

CITY OF TSHWANE METROPOLITAN MUNICIPALITY

City of Tshwane Noise Management Policy

(Second Draft)

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**CITY OF TSHWANE METROPOLITAN MUNICIPALITY
NOISE MANAGEMENT POLICY**

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CITY OF TSHWANE METROPOLITAN MUNICIPALITY

NOISE MANAGEMENT POLICY

1. INTRODUCTION

1.1 BACKGROUND

The City of Tshwane Metropolitan Municipality is located in the north-central sector of the Gauteng Province, which is the hub of the South African economy. The City of Tshwane has many older, well-established areas but much of the metropolitan area is still open area (agricultural land and undeveloped land) and sparsely developed areas (agricultural holdings). The City of Tshwane Council is a progressive and pro-active Council whose policy is to ensure that a significant amount of the needed development for the Province is attracted to Tshwane which, because of its location and established infrastructure, make it a desirable primary growth area.

The Council is, however, at the same time aware that its developed areas are experiencing urban growth related pressures which are causing an ever increasing deterioration of the environment. It also accepts that new areas for development need to be carefully planned and their growth managed in order to preserve any existing quality aspects of the environment while at the same time, creating areas where quality of life may be enhanced.

Taking into account the specific initiatives by central government to ensure the effective management of the environment, the City of Tshwane Council considers it its duty to implement effective custodianship over the aspects of the environment for which it is responsible. The Council is committed to applying as effectively as possible at local authority level the environmental requirements of all levels of higher authority.

One of the specific aspects which is of concern to the Council is that of environmental noise. Tshwane has for many years been aware of the increasing problems of noise in the metropolitan area and several years before the consolidation of the Metropolitan Municipality many of its component municipalities implemented the National and later the Gauteng Noise Control Regulations. The Council's approach has, however, been on an *ad hoc* basis generally reacting to problems as they occur. A stage has now been reached where a comprehensive pro-active approach to noise management and control must be initiated. The first step in this process has been to develop this Noise Management Policy, the purpose of which is to set out the basic framework to guide subsequent legislation in the form of by-laws and for establishing enabling procedures.

The Policy takes into account, inter alia, the requirements of the Gauteng Provincial Government's Noise Control Regulations which were promulgated in August 1999.

This policy shall be called the City of Tshwane Noise Management Policy.

1.2 CONTENTS AND SCOPE OF THE POLICY

The scope and the structure of the Policy are as follows:

- i) Section 1 provides some general background to the underlying need for such a Policy. This includes aspects such as the environmental *status quo*, both world-wide and in South Africa, legislation related to noise and the nature of the environmental noise problem.
- ii) Section 2 defines the objectives of the Policy.
- iii) Section 3 sets out the framework of the Policy. The following aspects are dealt with:
 - a) The scope of the noise problem is defined by means of identifying the specific nature of the noise problem in City of Tshwane Metropolitan Municipality, as well as the various aspects/sources of noise which need to be controlled.
 - b) Desirable maximum noise level standards for various situations are identified.
 - c) Protocols and procedures with relevant external agencies are identified.
 - d) Powers of the local authority are identified.
- iv) In Section 4, the necessary in-house noise management and control procedures are defined.
- v) The various legislation and standards references related to noise control are listed in Section 5
- vi) Appendix A provides a general introduction to environmental noise to enable a better understanding of the various aspects of the Policy.
- vii) Appendix B provides a definition of terminology used.
- viii) Appendix C lists the *activities* identified by the Minister of Environmental Affairs and Tourism as those which have the potential to be harmful to the environment. These are an integral part of the Environmental Impact assessment (EIA) Regulations.
- ix) Appendix D provides a general indication of typical mitigating measures that may be applied to prevent or limit noise pollution.
- x) Appendix E lists pending legislation that will, when promulgated, influence this Noise Policy.
- xi) Appendix F identifies in broad terms the environmental noise environment of the City of Tshwane.
- xii) Appendix G reviews the noise standards and impact criteria of some noise sources not dealt with in current South African standards.

1.3 DEFINITION OF THE ENVIRONMENT

For any meaningful classification and discussion of environmental problems, of which noise pollution is one aspect, as well as any advocacy of the cause of environmental conservation there must be clarity over the pivotal concept of what is *the environment*. The term *environment* is widely used but means different things to different people. Traditionally, individual components of the environment were identified and treated separately. In everyday usage it has thus become common to speak of a natural environment, a built environment, a social or cultural environment, and even an economic environment. This qualification of the term has become necessary to give precision to communication by focusing attention on a subset of what is encompassed by the term *environment*.

It is essential that a comprehensive approach to environmental problems is adopted using a holistic concept of the environment rather than only focusing on the individual components. With the declaration of an environmental policy in South Africa and the introduction of the processes of integrated environmental management (IEM) and environmental impact assessment (EIA), the need for agreement on what is to be understood by *environment* becomes a central issue.

It should be recognised that the *environment* is a relational concept, denoting the interrelationship between man and his surroundings. *The environment should not be defined narrowly as the physical environment alone, account should be taken also of the ineffable: the inter-dependency of man and his social, cultural and physical life-support systems.* The extensive concept may be referred to as the human environment, which *embraces everything in man's living space that may possibly have an effect on man or that may be affected by man, or simply includes all factors that determine human existence.*

The South African Department of Environmental Affairs and Tourism (DEAT) in its White Paper on an Environmental Management Policy of May 1998 defines the word *environment* as meaning *the biosphere in which people and other organisms live. It consists of renewable and non-renewable natural resources such as air, water (fresh and marine), land and all forms of life; natural ecosystems and habitats, and ecosystems, habitats and spatial surroundings modified or constructed by people, including urbanised areas, agricultural and rural landscapes, places of cultural significance and the qualities that contribute to their value.* It further indicates that *people are part of the environment and are at the centre of concerns for its sustainability. Culture, economic considerations, social systems, politics and value systems determine the interaction between people and natural ecosystems and habitats, use of natural resources, and values and meanings that people attach to life forms, ecological systems, physical and cultural landscapes and places.*

This may be encapsulated in the definition that *the environment* is the external circumstances, conditions, and objects that affect the existence and/or development of an individual, organism or group. These circumstances include biophysical, social, economic, historical, cultural and political aspects. Refer also to the definition given in the National Environmental Management Act (Act No 107 of 1998).

1.4 THE ENVIRONMENTAL STATUS QUO

1.4.1 International

Although before the 1970s there had been an element of what is now termed *environmental consciousness* and some environmental conservation work had been undertaken in many countries world-wide, it was really during this decade that the environmental movement started developing in earnest. It is considered that the turning point in human-environmental relationships was reached on 1 January 1970, when the United States Government enacted its National Environmental Policy Act (NEPA). This legislation, which was the culmination of many years of debate in committees of the United States Congress, recognised that human-environment relationships cannot be adequately addressed through piecemeal legislation which tackles problems on an *ad hoc* basis, but rather that an holistic approach was necessary.

