
Guidelines for the Location, Siting and Design of Telecommunications Infrastructure

**These Guidelines complement
Statement of Planning Policy No. 5.2: Telecommunications Infrastructure
and are to be read in conjunction with that Policy**



GUIDELINES FOR THE LOCATION, SITING AND DESIGN OF TELECOMMUNICATIONS INFRASTRUCTURE

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1. PURPOSE OF THE GUIDELINES

The principal purpose of these Guidelines is to assist local government and planning practitioners in planning for telecommunications infrastructure at the local level. Underlying this purpose is the need to facilitate the provision of telecommunications services to the community, in an efficient and cost-effective way.

These Guidelines are intended to minimise uncertainty associated with decision-making. They should also result in better outcomes for the community. This means a cautionary approach to the issue of electromagnetic emissions, improved telecommunications service to users, and reduced impact on local amenities.

Clarification of application and assessment procedures will reduce time delays and costs for the telecommunications industry and assist local government and local communities to participate more meaningfully in the decision-making process.

2. APPLICATION OF THE GUIDELINES

These Guidelines are to be read in conjunction with Statement of Planning Policy No. 5.2: Telecommunications Infrastructure. They should also be read in conjunction with any town planning scheme for the particular area and any planning policies relevant to telecommunications infrastructure.

The Guidelines apply at the strategic planning stage, including town planning scheme review, amendment or structure planning and in the assessment of planning applications involving telecommunications facilities.

This is an advisory document only, although it may be adopted by local government as a planning policy in accordance with relevant town planning scheme provisions. The Guidelines do not override the provisions of an existing town planning scheme, and development in accordance with the Guidelines may take place only where it is permissible under the scheme. This requires either that:

- (a) the proposed facility is a permitted or discretionary use in the particular zone in which the site is located under the local government town planning scheme; or
- (b) the facility is exempt from State and local government approval under the Telecommunications Act 1997 (e.g. low-impact facilities¹).

3. WHO SHOULD USE THE GUIDELINES

The Guidelines should be consulted by proponents in both the initial planning of their telecommunications networks and prior to lodgement of applications for planning approval of telecommunications facilities. Attention to the Guidelines will reduce the prospect of ill-conceived applications being submitted to local government. It will also minimise delays involved in subsequent assessment and determination of applications.

The Guidelines should be employed by local government to ensure comprehensive assessment and consistent decision-making, taking into account the interests of all stakeholders (i.e. the proponent, users and local residents). Other users of the Guidelines include land developers, who may need to make provision for telecommunications infrastructure in conjunction with structure planning and/or subdivision.

¹ There is a range of activities exempt from State and local government approval under the Telecommunications Act 1997 including those facilities identified in the Telecommunications (Low-Impact Facilities) Determination 1997 and Amendment No. 1 1999 made under the Telecommunications Act 1997.

4. GUIDING PRINCIPLES FOR THE LOCATION, SITING AND DESIGN OF TELECOMMUNICATIONS INFRASTRUCTURE

The following principles are taken from Statement of Planning Policy No. 5.2: Telecommunications Infrastructure and are intended to provide the basis for the location, siting and design of telecommunications facilities. However, they also address certain construction and operational issues relevant to the development of facilities:

- There should be a co-ordinated approach to the planning and development of telecommunications infrastructure, although changes in the location and demand for services require a flexible approach.
- Telecommunications infrastructure should be strategically planned and co-ordinated, similar to planning for other essential infrastructure such as transport networks and energy supply.
- Telecommunications facilities should be located and designed to meet the communication needs of the community.
- Telecommunications facilities should be designed and sited to minimise any potential adverse visual impact on the character and amenity of the local environment, in particular, impacts on prominent landscape features, general views in the locality and individual significant views.
- Telecommunications facilities should be designed and sited to minimise adverse impacts on areas of natural conservation value and places of heritage significance or where declared rare flora are located.
- Telecommunications facilities should be designed and sited with specific consideration of water catchment protection requirements and the need to minimise land degradation.
- Telecommunications facilities should be designed and sited to minimise adverse impacts on the visual character and amenity of residential areas.
- Telecommunications cables should be placed underground, unless it is impractical to do so and there would be no significant effect on visual amenity or, in the case of regional areas, it can be demonstrated that there are long-term benefits to the community that outweigh the visual impact.
- Telecommunications cables that are installed overhead with other infrastructure such as electricity cables should be removed and placed underground when it can be demonstrated and agreed by the carrier that it is technically feasible and practical to do so.
- Unless it is impractical to do so telecommunications towers should be located within commercial, business, industrial and rural areas and areas outside identified conservation areas.
- The design and siting of telecommunications towers and ancillary facilities should be integrated with existing buildings and structures, unless it is impractical to do so, in which case they should be sited and designed so as to minimise any adverse impact on the amenity of the surrounding area.
- Co-location of telecommunications facilities should generally be sought, unless such an arrangement would detract from local amenities or where operation of the facilities would be significantly compromised as a result.
- Measures such as surface mounting, concealment, colour co-ordination, camouflage and landscaping to screen at least the base of towers and ancillary structures, and to draw attention away from the tower, should be used, where appropriate, to minimise the visual impact of telecommunications facilities.

