

THE AUSTRALIAN NOISE EXPOSURE FORECAST

The Australian Noise Exposure Forecast (ANEF) is a single number index for predicting the cumulative exposure to aircraft noise for areas near airports during a specified time period. The index or value is arrived at by a complex computation of data including:—

- (a) measurements of aircraft noise (expressed in Effective Perceived Noise Decibels, EPNdB), which take account of the spectral, temporal and spatial aspects of the noise;
- (b) estimates and generalisations of aircraft type groups and mix, number of operations, runway utilization, flight paths and operational procedures; and
- (c) time of day, i.e. whether daytime (0700 hours to 1900 hours) or evening/night-time (1900 hours to 0700 hours).

An ANEF contour plan is produced by combining equivalent ANEF values at individual positions around an airport. Such a plan is then utilised to show which areas of the City are subject to aircraft noise. The ANEF plans are produced by the Federal Airports Corporation and endorsed by the Civil Aviation Authority. A detailed description of the Australian Noise Exposure Forecast is included in Australian Standard AS 2021-1985.

GUIDELINES

For the purposes of applying this Policy, the steps required to be followed are summarised as follows:—

1. Ascertain if the site is located within a noise exposure contour of 20 ANEF or greater, as shown on the current ANEF prepared by the Federal Airports Corporation (FAC) and endorsed by the Civil Aviation Authority. FAC propose to prepare a revised ANEF for Brisbane Airport by the end of 1993. In the interim, ANEF Reference Numbers Q124, Q125, Q126, Q127 and Q174 issued by the former Department of Aviation in 1985 will be employed.
2. If the site is located within a noise exposure contour of between 20 and 25 ANEF a qualified acoustic consultant should be engaged to assess the proposal in terms of Australian Standard AS 2021—1985.
3. The acoustic consultant will ascertain the extent of noise attenuation, in decibels (A), to be incorporated in the construction of the building in order to achieve the indoor design sound levels nominated by the Australian Standard, during aircraft fly-overs, including noise from other sources.
4. The acoustic consultant will then recommend building components and construction techniques with sufficient sound attenuation to provide the indoor design sound level. Australian Standard AS 2021—1985 contains a guide to the sound transmission data of various building components. It is expected that the required building components will generally be various combinations of cavity brick or brick veneer walls, high density roof insulation, and double glazed windows. (It should be noted that the recommendations for building construction contained in Australian Standard AS 2021—1985 are based on the assumption that windows and doors are closed).
5. Relaxation of the requirement for noise attenuation measures may be allowed for minor building works and for non-residential components of developments e.g. storage areas, workshops, or playing fields.

INFORMATION TO BE SUPPLIED

Where the site is exposed by an ANEF value of between 20 and 25 inclusive, the following information should be submitted to Council:—

A report from a qualified acoustic consultant which establishes that the site is within a noise exposure contour of between 20 and 25 ANEF, and which provides evidence that the building components to be used in construction of the development will comply with Australian Standard AS 2021—1985.

The provision of this information will enable the Brisbane City Council to carry out a full assessment of the proposal having regard to the requirements of this Policy and the interests of the community."

BRISBANE CITY COUNCIL

POLICY AFFECTING THE TOWN PLAN OR PART OF SUCH PLAN

Adopted by Council on 18 October 1994 and advertised in the Courier Mail on 24 October 1994 as required by Section 1A.4(3) of the Act.

BRISBANE WATERWAYS

1. INTENT

This Policy sets out the objectives in respect of Brisbane's waterways on which Council shall base decisions, in determining any form of development including subdivision, land use or rezoning application over any land in the vicinity of any of Brisbane's waterways or over land, that will have a significant effect on waterways.

The "Strategy Plan for the Management of Brisbane Waterways" has the following overall objective:

"to manage and co-ordinate the diverse uses of Brisbane's waterways, to enhance ecological, recreational, and aesthetic functions while minimising flooding and maintenance"

The "Strategy Plan for the Management of Brisbane Waterways" includes goals and objectives for the management of Brisbane's waterways, and extensive "Planning Unit" information about Brisbane's 630km of waterways.

In conjunction with those objectives, the "Planning Unit" and "Catchment Data" information contained in Volumes 2 and 3 of the "Strategy Plan for the Management of Brisbane Waterways" is to be a primary information source on which to base town planning decisions (in regard to any such land). In making decisions concerning Brisbane's waterways the overriding goal will be maintenance or enhancement of the diverse values of waterways. Consequently modifications to waterways should only be considered if a reasoned and valid case is put forward that maintains or enhances the values of the waterway. The town planning decisions made subsequently will be dependent upon the unique circumstances, e.g. intrinsic environmental values, recreational values, aesthetic values, hydraulic values and maintenance issues, of a particular site and the overall impacts on waterways.

2. DEFINITIONS

The following are definitions of terms used in this Planning Policy.

"**ECOLOGICAL PROCESSES**" are processes which involve the interaction of any or all components of a natural system, including plants, animals, soil, water and air. One such process is the food chain of organisms living in a waterway.

