

TELECOMMUNICATIONS PLANNING GUIDELINES

BACKGROUND

Telecommunications is the economic engine of growth in the current Information Age. New communication technologies are spreading rapidly and creating a global village of which Jamaica is committed to being an active participant.

Liberalization of the Jamaican telecommunications market has created numerous opportunities for investors to address the increase in demand for telecommunication services. Already Jamaica is witnessing a proliferation of new wireless telecommunication services. These services have increased the need for more developed and extensive telecommunications infrastructure .

The provision of new telecommunication services has been accompanied by concerns expressed by members of the public related to such matters as the possible adverse effects of cell towers on human health and property values, the structural integrity of towers and the aesthetics of the telecommunications infrastructure.

In anticipation of the increased infrastructure needs of telecommunications carriers given liberalization and their desire to provide ubiquitous services, and mindful of concerns of members of the public, the Town and Country Planning Authority has established planning guidelines for the telecommunications sector.

The Guidelines are intended to achieve the following:

- (i) balance the deployment needs of telecommunications providers with the protection of the environment for public welfare;
- (ii) assist community understanding of the issues involved in the design and installation of telecommunications infrastructure and provide opportunities for community input in the decision making process;
- (iii) promote a consistent approach in the preparation, assessment and determination of applications for planning approval of telecommunications infrastructure;
- (iv) minimize disturbance to the environment and loss of amenity in the provision of telecommunications infrastructure; and
- (vi) ensure compliance with all local government regulations and health and safety standards in the erection of telecommunications infrastructure.

PLANNING POLICY

STATUTORY

1. All development applications within areas subject to a Development Order require expressed planning permission. Applications falling within a Development Order area shall be referred to the Town and Country Planning Authority (TCPA) in accordance with section 12 (1a) of the Town and Country Planning Act.
2. All development applications require building permission.
3. The Planning Authority (PA)¹ shall assess all applications in accordance with the Development Order and other material consideration, such as views expressed by the public and the significance of the proposed development as part of a national network.
4. Physically small low powered installations discussed in APPENDIX 1 do not require express planning permission subject to conditions. This exemption does not apply to areas of scenic beauty, protected building, national monuments conservation areas and sites protected under the Jamaica Heritage Trust Act ,the Natural Resources Conservation Authority Act and the Town and Country Planning Act .
5. Planning Authorities shall be cognisant of the rights and obligations of the operators and should not question the need for any additional providers or additional telecommunication systems. The rights and obligations of the operators are found in the Telecommunications Act and Licences issued.
6. Companies who constructed towers prior to 2001 are exempted from these guidelines. However they are required to provide copies to the Local Authorities/KSAC and the Town and Country Planning Authority, this should include detail information of the towers eg. Location, size etc.
7. Exemptions granted under this policy shall not apply to applications in residential, school or hospital areas.

SITING AND DESIGN

Due consideration must be given when siting base stations and transmission masts/towers. Particular consideration to be given to educational institutions, health facilities, residential areas and all other sensitive areas.

8. The operator should provide to the Local Authority a statement for each site indicating its location, the type of mast, the height of the antenna, the frequency and modulation characteristics, and details of power output. Applications should be accompanied by information relating to proper access to the Base station including driveways on property and right of ways.

¹ Planning Authority means the Local Planning Authorities and the Town and Country Planning Authority

9. The site area of the base station shall be a minimum of 400 square metres for self support towers. The foremost part of each Mast/Tower shall be a minimum distance of 6.1 metres (20 ft.) from the physical barrier. Where the size and setbacks proposed does not meet the required standard a written explanation shall be submitted along with the application.
10. Operators shall consider the use of materials, colours and design that would minimize obtrusiveness. In urban areas the preference shall be for towers to be located on existing buildings rather than creating new installations/sites. The maximum height of self-support towers/masts shall not exceed 45.72 metres within urban areas. The Authority however in its sole discretion may consider applications exceeding this maximum height.
11. Any change to an existing base station which increases its height and base shall be subject to the normal planning process as if it were a new development.
12. The operators as a part of the design of the development may be encouraged to landscape the development to the satisfaction of the Local Planning Authority.
13. Where possible the proposed development should be designed to blend into the environment so as to minimize its visual impact on the environment. To this end the telecommunications industry and the relevant government agencies shall continue to explore different designs solutions, type of material and color used. The operators may be asking in sensitive locations to consider different types of apparatus and design solutions.

CONSULTATION

14. Pre-application discussions and inspections should be carried out between the operators and schools, residential groups, the relevant Planning Authorities, the National Environment and Planning Agency, the authorities responsible for roads and any other relevant body.
15. The telecommunication operators should discuss any proposals for their system with the local Planning Authority/KSAC for the respective area.
16. The beam of greatest radio frequency intensity from a base station sited within or near education facilities should not be permitted to fall on any part of the grounds or buildings of the institution without the consultation of the school administration in addition to the standard guidelines.