- Design and operation of a telecommunications facility should accord with the licensing requirements of the Australian Communications Authority, with physical isolation and control of public access to emission hazard zones and use of minimum power levels consistent with quality services.
- Construction of a telecommunications facility (including access to a facility) should be undertaken so as to minimise adverse effects on the natural environment and the amenity of users or occupiers of adjacent property, and ensure compliance with relevant health and safety standards.

5. DESIGN GUIDELINES

The Guidelines have been prepared to provide assistance to designers and those responsible for assessment of applications.

The various design issues have been listed separately, although in practice they need to be addressed in concert. It should also be appreciated that not all of the techniques referred to may be feasible, in terms of the functional requirements for particular facilities (e.g. range, orientation, and network requirements).

5.1 Location

Telecommunications facilities that have the potential to be visually intrusive should, where possible, be located in industrial, commercial, business or rural areas, or be otherwise integrated into the design of existing or proposed building development. Where there are existing structures such as water towers or base stations, additional facilities can often be accommodated without significantly contributing to the visual impact of the structure. This includes co-location with an existing telecommunications facility and integration with any other structure.

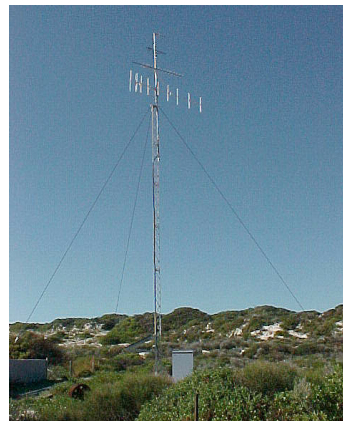
Visually intrusive facilities should generally not be situated within residential areas or in areas of particular environmental significance such as foreshores and Bush Forever sites. They should also not be prominently visible from significant vantage points including tourist routes and lookouts and recreation sites, in order to preserve the amenity and environmental value of these areas. Particular care should be taken in the design of facilities near certain land uses such as childcare centres, schools and aged persons' accommodation to minimise visual intrusion and community concern regarding electromagnetic emissions. Cultural and heritage sites should also be treated with sensitivity, and avoided altogether where a proposed facility is likely to detract from the characteristics for which the site has been identified (e.g. cultural, historic, scenic).

Some of these location principles are illustrated below.

Co-location of facilities where different carriers or systems share the one structure



Co-location - metropolitan setting



Co-location - rural setting

5.2 Integration

Where a proposed facility is to be located on, or immediately adjacent to, an existing or proposed building or structure, care needs to be taken with its design and siting so as to integrate the development as far as possible with the building or structure to which it relates. Facilities such as antennae should not merely be "hung off" the side of a building unless they can be designed to form an integral part of the overall development. Techniques which may be used to minimise adverse visual impacts include:

- adjustment to the overall size (height and scale) of the facility;
- colour-matching with adjacent walls;
- creating an architectural feature of the facility, such as a spire or column;
- complementing facade treatment so as to maintain visual balance;
- screening to minimise visibility of the facility from adjacent areas.

Some of these integration principles are illustrated below.

Integration using facilities as architectural features



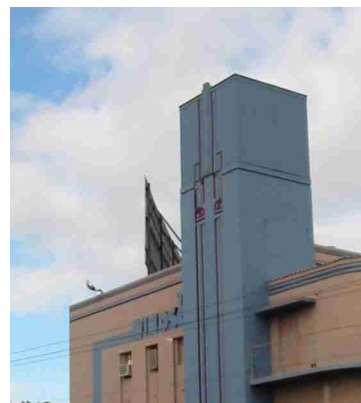
Integration by means of concealment



Colour-matched to building



Antenna disguised as a chimney



Antenna disguised as part of architectural feature (facade extension)



Design and colour of antennas blend with the water tower to which they are attached

5.3 Design

In the case of free-standing facilities, such as above-ground housing or towers, design measures need to be employed to address visual impact where the opportunity for integration with adjoining structures is often limited. The design techniques are, in some cases, the same as those referred to above, and include:

- adjustment to the overall size (height and dimension) of the facility;
- colour to match the predominant background (e.g. sky, vegetation);
- designing the facility as a work of urban art;
- disguising the facility as another structure (e.g. flagpole, signpost, tree).

Some of these design principles are illustrated below.

A large but simply designed structure



Compact design reduces the intrusiveness of the structure

Designed as an architectural feature or different structure



Designed as an architectural feature



Designed as different structure

5.4 Landscaping

Tree planting can be used to reduce the visual impact of facilities such as above-ground housing and, in some cases, towers. In general, such measures should be applied only after location, siting and design issues have been addressed to the best possible effect. Where landscaping is desirable to screen facilities, species should be chosen based on the size of the facility and in sympathy with the existing landscape theme (if any) in the locality.

Some of these landscape principles are illustrated below.