Following on this landmark event in the USA the 1970s became a decade of environmental concern throughout the world. In the United States over 20 separate pieces of legislation either expanded Federal control or introduced it into new areas of environmental concern. Approximately half the nations of the world enacted some form of legislation for environmental protection, and numerous international agreements on environmental matters were signed.

In the 1980s, the International Union for the Conservation of Nature's publication of its *World Conservation Strategy* made the first attempt to reconcile ecological and economic concerns and approaches. The Strategy introduced the concept of *sustainable development*. The concept was refined in the World Commission on Environment and Development report, *Our Common Future* (the Brundtland Report), submitted to the United Nations in 1987. It adopted the definition of sustainable development as being *that development which meets the needs of the present, without compromising the ability of future generations to meet their own needs*.

At the first United Nations Conference on Environment and Development (UNCED) held Rio de Janeiro in 1992, 178 countries, inclusive of South Africa, agreed on Agenda 21 which is a blueprint for sustainable development. This reflected a global consensus and political commitment at the highest level to integrate environmental concerns into social and economic decision making processes. This commitment to address poverty and environmental degradation was re-affirmed at the second World Summit on Sustainable Development (Rio + 10) held in South Africa in 2002.

1.4.2 National

During the period from 1974 to 1994 South Africa also moved into an era of greater environmental consciousness but, despite the general worldwide trend, environmental issues in South Africa have had a relatively low priority, being narrowly defined as relating mainly to nature conservation. This is reflected by a failure to integrate environmental concerns into economic planning and decision-making at all levels in society. Sustainable development and effective integrated environmental planning and management was seriously impeded by:

- fragmented policy and ineffective legislation;
- uncoordinated planning;

- ineffective enforcement of regulations;
- institutionalised conflicts of interest in regulating environmental impacts and promoting resource exploitation;
- confusion about the assignment of functions at different levels of government;
- limited capacity and resources in government and civil society; and
- limited public participation.

South African environmental legislation is contained in a wide variety of parliamentary acts, provincial ordinances, local by-laws and ministerial regulations.

The situation has been changing since 1994 and the government is presently addressing the matter of applying a more holistic approach to environmental management. In particular five pieces of legislation are of relevance to this Policy, namely;

- Environment Conservation Act, 1989 (Act No 83 of 1989);
- White Paper on Environmental Management Policy for South Africa (aspects of which are now incorporated into the National Environmental Management Act);
- Bill of Rights in the Constitution of the Republic of South Africa Act, 1996 (Act No 108 of 1996);
- National Environmental Management Act (Act No. 107 of 1998); and
- White Paper on National Transport Policy.
- EIA Regulations.

1.4.2.1. Environment Conservation Act, 1989 (Act No 83 of 1989)

Although this Act in no way constitutes a codification, it is an enabling act for further more specific and detailed legislation. It provides for the effective protection and the controlled utilisation of the environment, including:

- *the protection of the environment against disturbance, deterioration, defacement, poisoning, pollution or destruction as a result of man-made structures, installations, processes or products or human activities; and*
- *the establishment, maintenance and improvement of environments which contribute to a generally acceptable quality of life for the inhabitants of the Republic of South Africa.*

Much of this Act has now been superseded by the National Environmental Management Act.

1.4.2.2. Environmental Management Policy

Since 1980, the South African Government has been involved in a process of evolving its environmental policy. From 1993 this took place through a comprehensive participatory process known as the Consultative National Environmental Policy Process (CONNIPP). The Department of Environment Affairs and Tourism (DEAT) published the White Paper on an Environmental Management Policy for South Africa in May 1998. The following basic ideals were stated in the Environmental Management Policy:

- Every inhabitant of the Republic of South Africa has the reasonable right to aspire to live, work and relax in a safe, productive, healthy and aesthetically and culturally acceptable environment in such a manner as will promote economic growth and social welfare and personal well-being.
- Every generation has a moral obligation to act as a trustee of its natural environment and cultural heritage in the interests of succeeding generations. In this respect, sobriety, moderation and discipline are necessary to restrict needs to sustainable levels.
- Every person or institution has a responsibility to carefully consider all activities that may have an influence on the environment and to take all reasonable steps to promote the protection, maintenance and improvement of both the natural and human settlements.

These ideals are now encapsulated in the National Environmental Management Act.

1.4.2.3. Bill of Rights in the Constitution of the Republic of South Africa Act, 1996 (Act No 108 of 1996)

The mandate for government's new policy on environmental management is vested in the universal imperative to ensure our survival and an improved quality of life by protecting our environment. In the Bill of Rights of our Constitution Section 24 therefore provides that *Everyone has the right:*

- (a) *to an environment that is not harmful to their health or well-being; and*
- (b) *to have the environment protected, for the benefit of present and future generation, through reasonable legislative and other measures that-*
 - *prevent pollution and ecological degradation;*
 - *promote conservation; and*
 - *secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.*

The environmental right in Section 24 has two parts; the first of which, sub-section (a), entitles the people of South Africa to an environment of a certain quality. It gives everyone covered by the Constitution an unqualified right to an environment that does not harm their health and well-being. This includes their cultural interests in the environment. Sub-section (b) contains an entitlement to certain specific measure of environmental protection. It is limited by the requirement to take reasonable legislative and other measure to give effect to the right. It applies to future as well as present generations.

Sections 7 and 8, *Rights and Application*, bind the state to protect, promote and fulfil people's rights and give people access to the judiciary to protect their rights. Section 8 states that the Bill of Rights applies to all law and binds the legislature, the executive, the judiciary and all organs of state. This means that the government must give effect to the environmental right in Section 24 in managing the environment.

The State could violate Section 24 by:

- directly rendering the environment harmful to health and well-being;
- making infringements by others possible, likely or inevitable;
- granting authorisations and zoning applications that allow others to harm the interests protected in Section 24;
- failing to enforce environmental laws and regulations;
- failing to establish adequate legal and regulatory framework; and
- failing to provide those public goods that are essential to provide an adequate environment to all.

In terms of Section 24 people can take legal action to protect their environmental and other rights, even where government has no obligation in terms of any other statute to protection of the environment by taking protective steps. Therefore it is obliged to ensure that social and economic development, however justifiable, is accompanied by reasonable measure to protect the environment.

The right to an environment that is not harmfully to health and well-being implies that the state or any other transgressor may be held responsible and legally liable for costs arising from harm to the environment due to their actions or failure to take actions. Government will consider new measures and appropriate remedies to secure compliance with this constitutional imperative.

Sections 7, 8 and 24 give constitutional force to sustainable development. They oblige government to pass reasonable legislation to protect the environment, prevent pollution and ecological degradation, and secure sustainable development. Government must also ensure compliance with legislation.

Various other sections of the Bill of Rights have major relevance for environmental policy. They include Section 25 (*Property*), Section 26 (*Housing*), Section 27 (*Health care, food, water and social security*), Section 32 (*Access to information*) and Section 33 (*Just administrative action*).

The Bill of Rights therefore has clear implications for the environmental functions of all government departments in all spheres of government. Constitutionally responsible environmental governance requires co-ordination in all spheres of government to ensure responsible environmental custodianship.