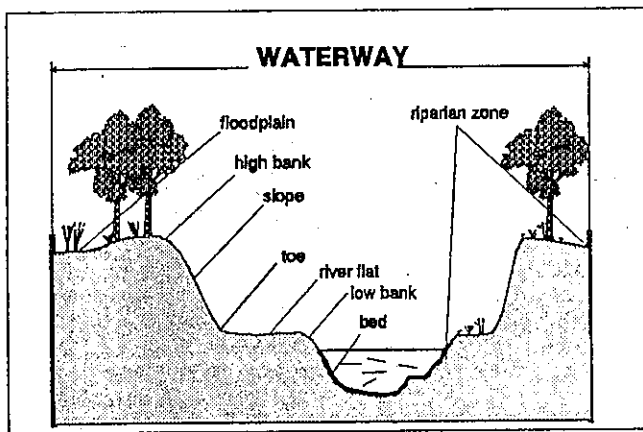
"**ENVIRONMENTAL VALUES**" are those particular traits of a natural system which are regarded as important and worth conserving and protecting, e.g. the capacity of waterways to provide areas for fish breeding.

"**FLOW REGIME**" means the patterns of water flow in rivers and streams, e.g. many of the streams within Brisbane City are subject to low flows during most of the year and extreme flows during and after summer storms.

"**RIPARIAN**" is used to describe areas fringing rivers and streams, i.e. the banks and associated areas which are linked by physical and ecological processes to the waterway.

"**VEGETATED RIPARIAN ZONE**" is the corridor of vegetation along the edge of a waterway which is intimately linked with the waterway, both in providing energy in the form of leaf and branch matter to the stream and being affected by the extra moisture made available by the waterway. This zone also performs other functions including filtering of runoff and habitat for fauna.

"**WATERWAY**" refers to any element of a river, creek or stream including the bed and extending to the high floodway bank, as well as associated wetland areas, as generally illustrated in the diagram below:-



"WATERWAY CROSS-SECTIONS" are an indication of the shape of the waterway, across the line of flow, at any given point in a stream, showing the bed, low banks, floodway and high banks. The diagram above illustrates a typical waterway cross-section.

"BED PROFILE" indicates the relative difference in the river bed height along the length of the watercourse.

3. MATTERS TO BE TAKEN INTO ACCOUNT WHEN ASSESSING PROPOSALS

In determining whether or not planning approval should be given to any proposal, and the nature of conditions to attach to any approval, Council will have regard to the contents of the "Strategy Plan for the Management of Brisbane Waterways" and shall ensure that the following objectives are implemented. It should also be noted that all of the following objectives are interrelated and as such may have effect on one another. Consequently all of the objectives and their potential interactions should be considered for any proposal.

Consideration should also be given to the recommendations of any hydraulic and environmental management plans for any of the City's major natural areas, where those plans relate to a particular waterway.

In addition to Council's requirements, regard should also be had to the requirements of other agencies. In non-tidal watercourses, any works may require a licence under the Water Resources Act, a permit (riverine protection regulations) or approval under the City of Brisbane Flood Mitigation Works Approval Act. In tidal waters consent may be required under the Fisheries Act, Marine Act, Harbours Act or the Canals Act. Other requirements might also apply depending on the circumstances of the case.

This policy will also rely on the implementation of the National Water Quality Management Strategy under which the "Protected Environmental Values" of waterways will be identified. "Protected Environmental Values" are intended to be those values of waterways which the community determines are important and worthy of protection.

(A) Hydrology

- (i) To preserve the flood carrying capacity of waterways by ensuring at least a 1:100 year flood immunity for the city's residential housing and ensuring that calculations for flood modelling are based on a vegetated riparian zone which includes groundcover, understorey and canopy vegetation.
- (ii) To ensure that any works and/or rehabilitation is designed in such a manner so as to minimise changes in the flow regime of waterways which may adversely impact on flooding, ecological processes, environmental values or natural rates of scouring and erosion.

(B) Ecology

- (i) To ensure that physical development is set back from waterways to allow for the preservation and rehabilitation of vegetated riparian zones for physical and ecological processes, the maintenance of species and the establishment of wildlife corridors. For the development of currently undeveloped properties, as a general rule the set-back will be thirty (30) metres from the top of the high bank, although up to sixty (60) metres may be required where sites are assessed to be of special ecological significance. The setback can vary on a site specific basis depending on individual circumstances such as presence of existing vegetation, flooding conditions, size and importance of the waterway and intensity of development proposed. The set-back will not necessarily be included in the

gross subdivisible area on which parkland contributions are assessed under Planning Policy 20.11.

- (ii) To facilitate the revegetation of riparian zones with endemic species and to ensure that any new vegetation is tolerant to the expected frequency and duration of flood water immersion.
- (iii) To ensure that modification to waterways (including restoration/rehabilitation after construction works) are designed taking into account the maximisation of ecological values in addition to normal engineering criteria. Preferred features include sinuous/irregular watercourses, diversity of cross section (e.g. meanders at a natural wavelength), both pool and riffle/run habitats and riparian vegetation providing bank stability and shade.
- (iv) To ensure the protection, preservation and rehabilitation of any estuarine and freshwater wetlands associated with waterway systems.
- (v) To ensure that infrastructure such as bridges, water supply and sewerage services erected across or within waterways does not unduly interfere with ecological processes. It is recognised that infrastructure must in some cases interfere with waterway ecological processes.

