. Wetland/dam/water body/marshy area/high water table on or within 32 metres of the site;
7. A site that naturally stays filled with water in wintertime;
8. The floodplain of a river / wetland (within 1:50 year flood line/ 1:100 year flood line);
9. Coastline / beach / or within 100m of the high water mark of the sea;
10. Coastal dunes, coastal forests / thickets on the site;
11. Estuaries;
12. A site outside or abutting the urban edge or constituting the last row of properties on a mountainside, rural / smallholding edge or a horticultural area;
13. Steep slopes (>1:3);
14. Site abuts / is within a scenic drive / reserve;
15. Significant tourism gateways / viewing platforms /vantage points / vistas;
16. Tree lined avenues or similar historical plantings on site (tree avenues/hedges) used on farmlands to delineate boundaries and road servitudes;
17. Mature indigenous and alien trees on site with a trunk circumference of both of an adult's arm's length;
18. Cultural landscapes, historic farms, historical plantings on site (tree avenues/hedges);
19. Existing Buildings / any part of a structure older than 60 years;

² Sourced from the Draft Telecommunication Infrastructure Policy prepared by the City of Cape Town in 2002 and revised 2011 with additions

20. Existing building or site which is an old National monument or a provincial heritage site identified in terms of the KwaZulu-Natal Heritage Act (Act No of)
21. A declared / proposed urban conservation area or heritage area / zone;
22. Special Areas or Protected Areas;
23. Surveyed heritage areas e.g. battle grounds;
24. Graves / burial grounds / cemeteries on the site; and,
25. A place of known social / cultural significance, for example, certain places of worship, a male initiation site, rain making sites, a place of oral traditions/stories/legends, or struggle history.

Appendix 3

Form of ICNIRP Declaration Declaration of Conformity with ICNIRP Public Exposure Guidelines ("ICNIRP Declaration")

Operators Name: _____

Operator Address: _____

Operator's Telephone: _____

Declares that the proposed equipment and installation as detailed in the attached planning application for the new installation of/upgrading of telecommunication infrastructure has been submitted in terms of chapters 3 and 4 of the KwaZulu-Natal Planning and Development Act (No 6 of 2008).

(Address): _____

Such telecommunication infrastructure is designed to be in full compliance with the requirements of the radiofrequency (RF) public exposure guidelines of the International Commission on Non-Ionizing Radiation Protection (ICNIRP), as expressed in EU Council recommendation of 12 July 1999 * "on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz)".

Reference: 1999/519/EC

Name: _____

Date: _____

Signed : _____

Position: _____