The implications of this Act and of impending legislation for local authorities are thus clear, namely that each local authority has a moral obligation and a legal requirement to protect the environment.

1.4.2.4. National Environmental Management Act (Act No. 107 of 1998)

This act was promulgated on 27 November 1998. The purpose of this legislation is *to provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-operative governance and procedures for co-ordinating environmental functions exercised by organs of state; and to*

provide for matters connected therewith. The new Act facilitates co-operative governance, gives legal effect to the environmental right in Section 24 of the Constitution, and gives legal effect to the principles contained in the White Paper on Environmental Management Policy for South Africa.

The principles set out in Chapter 1 of the Act *apply throughout the Republic to the actions of all organs of state and, inter alia, serve as the general framework within which environmental management and implementation plans must be formulated.* It is also stated that *Development must be socially, environmentally and economically sustainable* and to this end, *inter alia, that pollution and degradation of the environment are [to be] avoided, or where they cannot altogether be avoided, are minimised and remedied.*

Section 16 (4b) compels municipalities to adhere to relevant environmental implementation and management plans, and the principles contained in Section 2 of the Act when any policy related to the environment is formulated.

1.4.2.5. National Transport Policy

A further relevant development in South Africa was the compilation and adoption of a *White Paper on National Transport Policy*, published in September 1996. In the White Paper, the vision for transport in South Africa provides for *safe, reliable, effective, efficient and fully integrated transport operations and infrastructure which..... are environmentally and economically sustainable.* The White Paper further states that *The provision of transportation infrastructure and the operation of the transportation system have the potential for causing damage to the physical and social environment, inter alia, through atmospheric and noise pollution, ecological damage and severance. ... Government is cognisant of these dangers ... The Department of Transport is committed to an integrated environmental management approach in the provision of transport.* It is also stated that *As part of the overall long-term vision for the South African transport system, transport infrastructure will, inter alia, be structured to ensure environmental sustainability and internationally accepted standards.* One of the strategic objectives for transport infrastructure to achieve this vision is to promote environmental protection and resource conservation.

1.4.2.6. EIA Regulations

The EIA Regulations were promulgated in terms of Sections 21, 22 and 26 of the Environment Conservation Act, 1989 and published in the Government Gazette No 18261 of 5 September 1997. *Inter alia*, the regulations provide a schedule of *activities that may have a substantial detrimental effect on the environment.* The schedule of *activities* is provided in Appendix C.

1.4.3 Overview

It is thus clear that one of the major implications of the Environment Conservation Act, the Environmental Management Policy, the Constitution of the Republic of South Africa act (Bill of Rights), the National Environmental Management Act, the National Transport Policy, the EIA Regulations and of other impending legislation for, *inter alia*, local authorities such as the City of Tshwane Metropolitan Municipality is that there is a moral obligation and a legal requirement

to protect the environment, and all necessary measures to meet these requirements must be met.

1.5 GENERAL NATURE OF THE ENVIRONMENTAL NOISE PROBLEM

Noise impact has become a phenomenon world-wide and opinion polls in many countries show that noise is considered to be one of the main causes of declining quality of life by large percentages of the population. To an ever increasing extent, people are being exposed to noise virtually wherever they go and tolerance levels are being strained to the limit. For example, traffic noise, music in shops, aircraft noise, machinery noise, noise from construction sites and barking dogs are just some of the noises to which one is subject daily. At work, at home and at play people are affected. Noise is considered to be any acoustic phenomenon producing any aural sensation perceived as disagreeable or disturbing by an individual or group. Noise may therefore be defined as any unwanted sound or sound that is loud, unpleasant or unexpected. Noise *impact* may be understood to mean one or a combination of negative physical, physiological or psychological responses experienced by individuals, whether consciously or unconsciously as caused by exposure to sound.

The environmental noise problem has its origins in human activities. The rapid growth of our cities and towns since the 1950s without adequate planning and development management has led to the phenomenon of what is termed *urban sprawl*, namely the typical North American low density development model. This rapid urbanisation with its attendant increase in population density, increased and intensified industrial and commercial developments and resultant increased traffic has led to greater numbers of the population being exposed to every increasing levels of noise as well as a greater variety of noise sources.

The result of increased exposure to noise on individuals can have negative effects, both physiological (influence on communication and, productivity and even impaired hearing) and psychological effects (stress, frustration and disturbed sleep). The residential environment is a particular area of major problems. The home should be a place of relative peace and quiet enabling recuperation from daily stresses. This is the only place, in fact, where people expect to be able to exercise some control over their physical environment. However, the manner in which our urban areas have been allowed to develop, as well as the nature and scale of activities taking place now often makes the achievement of a controllable noise environment in residential areas extremely difficult. This is particularly so near major roads, near railway lines, near airports, on the interface with industrial areas, near major shopping centres and near sport stadiums.

Although noise pollution was for many years considered primarily a problem related to urban areas, it is now becoming a concern as well at habitations in rural areas, as well as generally in rural and wilderness areas.

A brief review of what has been done to address the environmental noise problem is perhaps appropriate at this juncture. Most western-world countries have been through a cycle of deteriorating environments due, *inter alia*, to escalating noise levels, a situation very similar to what is occurring in South Africa at present, but have made concerted efforts to address their environmental noise problems over the last 30 years. Although many of the related problems have not been totally solved, much has been achieved. In most countries, however, noise abatement programmes have often been undertaken in a piecemeal fashion and now, with

hindsight, one can see that there should have been a more co-ordinated approach. In the Member State countries of the Organisation for Economic Co-ordination and Development (OECD) measures generally have had the specific focus of setting, through legislation, maximum sound levels for motor vehicles, trains, aeroplanes and machinery, followed by the enactment of a multitude of supplementary regulations and other measures aiming to reduce specific environmental noise problems. In 1996 the OECD stated that, although there is evidence to show that noise levels in the worst *blackspots* have been reduced, recent data show that the overall noise problem is worsening and the number of people living in so-called *grey areas* has increased. In particular the continuing growth in traffic volume of all modes coupled with suburban development have resulted in high levels of noise exposure being spread ever wider over both space and time and are part of the reason for this worsening situation. In addition, over the past three decades leisure activities and tourism has created new areas and new sources of noise. As a result of these developments, the impact of many of the policy measures implemented to date to address the noise problem have been compromised. This in no way detracts from the major achievements that have been made in containing many elements of the noise problem.