(C) Water Quality

- (i) To ensure that any development or activity minimises the clearing of vegetation in waterways, in riparian zones or on steep slopes and other areas subject to erosion within catchment areas.
- (ii) To ensure that any development or activity minimises the quantities of sediment, run-off from pollution inputs such as chemical spills, domestic and garden chemicals, wash water and sewage effluent entering waterway systems.
- (iii) To ensure that any development or activity contributes to or maintains the Protected Environmental Values of waterways as established through public consultation.

In order to achieve the water quality objectives described above, one or more of the following measures may be required:

- (a) The implementation of adequate sediment and erosion control measures to minimise siltation of waterways for any activities involving earthworks such as subdivision, building and construction, provision of services and the placement of fill.
- (b) A minimum standard of sewage treatment required to achieve the protected environmental values of waterways as established through public consultation.
- (c) The maintenance of a fully vegetated buffer zone setback between the high floodway bank and any area subject to fertiliser or pesticide application. This will be assessed under objective A(i).
- (d) The disposal of sewage or other effluent in un-sewered areas in such a manner that it does not directly or indirectly impact on the values (e.g. recreational, aesthetic, ecological, etc.) of the nearby waterways. Conversion from septic tanks to more efficient on-site sewage treatment systems should be encouraged, where those other systems are more efficient and desirable.
- (e) The design of drainage systems which ensure minimal scour and erosion and minimal deterioration in water quality of receiving waters. Such measures could include gross pollutant traps, nutrient filter beds and other appropriate measures.
- (f) The design of waste and water management systems on industrial premises including refuse tips, extractive industries/quarries which minimise impact on environmental values of adjacent waterways.
- (g) On-site bunding, drainage and treatment systems in industrial areas to minimise the impact of any chemical spills.

(D) Open Space and Recreation

- (i) To preserve and create continuous waterway open space corridors to allow for unimpeded public access to waterways for use as recreation areas and for pedestrian/cycle/equestrian links.
- (ii) To ensure that infrastructure such as bridges, water supply and sewerage services erected across or within waterways does not prevent recreational access (e.g. bikeway, pedestrian, canoe) along waterway open space corridors.

(E) Cultural Values

- (i) To ensure the maintenance and enhancement of any scenic, cultural, historical, archaeological and other features of acknowledged amenity value that are associated with waterways.

(F) Residential/Commercial/Industrial Interests

- (i) To ensure that existing residential, commercial and industrial interests dependent on waterways are protected, provided that such activities and interests remain compatible with other waterway functions.

4. ENVIRONMENTAL IMPACT ASSESSMENT

Where a proposed development may have significant impact on waterways, an Environmental Impact Statement or Environmental Assessment Report shall be prepared by the proponent in accordance with Planning Policy 19.18. Planning Policy 19.18 specifies designated developments and designated development areas for which Environmental Impact Statements and Environmental Assessment Reports are required. Council may also require the preparation of an Environmental Impact Statement or Environmental Assessment Report for other "non-designated developments" where it is considered that such a development may have a significant impact on waterway environments. The key factors for waterways protection and enhancement likely to be included in the Terms of Reference for an Environmental Impact Statement or Environmental Assessment Report regarding waterways will relate to:

- the maintenance of the physical integrity of any affected waterway;
- the maintenance of the water quality of any affected waterway;
- the maintenance of the natural flow regime;
- the maintenance of the drainage function of any affected waterway;
- the maintenance of the ecological values of any affected waterway;
- the maximisation of opportunities for the enhancement of the ecological and recreational values of any affected waterway;
- the minimisation of visual/scenic impacts;
- the maintenance or enhancement of any affected waterway corridor.

5. FLOODPLAINS

Flood associated risk

The floodplain of a waterway is crucial to its natural values and the management of stormwater. Any reduction in the capacity of the floodplain or works therein can increase the depth and extent of floodwaters, as well as cause environmental harm and reduce water quality. In addition, there is the need to consider the flood associated risk to the public, a person and to property, and emergency access in times of flood, particularly in the light of a community expectation that development will not occur in floodplains.

The flood events of 1955, 1967, 1972 and 1974 are historical benchmarks for such risk, which is generally perceived by the community to be unacceptable. Further guidance to unacceptable risk is a flood:--

- (a) where the flow velocity (in metres/second) multiplied by the depth (in metres) is greater than 0.4; or
- (b) with a flow velocity greater than 1.5 metres/second; or
- (c) of 6 hours duration or more; or
- (d) a flood depth on the site in excess of 1 metre.

These matters must be taken into account in conjunction with the factors outlined in section 3 above.