Design and location of facilities blended into the landscape



Metropolitan setting



Rural setting

Examples of various facilities in suburban, industrial and rural settings



Remote Interface Module - suburban setting



Remote Interface Module - industrial setting



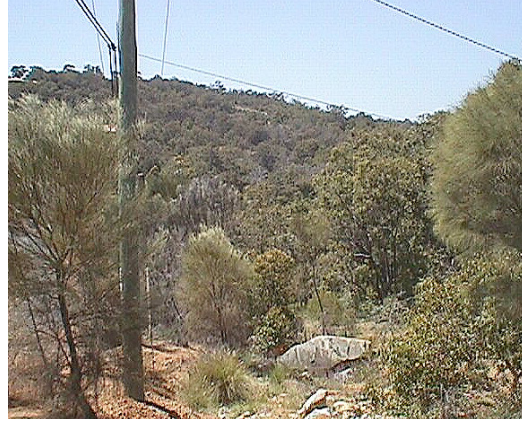
Pillar - suburban setting



Subscriber single-channel radio system - caravan park setting



Aerial cable - rural setting



Aerial cable - rocky terrain

6. APPLICATION AND ASSESSMENT PROCEDURES

Unless a telecommunications facility is exempt under the Telecommunications Act 1997, an application for planning approval is to be made and approved by the relevant consent authority before works commence .

Statement of Planning Policy No. 5.2: Telecommunications Infrastructure states that, in addition to the standard requirements for planning applications under the relevant town planning scheme, applications for telecommunications infrastructure are to include such of the following information as is relevant to a description and assessment of the particular proposal:

- graphic illustrations (including photographs of similar facilities and/or computer-generated simulations) showing the type of facility and its relationship with adjacent development;
- elevations showing the extent, height and appearance of the proposed facility as viewed from any adjacent street, public place and adjacent property;
- proposed materials and colour of the facility, and proposed arrangements for maintenance and/or future modifications in response to changes to any adjacent buildings or structure;
- any screening or fencing proposed in conjunction with the facility, including arrangements for maintenance;
- any external lighting of the proposed facility and/or the facility site;
- details of any existing vegetation to be removed and any proposals for landscaping and/or restoration of any disturbed land;
- details of any significant environmental constraints and, where relevant, commitments stating how these constraints will be managed to prevent an unacceptable impact on the environment; and
- details of the timing of works involved in establishing the facility and any arrangements for temporary access and/or changes to existing access facilities during the course of construction; and
- a written statement or report setting out:
 - (i) the maximum power output of the facility and radio frequency electromagnetic energy levels in accordance with the Industry Code for the Deployment of

² Other approvals under other legislation may be required prior to any construction taking place on a site.

Radiocommunications Infrastructure 2002. This statement is to demonstrate that the carrier accepts full responsibility for compliance with the Radiocommunications Act;

- (ii) how the proposed facility relates to the existing and proposed network of telecommunications infrastructure, and what (if any) additional facilities are known by the proponent to be under consideration to meet projected future increases in demand;
- (iii) the extent to which the proposed facility complies with any relevant town planning scheme or planning policy adopted under a scheme and (if applicable) justification for any variation from relevant scheme or policy provisions;
- (iv) where the proposed facility (e.g. trenching cables such as optic fibre) is to be located within an easement or corridor, details as to how the facility will affect the capacity for future installations within that easement or corridor; and
- (v) how the proposed facility addresses the Guiding Principles for the Location, Siting and Design of Telecommunications Infrastructure set out in Section 5.1 of the Policy.

In its determination of applications for telecommunications infrastructure, the local government is required to have due regard to those matters listed in the relevant town planning scheme. Such consideration should include the local government's assessment of the extent to which the particular proposal is consistent with these Guidelines and Statement of Planning Policy No. 5.2: Telecommunications Infrastructure.

7. CONSULTATION AND NOTIFICATION PROCEDURES

Local governments should establish clear guidelines for consultation and notification requirements relating to applications for telecommunications facilities that require planning approval.

Applications that do comply with the Guiding Principles set out in Section 4 of this document should be dealt with expeditiously and need not be advertised, unless required by the relevant town planning scheme.

Proposals that do not comply with the Guiding Principles should be advertised for public comment to encourage best practice in the preparation of applications.

8. FURTHER READING

Bush Forever, Final Report, Western Australian Planning Commission, Perth, 2000.

Commonwealth Telecommunications Code of Practice 1997.

Industry Code for the Deployment of Radiocommunications Infrastructure, 2002.

Telecommunications Act 1997.

Telecommunications in Road Reserves, Administrative Guidelines for Road Authorities, Ap-R178/02, Austroads, 2002.

Telecommunications in Road Reserves, Operational Guidelines for Installations, AP-G72/02, Austroads, 2002.

Telecommunications (Low-Impact Facilities) Determination 1997 and Amendment No. 1 1999.

Western Australian Municipal Association Telecommunications Kit.

Western Australian Planning Commission Planning Bulletin No. 22 - Telecommunications, July 1997.

Western Australian Planning Commission Planning Bulletin No. 46 - Applications for Telecommunications Infrastructure, November 2000.