In most countries where noise abatement programmes have been implemented it is of interest to note the anomaly that “although opinion polls show that noise often heads the list of concerns about the local environment, it is rarely given priority in environmental policies at either national or local government”. Analysts of the situation have concluded that some of the underlying possible reasons for this may be found in the nature of *noise nuisance* itself, namely:

- i) There is limited knowledge about exposure to noise as well as limited measurement of its effects in comparison to other pollution problems.
- ii) The large number of sources of irritant noise and the local character of many noise problems (neighbourhood noise, in particular) make it difficult to take any coherent action. Authorities may even consider that action is impossible in some cases.
- iii) There is lack of training and awareness on the part of decision-makers in regard to noise problems.
- iv) In comparison to other environmental pollution factors, the fact that noise does not cause major accidents gives the false impression that noise impact is relatively benign. It is notable that there have been significant advances in environmental policy following serious accidents related to such other environmental factors, whereas “noise never killed anyone” (or at least, not obviously so).
- v) The fact that the effects on physical and mental health, although today are fairly well understood, are generally not yet accepted by authorities as a source of serious damage or health risk. Also many of the more serious symptoms only manifest themselves with time.
- vi) The apparent transitory nature of noise. Unlike other forms of pollution, noise does not accumulate with time, and its most perceivable consequence, discomfort, seems, to most people, to disappear once the noise ceases. The insidious nature of many its effects are easily and conveniently ignored.

- vii) Not all areas are equally exposed to noise impact, unlike the situation concerning, for example, air pollution.

By the early 1990s, it was evident that a new approach was necessary. In 1993 the European Community announced the beginnings of a change to its environmental noise policy in line with the major changes to OECD environment policy as set out in the Fifth Environmental Action Programme. For noise, the Action Programme established as a basic objective the principle that no person should be exposed to noise levels which endanger health and quality of life, and a number of targets for noise exposure levels to be reached by the year 2000 were recommended. Refer to Section A4.1 in Appendix A.

In South Africa we need to learn a number of important lessons from the situation which has developed in these overseas countries as well as from the experience gained there. The main issues are:

- i) There was an initial failure by the various authorities and the professional/technical fraternity to appreciate the full extent of the problem and the holistic manner in which remedial actions needed to be applied.
- ii) There was an initial inertia to act rapidly and cohesively, as the solving of environmental noise problems had a lower priority than other problems such as water and air pollution.
- iii) In many instances commercial interests blocked timely or effective implementation of noise mitigation measures.
- iv) Noise mitigation measures were only applied once the situation had deteriorated to a point where there was major reaction from large segments of the population.
- v) It is now considered that many of the noise level standards set initially were too low.
- vi) One of the most important lessons to be learned from this is perhaps that adverse situations develop rapidly and are difficult to counter. Therefore early pro-active measures are essential as, once areas become degraded, it becomes much more difficult and expensive to reverse trends.

1.6 LEGISLATION RELATED TO NOISE

1.6.1 International Noise Quality Criteria

A large degree of international consensus has emerged over the years as what constitutes unacceptable levels of noise exposure and what should be the maximum levels of exposure for certain specific situations. At the international level, the World Health Organisation (WHO) together with the Organisation for Economic Co-operation and Development (OECD) are two of the main bodies that have collected data and developed their own assessments on the effects of exposure to environmental noise. On the basis of these assessments, guideline values for different land uses, time periods and situations have been suggested.

The World Health Organisation has recommended a standard guideline value for average outdoor equivalent noise levels of not more than 55 dB(A), applied during normal daytime in order to prevent significant interference with the normal activities of local communities. The Fifth Environmental Action Programme established a number of broad targets on which to base action up to the year 2000 in night-time equivalent noise levels. These are:

- to phase out average exposure above 65 dB(A);
- to ensure that at no point in time a level of 85 dB(A) should be exceeded, coupled with the aim of ensuring that the proportions of the population exposed to average levels between 55 dB(A) and 65 dB(A) should not increase; and
- to prevent exposure in quiet areas increasing beyond 55 dB(A).

A survey of the situation in OECD Community countries has shown that most Member States have adopted legislation or recommendations aiming for emission limits in noise sensitive areas. The national regulations were initially developed in the 1970s and 1980s in northern Member States and somewhat later in southern Member States. Generally the limits are more detailed and specific about the noise sources, the current noise situation and the kind of living areas than the WHO guideline values. These regulations are being integrated into national abatement laws and are used in land use plans of more and more of the member countries. Noise emission standards for new developments are normally set by local authorities as part of a planning policy and are used as a reference in environmental impact assessments. These serve as a means of ensuring that appropriate measures are taken to minimise the noise impact of a site. Where an acceptable level of noise cannot be achieved, planning permission may be refused or action may be required to improve insulation from the noise sources.

1.6.2 National Legislation (South Africa)

From a national level, noise is now regulated by six acts, namely:

- The Constitution of the Republic of South Africa Act, 1996 (Act No. 108 of 1996).
- The Environment Conservation Act, 1989 (Act No 73 of 1989).
- The Standards Act, 1982 (Act No 30 of 1982).
- The Road Traffic Act, 1996 (Act No 93 of 1996). (and attendant Regulations).
- The Aviation Act, 1962, (Act No 74 of 1962).
- The Occupational Health and Safety Act, 1993 (Act No 85 of 1993).

Other legislation which has been used and/or which is now relevant is:

- EIA Regulations
- National/Provincial Noise Control Regulations.
- National Policy on Aircraft Noise and Engine Emissions.

1.6.2.1. Constitution of the Republic of South Africa Act, 1996 (Act No. 108 of 1996)

The basis of authority for regulating noise is vested in the Constitution of South Africa Act (“the

Constitution”). The Constitution lists noise pollution as a Schedule 5, Part B function (i.e. Exclusive Provincial Legislative Competence). Part B sets out matters that fall within the jurisdiction of local government, subject to the condition that provincial government is responsible for taking effective measure to provide for the monitoring and support of local government in the province. In addition, provinces also have a legislative and executive authority to see to the effective performance of functions by municipalities by regulating the exercise of the local government’s executive authority. The Constitution therefore envisages local authorities administering and regulating noise pollution with legislative and other support by the province.

The Constitution also sets out other areas that may be pertinent to noise regulation including, *inter alia*, airports, public transport, road traffic regulations and provincial roads. These functions are vested at different levels of government.

1.6.2.2. Environment Conservation Act, 1989 (Act No 73 of 1989)

This Act makes specific provision for the issue of regulations with regard to noise. Such regulations, namely the National Noise Control Regulations, were promulgated in January 1992. These regulations relate to the control of noise by local authorities but only by local authorities which request the application of such.

In 1996 the responsibility for administering the Noise Control Regulations was devolved to provincial level, but, as at June 2004, only Gauteng and the Western Province have promulgated their regulations.

Another aspect of the Environment Conservation Act is that it may be used to advantage with respect to noise control by means of the prohibition of certain defined activities by the Minister of Environmental Affairs and Tourism. There are specific procedures related to the investigation of environmental impact of such activities that must be undertaken. Although the *activities* listed are not identified solely on the basis of noise, many have a noise impact component, and thus by implication there is a requirement to conduct a noise impact study, where relevant, as a part of the total environmental impact assessment (EIA). The defined *activities* are given for information in Appendix C.

This Act is now largely superseded by the National Environment Management Act (Act No. 107 of 1998) although certain legislation such as the Noise Control Regulations will still be promulgated in terms of this Act.