Development in floodplains

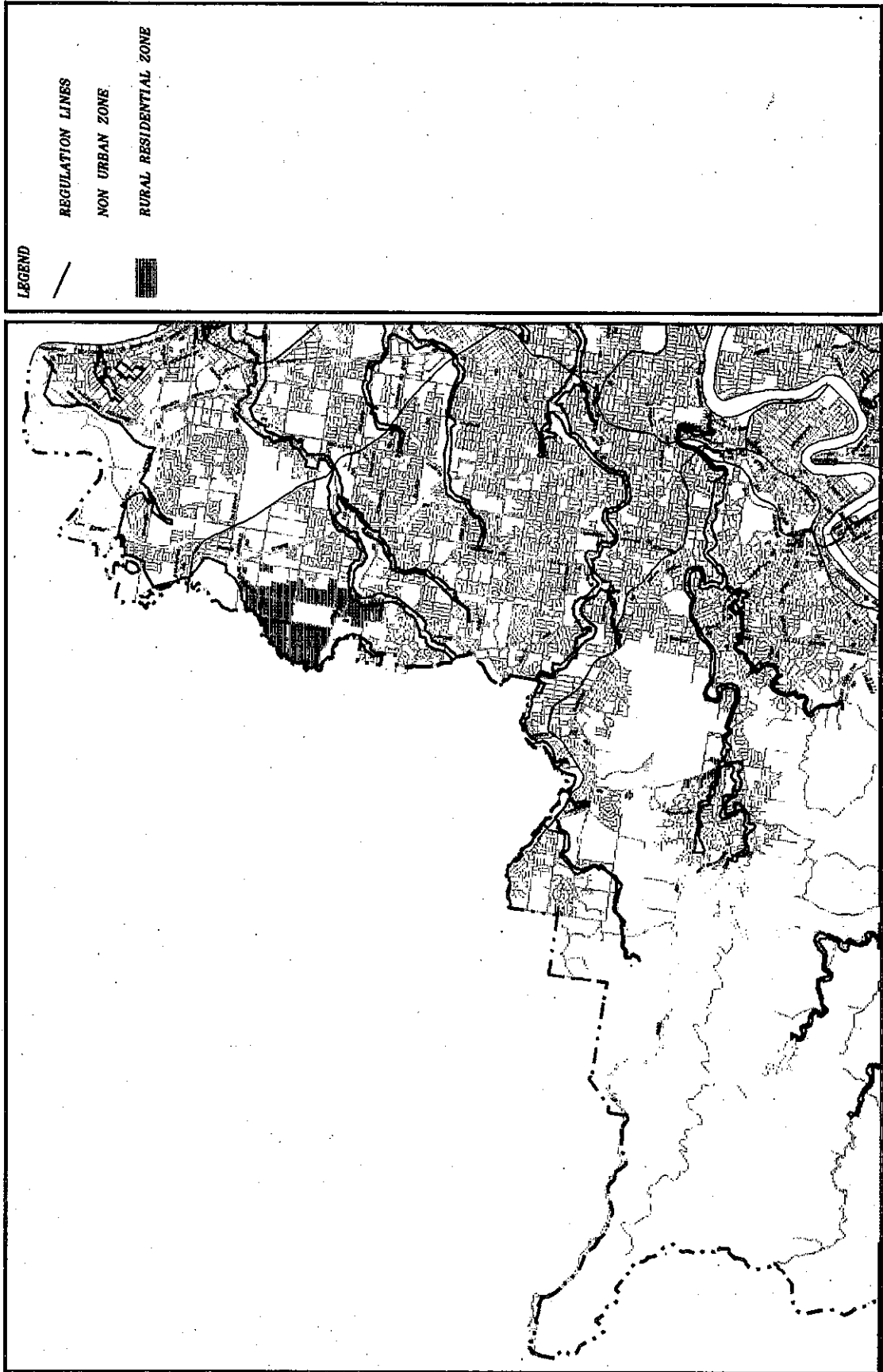
Development in a floodplain must demonstrate that there will not be an adverse impact on waterway function nor unacceptable flood associated risk to the safety of the public or any person, or of property damage. In the case of residential development this will include the provision of flood free access to the site in accordance with sub-section 2.3 of the Council's 'Subdivision and Development Guidelines'.

Maps 1,2,3 and 4 show the regulation lines to be used for the purpose of paragraphs 5.3.4 and 7.5.3.6 of the Plan in relation to development for the purpose of a detached house in the Non-Urban and Rural Residential zone. They can be viewed in greater detail by using the Council's BIMAP computer mapping system. Approval is unlikely to be granted to build a detached house between the regulation lines in these zones as this would result in an unacceptable risk and would adversely affect the function of the waterway. Instead, every effort should be made to locate the detached house outside the regulation lines. It is best located well clear of any floodplain or waterway.