SECURITY AND SAFETY

The towers/masts are an attraction for lightning and an area on ground is required to discharge electrical charges. The tower themselves also act as a source of allurements to children and adults alike. Depending on their locations the towers may pose a danger to aircrafts. Concerns also exist in respect of the toppling of towers. We also have to be of the fact that these developments often have valuable equipment that has to be protected.

17. All electrical works including grounding shall be illustrated as part of the supporting documents and in accordance with the Electricity Division and Government Electrical Inspector (Mpuct).

18 Exclusion zones should be determined and defined by acceptable physical barriers and appropriate gating. The physical barrier shall be a minimum of 3 meters in height within the curtilage of the site to prevent intrusion.

19 Readily identifiable signage, informing the public as to who are the operators of the site, their emergency numbers shall be posted at a conspicuous position at the site.

20 Readily identifiable signage with a warning to include 'Keep Out', along with information on the operators of the site and their emergency numbers shall be posted at conspicuous positions.

21 All towers over 30m should be painted and treated as stipulated by the Civil Aviation Authority and Spectrum Management Authority.

22 all towers shall be designed in accordance with the national building code.

23 All applications proposed to be located within a 3Km radius of airports; aerodromes, similar facilities and flight paths will be referred to the Civil Aviation Authority and/or the Jamaica Defense Force for consultation prior to determination.

MAST and SITE SHARING

The proliferation of telecommunication masts and related apparatus are at times aesthetically and visually obtrusive. The policy is therefore aimed at keeping the number of masts to a minimum and encourages mast sharing where appropriate.

24. Where practicable the Planning Authority:
- i. will encourage the use of existing building and reuse of existing sites to site new antennas rather than Supporting new installations.
 - ii. shall require that the operators/applicants demonstrate that all reasonable steps Have been taken:
 - a. to investigate mast sharing before seeking to erect new mast.
 - b. to pursue the possibility of cooperating with another operator to erect new mast for joint usage.

Note: There are certain factors which may inhibits the amount of mast sharing. These include:

- *The structure's capacity to support weights or wind loads from additional equipment.*
- *RF interference, although engineering design can minimize this problem*
- *Visual appearance, which can be intrusive when facilities are "bulked", "heightened" or "clustered" due to mast sharing.*

25 Operators shall be encouraged to include additional structural capacity to facilitate growing demand for network development including the demand for other operators.

26 Planning Authorities shall be required to maintain a register of all applications for telecommunication mast/tower site which shall be separate from the planning register. This shall be made available to operators to allow them to consider the possibilities of mast sharing when planning the development of telecommunication networks.

27 Where an application is made for mast sharing and the tower being shared is approved the planning authority may exempt such an application from planning approval.

LISTED BUILDINGS, HERITAGE SITES AND CONSERVATION AREAS

28 All applications to be housed on sites with listed buildings, within heritage sites and conservation areas will be referred to the Jamaica National Heritage Trust and the National Environment and Planning Agency (Conservation Division) for comments/recommendations prior to determination.

29 The operator should avoid siting towers in or near wetlands, near known bird concentration areas or in habitat of listed as threatened or endangered species or in migratory bird routes.

NOTIFICATION

30 The LPA shall require that operators post a site notice on the proposed site in accordance with the Building Act. Further to, the operators must publicize such development or their intent for development within 28 days from the date of submission of application in a daily newspaper printed and circulated in Jamaica. This Notice should invite comments to be made to the Local Planning Authority, the Town and Country Planning Authority and the Operators. The Notices shall require that the public respond within 28 days from the date of such notice.

31 Operators shall be informed that the processing time is 90 days from the receipt of all required documents to the Local Planning Authority.

32 The Planning Authority shall maintain an up-to-date list of all such notifications, which shall be readily available for public consultation.

DEVELOPMENT RIGHTS

33 The Planning Authority in considering an application for the erection of towers shall take into account the development rights of same land and that of adjacent premises. In addition the construction of new developments can also affect the telecommunication services offered by the operators.

MISCELLANEOUS

- 34 The Planning Authorities shall ensure that apparatus no longer required for telecommunication purposes are removed as soon as reasonably practicable from the land or building on which it is located and the land restored to its previous condition.
- 35 Where noise generation is an issue the first option for back-up power supply should be by a battery system. Where a generator is necessary noise levels shall not exceed 70 decibel from any point on the base station boundary.