1.6.2.3. The Standards Act, 1982 (Act No 30 of 1982)

This Act makes provision for the issue of compulsory specifications for commodities or their manufacture. In context of noise this implies that specified sound power levels of any commodity may not be exceeded. Compulsory specifications have been issued in respect to limits of noise emitted by certain motor vehicles. Refer to the South African national Standard SANS 10205 (SABS 0205).

1.6.2.4. Road Traffic Act, 1996 (Act No 93 of 1996)

The Road Traffic Act of 1996 provides, *inter alia*, that *no person shall operate or permit to be operated on a public road and vehicle causing noise in excess of the prescribed noise level*. The Act, however, does not prescribe noise levels, but empowers the Minister of Transport to issue regulations prescribing them. The consolidated Road Traffic Regulations in terms of the Act do not prescribe any such noise levels, although the noise levels specified in the South African National Standard SANS 10181 (SABS 0181) have been specified as control standards.

1.6.2.5. Aviation Act, 1962 (Act No 74 of 1962)

The Act authorises the Minister of Transport to make regulations relating to the prevention of nuisance arising out of air navigation or aircraft factories, airports or other aircraft establishments. No such regulations have been issued.

A National Policy on Aircraft Noise and Engine Emissions is being formulated and the draft of this Policy was issued for comment in December 1998 (refer to Section 1.6.2 (viii)).

1.6.2.6. Occupational Health and Safety Act, 1993 (Act No 85 of 1993)

Exposure to high levels of noise can be detrimental to the auditory health of persons in the workplace. Noise control can be exercised in terms of the Act, which aims at providing for the health and safety of persons at a *workplace* or in the course of their *employment* or in connection with the use of *machinery*. Apart from extensive provisions of the Act dealing with such safety, the Minister is authorised to make regulations, which in his opinion, are necessary or desirable in the interest of the safety of persons in the abovementioned circumstances.

1.6.2.7. EIA Regulations

The EIA Regulations which were promulgated in terms of the Environment Conservation Act, 1989, *inter alia*, provide a schedule of *activities that may have a substantial detrimental effect on the environment*. Many of these *activities* have noise impact implications. Environmental impact assessments and control measures are required. The schedule of *activities* are provided in Appendix C.

1.6.2.8. Noise Control Regulations

The National Noise Regulations of 1992 provided a more definitive approach to the control of noise and was applied by many local authorities (refer to Section 1.6.5). These regulations have now been devolved to provincial level control (refer to Section 1.6.3).

1.6.2.9. Policy on Aircraft Noise and Engine Emissions

In 1997 when the White Paper on National Policy on Airports and Airspace Management was developed, it became clear that there was a definite need for a national policy on aircraft noise and engine emissions in South Africa. The draft of this policy was issued for comment in December 1998. As well as dealing with specific issues related to the aircraft themselves and to

airport operations, aspects dealing with allowable land uses in the proximity of airports are also addressed and thus have relevance for the Tshwane Noise Management Policy. The land use issues dealt with in the Aircraft Noise and Engine Emissions Policy are:

- Ideal land-use types within various noise level contours around airports.
- Existing undesirable land-uses within various contours around airports.
- Development of land-use changes within noise contours and changes of contours due to changes in airport activities.
- Declaration of noise exposure by sellers of property.
- Handling of complaints, claims and exceptions.

1.6.3 Provincial Legislation

In 1996, the responsibility for application of environmental legislation and the formulation of relevant legislation, inclusive of the Noise Control Regulations, was devolved to provincial level. The Gauteng Provincial Government promulgated their Noise Control Regulations in August 1999 and these provide the underlying framework for this Policy.

1.6.4 Metropolitan Government Legislation

Prior to the establishment of the City of Tshwane Metropolitan Municipality, the Greater Pretoria Metropolitan Council (GPMC) had an Environmental Policy which, *inter alia*, indicated that noise impact is one of the issues requiring attention.

1.6.5 Local Authority Legislation

Historically, local authorities have dealt with noise through so-called *nuisance* by-laws which prohibit the creation of a nuisance. The first specific noise by-laws in South Africa were promulgated in 1978 and over the next six years 14 local authorities had implemented such by-laws. From the 1960s the SABS Code of Practice 0103 for *The Measurement and Assessment of Environmental Noise with Respect to Annoyance and Speech Communication* provided guidance in defining noise impact criteria limits and standards and was also used by local authorities in the control of environmental noise. This standard has now been updated by the South African National Standard SANS 10103: *The Measurement and Assessment of Environmental Noise with Respect to Land Use, Health, Annoyance and Speech Communication*.

Although these by-laws represented a major advance for the local authorities that introduced them, they were completely reactive in application and the maximum penalty specified was an inadequate deterrent. This approach was thus generally considered ineffective. It soon became generally accepted therefore that legislation, which provided for a pro-active approach and which aimed at preventing noise problems through proper planning, was needed. This did not appear feasible through the instrument of by-laws but then, with the promulgation of the Environment Conservation Act, a more appropriate mechanism was created.

The Noise Control Regulations, which were issued under the enabling Environment Conservation Act, were developed by the Council for the Environment after extensive consultation with local authorities. These are far more comprehensive and multi-faceted

instruments to control noise both pro-actively and reactively. By March 1992, the application of these regulations had been promulgated in the area of jurisdiction of some 27 local authorities, inclusive of Pretoria and Centurion. The responsibility for applying the Noise Regulations has now been devolved to provincial level but, as at March 2000, Gauteng is only one of two provinces to promulgate their regulations. These are the applicable Noise Control Regulations enabling the Noise Management Policy for the City of Tshwane.

1.6.6 Standards

There are several codes of practice/standards prepared by the South African Bureau of Standards (SABS), the International Standards Organisation (ISO) and other standards organisations which provide sound guidelines as to standards which need to be applied for effective noise management. The local standards are now prepared by Standards South Africa a division of the SABS and these are known as South African National Standards (SANS). Refer to the relevant references in Section 5 of this Policy.

1.6.7 Comments on Current South African Environmental/Noise Legislation

There are a number of shortcomings related to the South African environmental noise legislation which need to be highlighted. These are as follows:

- i) The enabling of noise management and control is fragmented across several acts, regulations and standards, thus making it difficult for an authority to act in a comprehensive and effective manner under various circumstances unless such an authority has a holistic noise management system.
- ii) There has been no clear guidance as to what are acceptable standards related to maximum ambient noise levels, thus making the legal interpretation of specific problems difficult. This often limited authorities in their efforts to act effectively against transgressors. This has, in an insidious manner, *legally* allowed ambient levels to increase significantly.
- iii) Across the spectrum of legislation/standards there have been discrepancies in technical requirements and this has often led to inconsistencies in approach to the evaluation of noise impact problems. This has also complicates litigation.
- iv) There have also been discrepancies in some of the definitions of basic terms used in various reference documents.

Several of these matters are now being addressed through the revision of standards and the Noise Control Regulations.

1.7 RELEVANT PENDING LEGISLATION

A list of the current pending legislation which will influence noise management is given in Appendix E. Refer also to Section 3.3 of the Noise Management Policy.