6. RELATED PLANNING POLICIES

Where appropriate, the following Planning Policies should also be referred to in making town planning decisions in regard to the development of any land in the vicinity of any of Brisbane's waterways:-

- | | |
|-----------------------|---|
| Planning Policy 5.01 | Development of Land within the Catchment Area of the Leslie Harrison Dam (refers to considerations for developments within the dam catchment that may impact upon potable water quality) |
| Planning Policy 7.02 | Septic Disposal in the Rural Residential Zone (applies to detached housing development only) |
| Planning Policy 19.06 | Riparian Amenity (applies to development on Residential A, Residential B, Inner Residential and Rural Residential zoned land within 20 metres of the high water mark of the Brisbane River) |
| Planning Policy 19.07 | The Preservation of Natural Areas and Sites of Special Significance (refers to land or places listed in the Brisbane Conservation Atlas and the surrender of those lands for park purposes) |
| Planning Policy 19.18 | Environmental Assessment of Applications made under the Local Government (Planning and Environment) Act, 1990 (refers to requirements for environmental assessments of development proposals) |
| Planning Policy 20.11 | Money or Land for Parks and Recreational Facilities (refers to the requirements for surrender of land or payment of a monetary contribution in lieu thereof for parkland for any subdivision proposal). |



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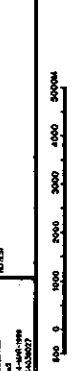
REGULATION LINES

NON URBAN ZONE

RURAL RESIDENTIAL ZONE

REGULATION LINES IN THE NON URBAN AND RURAL RESIDENTIAL ZONES FOR THE PURPOSE OF PARAGRAPHS 6.4.4 AND 7.5.2.6 OF THE TOWN PLAN