GUIDE TO APPLICANTS / OPERATORS

1. Consultations should be made between the operator and the Secretary/ Manager for the Local Planning Authority before an application for consent for telecommunications development is submitted. These will allow both sides the opportunity to examine locally, mast locations, mast sharing, and site sharing and design solutions.
2. Applications shall:
 - a) Describe and/or show the existing use of the land and structures thereon.
 - b) Illustrate the entire area of a site as well as the base station site on site plans.
 - c) Include plans showing the site, foundation, floor and elevation at an appropriate Scale (i.e. 1:50 for floor and foundation plans and site plan and towers at 1:100).
 - d) Show setbacks from the existing building(s) on the site and from roadways (I.e. main road, parochial roads etc).
 - e) provide information relating to distance from public buildings an institutions, where applicable.
 - f) Illustrate access points and right of ways to each facility.
 - g) Provide a network diagram of the locations of these facilities.
 - h) Show security of sites in terms of fencing, its height and location of signage.
 - i) Provide proof of interest in land (leasehold or freehold) and access thereto.
 - j) Include a land use survey.
3. Radio Frequency shall be approved by the Spectrum Management Authority.
4. The integrity of the structure to be approved by the Local Building Authority in accordance with the local building code for earthquake and hurricane.
5. The structural integrity of the towers shall be inspected and certified by a registered professional engineer every five years or after a major disaster.
6. All electrical installations should be in accordance to the requirements of the Electricity Division and Government Electrical Inspector (Mpuct)..
7. Certificate of compliance to ICNIRP or FCC to be obtained from the Spectrum Management Authority periodically.

RISK AREA

It is expected that RF fields to which the public will be exposed will be kept to the lowest practical level commensurate with the telecommunication systems operating effectively. Zones where exposure is of greatest intensity must be known especially in areas where apparatus are located on or near sensitive sites.

8 The operator shall provide, on request, information on the level of intensity of radio frequency radiation from a base station on or near sensitive sites.

9 Operators shall incorporate warning signs into micro cell and pico cell transmitters to indicate that they should not be opened when in use.

HEALTH

10 The operator shall comply with the guidelines established by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) for public exposure to radiation as outlined in Appendix 2.²

11 Timely independent random audits shall be carried out by the relevant Authority to ensure conformity to ICNIRP guidelines. Schools, nurseries and other sensitive sites shall be audited more frequently.³

² Spectrum Management Authority is the enforcing body. The Ministry of Health will address issues relating to public health and safety.

³ Ibid

12 The operator shall maintain after consultation with the ministry of health a register of occupationally exposed workers which shall be available for inspection by the relevant Authorities.

13 Stand-by generators should be fired with fuel of locally acceptable standards which is less than or equal to 0.5% sulphur content. The emissions generated by 2 to 5 MW engines should also meet the following standards: Note for discussion.

- For Nitrogen oxides (No_x) – 2,981 ng/J or 3,512 mg/Nm³ at 15% O₂
- For Particulate Matter(PM) – 85 ng/J or 100 mg/m³ at 15% O₂

Spectrum Management Authority is the enforcing body. The Ministry of Health will address issues relating to public health and safety.

³ Ibid

APPENDICES:

1. Exempted Applications

- a) Some minor operations or change of use of land may not constitute development which requires planning permission. For example, many of the smallest antenna systems may be covered by the normal principle of de minimis; or they may not have a material effect on the external appearance of the building on which they may be installed, and therefore may not fall within the legal definition of development. Most conventional television aerials and their mountings or poles have long been treated this way, and this approach should continue to be applied to small telecommunications apparatus in general (regardless of who installs it).

Radio poles, citizen band and amateur radio installation satellite dishes in respect of height and size are exempted.

- b) Apparatus, such as radio mast, which is being installed on the ground must not exceed a height of 15 m (45 ft) above ground level, or the height of any apparatus which it replaces, whichever is greater (this limit does not apply to antenna install on radio mast).
- c) Satellite Antennas except when precluded in any Development Order.
- d) This exemption does not apply to such apparatus being placed in residential, school and hospital areas.

Note: Satellite dishes, transmitters and parabolic antennas shall be required to blend in with its background and shall be sited, as far as practicable to minimize its impact on amenity and on the external appearance of the building.

2. Table 1.0: ICNIRP reference levels for public exposure at mobile telecommunications frequencies (ICNIRP, 1998)

Frequency (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (W/m ²)
400-2000	$1.375f^{1/2}$	$0.0037f^{1/2}$	F/200
2000- 3000	61	0.16	10

Notes f is for Frequency in MHz; V is for Velocity; A is Ampere

Table 1.1: LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)
Limits for Occupational/Controlled Exposure

Frequency Time Range (MHz)	Electricity Field Strength {E} (V/m)	Magnetic Field Strength {H} (A/m)	Power Density {S} (mW/cm ²)	Averaging /E/ ² /H/ ² or S
0.3 – 3.0	614	1.63	(100)*	6
3.0 – 30	1842/f	4.89/f	(900/f ²)*	6
30 – 300	61.4	0.163	1.0	6
300 – 1500	-	f/1500	f/300	6
1500 – 100,000	-	1.0	5	6

f = frequency in MHz * Plane-wave equivalent power density

United States Federal Communications Commission (FCC)

REFERENCE:

1. **Planning Policy Guidance: Telecommunication PP8 (revised) December 1992,**
Department of the Environment, Transport and the Region Welsh Office.
<http://www.planning.detr.gov.uk>
2. **Report on Mobile Phones and Health, May 2000** Independent Expert Group on Mobile Phones (IEGMP.2000) <http://www.iegmp.org.uk>
3. **Mobile Phones and Base Station** <http://www.dfee.gov.uk>
4. **Partial Guideline for the Installation of cellular and other transmitting tower s July 2001**
Stephen Haughton