1.8 THE NEED FOR A COMPREHENSIVE NOISE MANAGEMENT SYSTEM

Taking into account the current environmental situation, the City of Tshwane considers that there is a definite need to prepare and implement a comprehensive Noise Management System (NMS) in order to effectively control and manage the noise pollution in its area of jurisdiction. The Noise Management Policy provides the statement of its objectives as well as the modus operandi for implementing such an NMS.

2. OBJECTIVES OF THE POLICY

The objectives of the City of Tshwane Noise Management Policy are as follows:

- i) To meet and implement the required noise management general overarching criteria and requirements of the City's Integrated Environmental Policy at a more specific and technical level.
- ii) To define a comprehensive system for managing and controlling environmental noise in the City of Tshwane Metropolitan Municipality's area of jurisdiction. This will mean the implementation of a holistic approach to control all aspects of noise which have the potential to adversely affect the well-being of the general public, groups and individuals who live, work and undertake recreational activities in Tshwane.
- iii) To initiate a process to implement the requirements of National and Provincial environmental policy.
- iv) To initiate a process to ensure that the principles of Integrated Environmental Management (IEM) are applied to all aspects of the management and control of environmental noise in the City of Tshwane.
- v) To identify the existing and potential noise sensitive areas/land-uses in the City of Tshwane.
- vi) To identify the existing and potential sources of noise in the City of Tshwane.
- vii) To identify an enabling procedural framework by means of which to rectify existing problems and which will ensure the application of pro-active measures that will limit or prevent any environmental impact due to noise.
- viii) To identify and set acceptable noise level standards and noise impact criteria for the City of Tshwane.
- ix) To identify desirable protocols and liaison procedures needed with all external agencies such as government departments, metropolitan authorities, adjacent local authorities and other agencies such as Spoornet/South African Rail Commuter Corporation, etc., whose policies and/or activities affect the management and control of noise in the City's area of jurisdiction.
- x) To identify the necessary internal procedures within all of the departments of the Council which need to be tasked with aspects of noise management and control, and to identify inter-departmental procedures necessary for the effective liaison between all affected departments.
- xi) To identify the legal powers which are necessary for the Council in order to effect management and control over noise, and set the basis for the promulgation of necessary by-laws.

The Policy will not apply to the direct control of noise in private areas such as the home and workplace except in situations where it affects other parties beyond the confines of that private area. Refer where necessary to the Occupational Health and Safety Act (Act 85 of 1993) for situations related to noise in the workplace. Council, however, within the area of its of jurisdiction requires the application of this Act where necessary by affected parties.

3. POLICY FRAMEWORK

The Noise Management Policy is a statement of intent by Council incorporating a set of guidelines and principles of action for managing and protecting the noise environment of the City. The policy framework firstly sets out the various statements of the policy, and then individually relates these to the specific issues involved, defines their scope and detail and then, where relevant, identifies the necessary actions which are to be taken and/or procedures which must be followed. The policy framework thus essentially identifies the nature of the problems and issues related to the management and control of environmental noise and then indicates the measures which are required by Council to either rectify the situation and/or to take necessary preventative actions.

3.1 GENERAL STATEMENT OF POLICY

- i) The City of Tshwane Council will, within the requirements of its Environmental Policy and Environmental Management System, set up, implement and maintain a comprehensive system for managing and controlling all aspects of environmental noise within its area of jurisdiction.
- ii) Council will support and apply, where relevant, national and provincial legislation, policies, standards and procedures for environmental management in general and the management and control of noise in particular. Council will also look to co-ordinating issues with adjacent metropolitan and adjacent local authorities.
- iii) Council will ensure that the principles of and procedures commensurate with Integrated Environmental Management (IEM) are applied to all aspects of the management and control of noise in the City of Tshwane.
- iv) Council will establish any necessary new protocols and procedures, conform to or adapt any relevant existing protocols and procedures which will assist and ensure adequate implementation of this Policy with relevant departments of national government, provincial government, metropolitan authorities, adjacent local authorities and all other agencies whose legislation, policies, procedures and/or activities influence the *noise climate* in any way and/or affect the management and control of noise in the City of Tshwane's area of jurisdiction.
- v) Council will establish, apply and maintain the necessary administrative infrastructure for implementing this Policy. Council will set up and implement between and within the departments of the Council tasked with various aspects of noise management and control, actual or implicit, any necessary co-ordinating and administration procedures respectively which will facilitate all aspects of noise management and control prescribed by this Policy.
- vi) Council will establish a comprehensive understanding of the nature, magnitude and extent of the environmental noise problems within its area of jurisdiction, inclusive of the existing and potential sources of noise pollution and noise sensitive areas.

- vii) Council will set noise level standards for all relevant situations and land uses as the base criteria for providing a suitable *noise climate* which will limit noise impact and which will ensure that environmental noise will not adversely affect the well-being of the general public, groups and individuals who live, work and undertake recreational activities in the City of Tshwane.
- viii) Council will utilise appropriate existing scientific/technical procedures and standard environmental impact assessment techniques for the analysis and evaluation of noise problems.
- ix) Council will within its legal enabling framework prescribe such powers which are necessary for the implementation and enforcement of this Policy within its area of jurisdiction.

The Policy needs to be qualified by the following statements:

While Council is fully aware of the urgent need to implement this Policy in order to prevent the further deterioration of the noise climate and, is totally committed to the improving of the environment in the City of Tshwane Metropolitan Municipality through the application of this Policy, there are logistical, practical and financial constraints which will limit Council's ability to implement all aspects of the Policy immediately. It should also be noted that there are also noise sources which adversely affect the City of Tshwane which are not controllable by the Council. The Policy will need, therefore, to be implemented in practical phases over a reasonable time period. The requirements of the Policy set ultimate desirable goals and standards but these can only be achieved in practical increments.

The Policy is also a dynamic document that will require regular updating to ensure that its standards and procedures remain current within the changing external environmental legislative climate.

3.2 COMPREHENSIVE SYSTEM OF MANAGEMENT AND CONTROL

3.2.1 Policy Element Statement

The City of Tshwane Council will, within the requirements of its Environmental Management System, set up, implement and maintain a comprehensive system for managing and controlling all aspects of environmental noise within its area of jurisdiction.

3.2.2 Issues

- i) The Noise Management Policy should ideally be applied within the overarching requirements of an Environmental Management System (EMS) for the City of Tshwane. Note that Council are presently involved in a project to prepare an Environmental Policy for Tshwane. This Noise Management Policy will fall under and will form an integral part of the Environmental Policy.
- ii) Council will need to establish a comprehensive understanding of all the aspects related to

environmental noise as well as the ongoing measures which will need to be applied to effectively address the noise problems in the City of Tshwane. Refer to Section 3.7, Appendix A and Appendix F.

- iii) Council will ensure that the principles of this Policy are applied within the framework of its Integrated Development Plan (IDP).