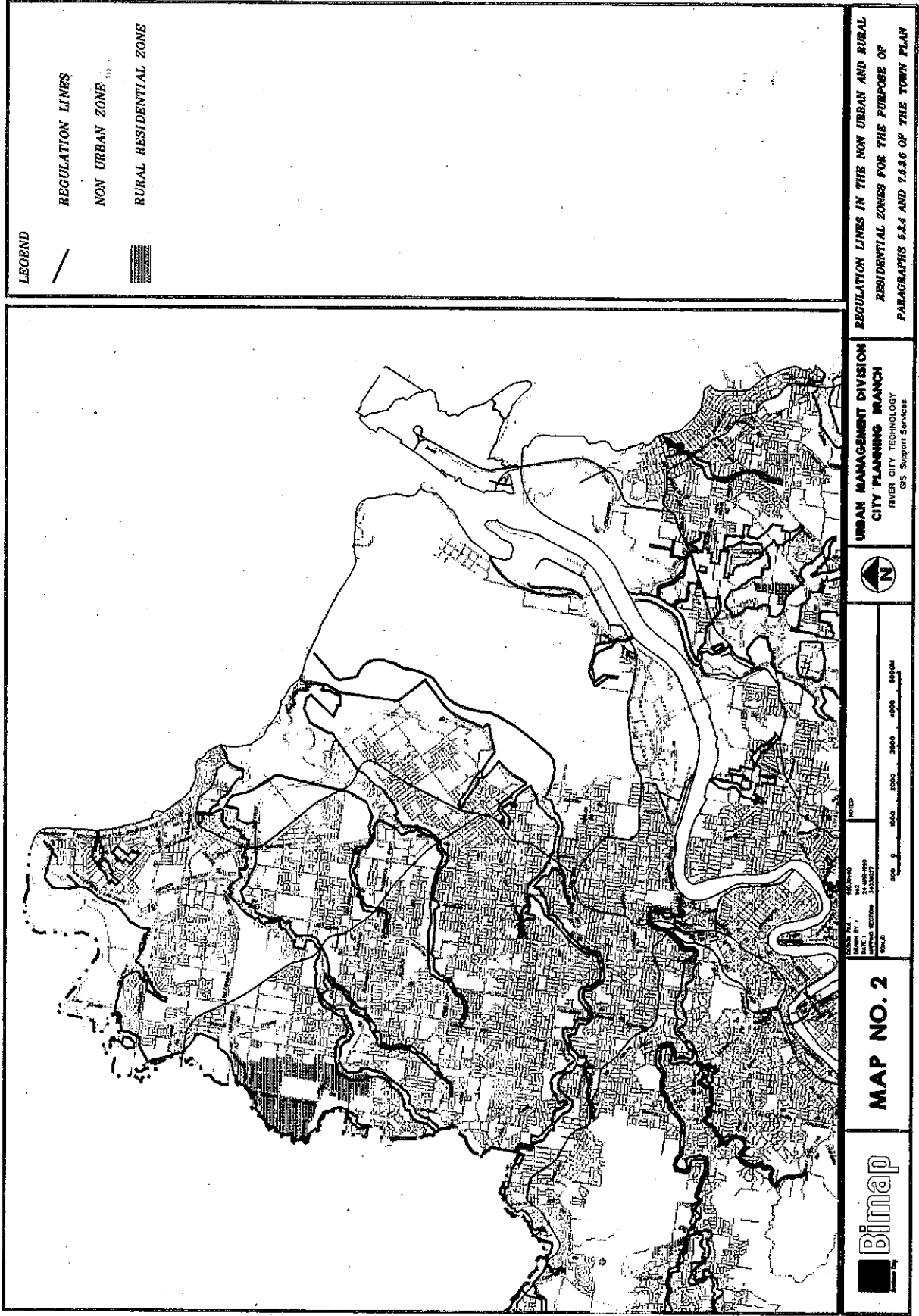
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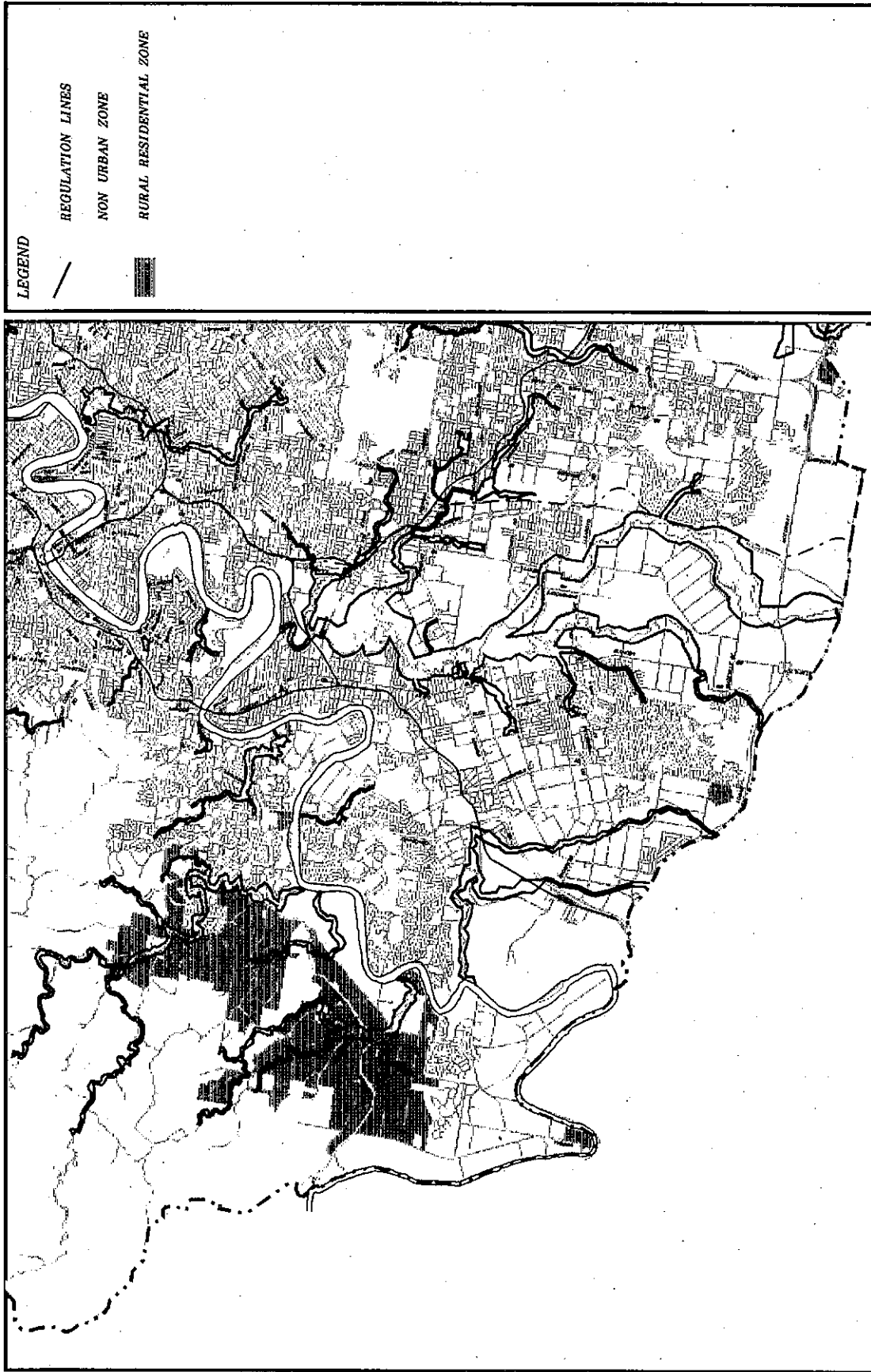


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MAP NO. 1







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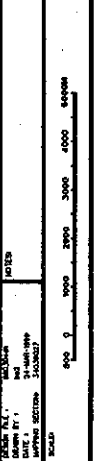
REGULATION LINES

NON URBAN ZONE

RURAL RESIDENTIAL ZONE

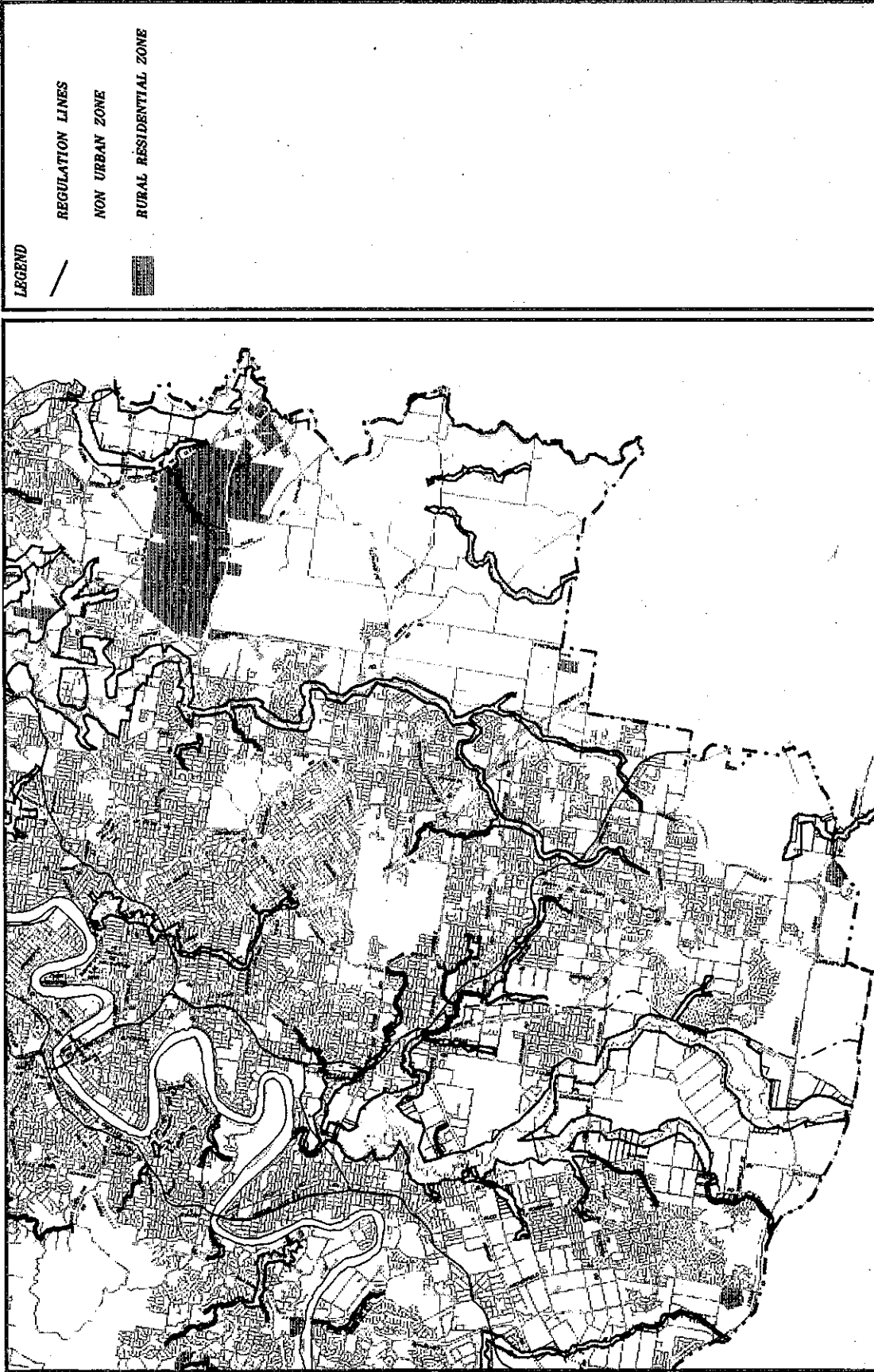
REGULATION LINES IN THE NON URBAN AND RURAL
RESIDENTIAL ZONES FOR THE PURPOSE OF
PARAGRAPHS 5.2.1 AND 7.5.6 OF THE TOWN PLAN

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MAP NO. 3





LEGEND

REGULATION LINES

NON URBAN ZONE

RURAL RESIDENTIAL ZONE

REGULATION LINES IN THE NON URBAN AND RURAL RESIDENTIAL ZONES FOR THE PURPOSES OF PARAGRAPHS 6.5.4 AND 7.5.6.6 OF THE TOWN PLAN

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MAP NO. 4



BRISBANE CITY COUNCIL

POLICY AFFECTING THE TOWN PLAN OR PART OF SUCH PLAN

Adopted as a Local Planning Policy under Section 1A.4(3) of the Act by Council on 25 November 1997 and advertised in the Courier Mail on 1 December 1997.

GUIDELINES FOR THE DEVELOPMENT OF TELECOMMUNICATION STRUCTURES.

1.0 BACKGROUND

The Telecommunications industry and its associated network infrastructure are rapidly expanding in Australia. Due to changes in the federal telecommunication legislation since 1 July 1997, telecommunication facilities, except for low-impact facilities, are subject to State planning legislation and thus the Town Plan for the City of Brisbane. The relevant legislation controlling the telecommunications industry and the establishment of network infrastructure is *the Telecommunications Act 1997; the Telecommunications (Low Impact Facilities) Determination 1997; the Telecommunications Code of Practice 1997*; and any relevant State or local government planning legislation.