3.2.3 Scope and Detail

- i) The requirements for an Environmental Management System are dealt with in the South African Bureau of Standards/International Standards Organisation Code of Practice Series SABS ISO 14000:1996. Refer to the relevant references in Section 5 of this Policy.
- ii) For Council to establish a comprehensive understanding of the environmental noise situation, the aspects which need to be addressed and which are dealt with in the following sections are:
 - a) Council will need to be fully conversant with all existing relevant legislation, policies, standards and procedures of all higher and influencing authorities, as well as taking cognisance of international and national trends. (Refer to Section 3.3, Section 3.4 and Section 3.5).
 - b) Determination of the specific nature and scope of the noise pollution problems in the City of Tshwane. (Refer to Section 3.7 and Appendix F).
 - c) Identify existing and potential noise pollution sources. (Refer to Section 3.7 and Appendix F).
 - d) Identify existing and potential noise sensitive land uses. (Refer to Section 3.7 and Appendix F).
 - e) Identification of all appropriate measures which may be used to reduce noise levels or eliminate noise disturbance problems.

3.3 UNDERPINNING AND INFLUENCING LEGISLATION

3.3.1 Policy Element Statement

Council will support and apply, where relevant, national and provincial legislation, policies, standards and procedures for environmental management in general and the management and control of noise in particular. Council will also look to co-ordinating issues with adjacent metropolitan and adjacent local authorities.

3.3.2 Issues

- i) There is a wide range of existing legislation around which this Policy is based and with

which it must comply.

- ii) This policy will require regular updating in order to remain current with new legislation.
- iii) There is a need to influence, where possible and practical, external agencies whose legislation and activities affect the City of Tshwane with regard to noise management. In particular, this is relevant to adjacent authorities who have a land-use and transportation planning responsibility on the interface with Tshwane. (Refer also to Section 3.5).

3.3.3 Scope and Detail

- i) The list of the reference legislation is given in Section 5 of this Policy.
- ii) Refer also to Section 3.4 regarding aspects of IEM.

3.3.4 Actions and Procedures

- i) Council will monitor the promulgation of relevant noise legislation and update this Policy as well as any bylaws based on the new or revised legislation.
- ii) A list of current pending legislation is to be kept up to date. The current pending legislation which will influence noise management is given in Appendix E.
- iii) Council's Legal Services Division and Environmental Resource Department will be tasked with monitoring the new and revised legislation.

3.4 IEM GUIDELINES

3.4.1 Policy Element Statement

Council will ensure that the principles of and procedures commensurate with Integrated Environmental Management (IEM) are applied to all aspects of the management and control of noise in the City of Tshwane.

3.4.2 Issues

- i) It has become a basic criteria for environmental work of any kind in South Africa that a holistic approach known as Integrated Environmental Management is used. This approach is legislated in the National Environmental Management Act. IEM is a philosophy which prescribes a code of practice for ensuring that environmental considerations are fully integrated into all stages of the development process in order to achieve a desirable balance between conservation and development.
- ii) Noise management in the City of Tshwane must be guided by such a holistic approach.

3.4.3 Scope and Detail

- i) The specific details of the IEM Guideline Series and the IEM Information Series of documents are given in Section 5 of this Policy.
- ii) The South African National Standard SANS 10328 (SABS 0328:2000), *Methods for Environmental Noise Assessment* is of specific relevance for the application of aspects of this Policy in that it prescribes in detail the approach which must be taken in noise investigations to meet the IEM requirements.

3.4.4 Actions and Procedures

- i) Council will apply the principles of integrated environmental management as prescribed in the IEM Guidelines Series.
- ii) Council will ensure that it remains fully conversant with issues related to IEM procedures.
- iii) The standard SANS 10328 (SABS 0328:2000) or any subsequent amendments will be used as the basic guidelines for noise investigations.

3.5 PROTOCOLS AND PROCEDURES WITH EXTERNAL AGENCIES

3.5.1 Policy Element Statement

Council will establish any necessary new protocols and procedures, conform to or adapt any relevant existing protocols and procedures which will assist and ensure adequate implementation of this Policy with relevant departments of national government, provincial government, metropolitan authorities, adjacent local authorities and all other agencies whose legislation, policies, procedures and/or activities influence the *noise climate* in any way and/or affect the management and control of noise in the Tshwane area of jurisdiction.

3.5.2 Issues

- i) Noise Management in the City of Tshwane is affected by a number of external agencies in that, through the legislation, policy, procedures and/or activities of these agencies, certain prescriptions and/or restrictions are placed on Council. It is essential that meaningful channels of communication are set up and/or effective liaison is maintained with such external agencies in order to:
 - a) remain appraised of developments which could affect the City of Tshwane.
 - b) influence decisions on situations which could adversely affect the City.
 - c) enable timely updating of policy, by-laws and procedures by Council.
- ii) The most appropriate and cost effective means of effecting such liaison will be utilised.

3.5.3 Scope and Detail

The following agencies are considered to have an influence on various aspects of the management of noise in the City of Tshwane:

- Department of Environmental Affairs and Tourism (DEAT);
 - National Department of Transport (NDoT);
 - South African National Defence Force (SANDF);
 - Department of Labour;
 - Department of Justice;
 - Gauteng Provincial Government:
 - Department of Agriculture, Conservation, Environment and Land Affairs (DACEL);
 - Department of Public Transport, Roads and Works (Gautrans);
 - Department of Local Government.
 - North West Provincial Government:
 - Department of Agriculture, Conservation, and Environment (DACE);
 - Department of Public Transport, Roads and Works;
 - Department of Local Government.
 - Adjacent metropolitan and local councils;
 - South African National Roads Agency Limited (SANRAL);
 - Spoornet/South African Rail Commuter Corporation Ltd/Metrorail/ Intersite;
 - Relevant airport authorities
 - bus operators;
 - taxi associations.
- i) The Department of Environmental Affairs and Tourism (DEAT) is responsible for the promulgation and enforcement of various aspects of environmental legislation as well as the formulation of policy and procedural guidelines.
- ii) The National Department of Transport is responsible for transportation legislation inclusive of related noise issues.
- iii) The National Defence Force is responsible for a number of installations in and adjacent to the city of Tshwane, the operation of which affects the *noise climate*. In particular the Waterkloof Airbase and the Zwartkops Airbase are major sources of noise disturbance. (Note that the Gauteng Noise Control Regulations exclude the taking of action against aircraft noise related to non-recreational aircraft).
- iv) The Department of Labour is responsible for the application and enforcement of the Occupational Health and Safety Act (Act No. 85 of 1993).