The Telecommunications Act 1997 came into force on 1 July 1997 and controls:

- low-impact facilities (Commonwealth responsibility)
- facility installation permit (only used if no agreement with landowner)
- maintenance activities
- access to land
- discrimination (against particular carriers)
- universal service obligations

The Telecommunications (Low Impact Facilities) Determination 1997 defines those low impact facilities which are to remain outside the jurisdiction of State planning legislation and the Town Plan for the City of Brisbane. The impact of these facilities is determined according to the area in which they are located (i.e: commercial area; industrial area; residential area; or area of environmental significance). It also specifies that certain facilities cannot be low-impact facilities and are subject to planning legislation:

- designated overhead lines
- a tower that is not attached to a building
- a tower attached to a building and more than 5 metres high
- an extension to a tower that has previously been extended
- an extension to a tower, where the extension is more than 5 metres high

Any telecommunications facility which is not a low-impact facility has to follow the procedures of a development application in accordance with the Local Government (Planning and Environment) Act 1990 and the Brisbane Town Plan.

The Telecommunications Code of Practice 1997 applies to activities concerned with low-impact facilities, in particular:

- notification procedures (only to owner and occupier of the land)
- inspection of land
- subscriber connections
- low-impact facilities
- temporary defence facilities
- maintenance of facilities

The carriers must comply with the Code, including conditions specified in that Code. The carrier is not obliged to consult with the Council in relation to low-impact facilities. Low-impact facilities are the responsibility of the Commonwealth under the Telecommunications Act 1997.

2.0 INTENT

The intent of this policy is to facilitate the assessment of applications for above ground telecommunications structures defined as a Utility Installation under the Town Plan. The policy applies to telecommunication facilities other than low-impact facilities, such as:

- free standing poles, towers, and associated arrays of antennas
- large equipment cabinets
- the full range of infrastructure in heritage/environmentally sensitive areas

This policy aims to facilitate safe and effective provision of servicing while minimising the potential impacts on the community and the environment.

3.0 OBJECTIVES

Telecommunications facilities undertakings and procedures for installation shall be in accordance with the intent of the Telecommunications Act 1997. In particular through the implementation of its Planning Scheme Council shall:

- (i) encourage carriers to share infrastructure facilities or to collocate facilities where appropriate and practicable
- (ii) encourage impact mitigation measures where desirable to protect community values, especially visual character values
- (iii) encourage the adoption of "best practice" by carriers in terms of innovative design, environmental management and work practices to accord with good engineering and environmental standards
- (iv) ensure that, if and when required, appropriate consultation processes are undertaken by the telecommunication carriers
- (v) ensure that public safety is maintained

4.0 GUIDELINES

In order to develop safe and effective telecommunication structures with minimal impacts, the following issues should be addressed when lodging a development application.

4.1 Environmental Impact and Site Selection

There may be several environmental impacts resulting from a telecommunication facility. The following matters are to be addressed in considering the selection of a site to ensure that the values of the site and adjoining areas are maintained and/or improved:

(a) *Values of the site:*

The historical, archaeological, architectural, anthropological, cultural or social values of the development site or adjoining land must be addressed.

(b) *Potential conflicts with other land uses:*

The potential conflicts with other land uses on the site, especially access and movement throughout the site, the nature of the present use of the site, zoning of the site and possible future uses of the site should be considered.

(c) *Potential conflicts with land uses in the vicinity of the site:*

The nature of the present uses within the vicinity, zoning of sites in the vicinity and possible future uses of sites in the vicinity should be taken into account.

(d) *Design and Construction:*

The design and construction of the proposed development to facilitate the sharing of sites with other carriers is paramount. In some instances, the design of the facility will be determined by the probability of sharing the site in the future.

As a large number of facilities are proposed to be built on elevated land and hilltops, the construction of the facility may cause soil erosion problems. Appropriate measures should be put in place during and after the construction phase to prevent loss of top soil and the flow of sediments into the stormwater system.

Noise and dust generated through the movement of heavy vehicles during the construction period may impact on the environment and surrounding residents, and therefore should be addressed.

Waste material generated during construction should be properly removed from the site to prevent aesthetic degradation, particularly in areas of environmental significance and heritage places.

In addition, the provision of site access needs to be managed to minimise any impact on the environment.

(e) *Access and Movement:*

The provision for adequate access to the site and for safe movement within the site should be addressed. Sufficient parking space should be provided within the site boundary for service vehicles.

(f) *Noise:*

A noise report will be required where impact on noise sensitive uses is likely to occur. Appropriate measures should be taken to mitigate any potential unacceptable noise generated by the development. Carriers must indicate the location of potential sources and the predicted noise levels at the nearest residential or other noise sensitive premises. Provision of acoustic treatment must be considered for potential noise sources including relocation of the source, and/or preservation of natural noise barriers, erection of barriers or other appropriate noise attenuation methods. A noise report should provide a statement of conformance with noise criteria specified in the Environmental Protection Act or subordinate legislation of that Act.