- v) The responsibility for many aspects of environmental management and control has now been devolved from the DEAT to the Gauteng DACEL and the North West Province DACE. These departments are now responsible for the application of the Noise Control Regulations. Refer to Section 1.6.3. Only Gauteng, however has promulgated its Noise Control Regulations. The National Noise Control Regulations therefore, by default, apply in the North West Province.
- vi) The Department of Justice is responsible for the final prosecution of transgressors of noise legislation.
- vii) The Gauteng Department of Public Transport, Roads and Public Works (Gautrans) is responsible for the planning, design, construction, operation and maintenance of their provincial routes in the City of Tshwane. There are numerous existing and planned freeways and major arterial roads which affect the area. Similarly, the North West Province Roads Department is responsible for their roads in the City of Tshwane.
- viii) There are a number of metropolitan councils and local councils whose areas bound onto the City of Tshwane. Aspects of their land-use and transportation planning will impact on the City. These authorities are:
- City of Johannesburg.
 - Ekurhuleni Metropolitan Municipality.
 - Kungwini Local Municipality (Bronkhorstspuit)
 - Madibeng District Municipality.
 - Mogale City .
 - Nokeng Tsa Taemane Local Municipality (Cullinan/Rayton).
- ix) SANRAL is the agency responsible for the planning, design, construction, operation and maintenance of national roads. Three such roads are aligned through the City of Tshwane, namely:
- National Route N1;
 - National Route N4;
 - National Route N14 (Route R28).
- x) Spoornet/SA Rail Commuter Corporation/Metrorail/Intersite Property Management Services (Pty) Limited are the owners and operators of the railway lines through the City of Tshwane. (Note that both the Gauteng Noise Control Regulations and the National Noise Control Regulations (North West Province) exclude the taking of action against rail traffic).
- xi) Several major bus companies operate in or through the City of Tshwane:

- xii) Several taxi associations operate in or through the City of Tshwane.

3.5.4 Actions and Procedures

- i) Council will task its Noise Management Committee (refer to Section 3.6.4) and its noise control officer with the following:
- (a) The setting up and maintenance of a contact register of relevant external agencies with the following details:
- agency name;
 - contact person(s);
 - address/communication media details;
 - relationship to the City of Tshwane with regard to noise control;
 - relevant legislation interface;
 - relevant activity interface.
- (b) The setting up and maintenance of a contact interface with such external agencies.
- ii) Council will set up a specific lobby initiative with agencies which are responsible for a high level of noise disturbance in the City of Tshwane, but which are presently excluded from meeting requirements of the Noise Control Regulations in order to review their situation so as to set up a programme to assist the City of Tshwane to meet its noise level criteria.

3.6 IN-HOUSE PROCEDURES

3.6.1 Policy Element Statement

Council will establish, apply and maintain the necessary administrative infrastructure for implementing this Policy. Council will set up and implement between and within the departments of the Council tasked with various aspects of noise management and control, actual or implicit, any necessary co-ordinating and administration procedures respectively which will facilitate all aspects of noise management and control prescribed by this Policy.

3.6.2 Issues

- i) Council presently applies noise management in a reactive and fragmented manner. For effective noise management and control to be achieved, a holistic, co-ordinated and proactive approach, but one with reactive capability, needs to be implemented.
- ii) There are a number of Council Departments which, by the nature of the decisions they have to make, the planning they undertake and the works they undertake, have an influence on the environmental noise situation in the City. Although there are elements

of noise management, either direct or implicit, vested in these departments, they do not have prescribed procedures for evaluating noise as a potential problem issue with regard to their specific areas of responsibility. The existing liaison structures between these departments with regard to noise management need to be formalised.

3.6.3 Scope and Detail

- i) As at June 2004, the Council's Noise Control Officer (NCO) is a member of staff of the Department of Social Development, Health Care.
- ii) The following Departments of the Council are involved with aspects of work which influence noise management:
 - a) Economic Development Department.
 - b) Electricity Department.
 - c) Department Social Development, Health Care Division, Section Environmental Health.
 - d) Housing, City Planning and Environmental Management Department.
 - e) Legal and Secretarial Services Department.
 - f) Metropolitan Police Department.
 - g) Service Delivery Department.
- iii) Economic Development Department.
 - a) The Transport Planning and Information Systems Section of the Transport Development Division will need to take into account the noise implications of any planned elements of the transportation system on the land use structure.
 - b) The relevant sections of the Transport Development Division responsible for public transport need to ensure effective maintenance of the bus fleet.
- iv) Electricity Department.
- v) Department Social Development, Health Care Division, Section Environmental Health. The duties of the Health Care Division, Section Environmental Health which have relevance to noise management and control are:
 - (a) Enforcement of the Noise Management Policy.
 - (b) Co-ordination of inter-departmental noise management through the Noise Management Committee. Refer to Section 3.6.4.
 - (c) Co-ordination of noise control measures.

- (d) The investigation of noise disturbance complaints.
 - (e) The enforcement of noise requirements of the Occupational Health and Safety Act.
- vi) Housing, City Planning and Environmental Management Department.
- a) The functions of the City Planning Division which need to take into consideration aspects of noise management and control are:
 - The formulation of land-use guideline plans, spatial development frameworks, town planning schemes, etc. Of consequence here is the allocation of an acceptable spatial relationship of land-uses, that is those which are not or potentially are not incompatible from a noise perspective.
 - The review and approval of land-use rezonings and of special consent use applications. Here, the implications of the changed situation must be evaluated in relation to its potential to become a noise source or noise sensitive area.
 - Checks by building inspectors.
 - b) All environmental management issues are co-ordinated by the Environmental Management Division.
- vii) Legal and Secretarial Services Department. The functions of the Legal Services Division which have relevance to noise management and control are:
- (a) The interpretation of environmental/noise-related legislation from all levels of government and its relevant application within the legal framework of the City of Tshwane.
 - (b) The formulation of necessary policy, by-laws, regulations and procedures.
 - (c) Development/specification/publication of sound pressure level (noise) criteria, allowances and prohibitions related to noise for land-use zonings, use rezonings and special consent agreements.
 - (d) Overall enforcement of Council's legislation and follow-up litigation where legislation is transgressed.
- viii) The duties of the Metropolitan Police Department which have relevance to noise management and control are:
- (a) Enforcement of the regulations of the Road Traffic Act with respect to noise emission levels of motor vehicles.
 - (b) The investigation of noise disturbance complaints.
- ix) Service Delivery Department.

- (a) The functions of various sections of the Roads and Stormwater Department need to take into consideration aspects of noise management and control. The sections concerned are Infrastructure Planning and Management; Traffic Engineering and Operations; Infrastructure Provision; Project Management and Infrastructure Maintenance Management. The functions are:
- The planning, design, construction and maintenance of basic infrastructure works. In the planning and design phase, potential noise problems as well as mitigation measures need to be identified and relevant environmental management plans/programmes formulated for the construction and operation periods, as well as for maintenance works.
 - In particular, traffic engineering works and traffic control. Road-based traffic is identified as one of the worst sources of noise pollution. (Refer to Appendix A).
- (b) The following functions of Water and Sanitation Division need to take into consideration aspects of noise management and control.
- The planning, design, construction and maintenance of basic infrastructure works. In the planning and design phase, potential noise problems as well as mitigation measures need to be identified and relevant environmental management plans/programmes formulated for the construction and operation periods, as well as for maintenance works.
- x) There are a number of administrative procedures which need to be implemented. These relate to the co-ordination of activities and decisions between the various Departments involved, the roles and duties of the Noise Management Committee, the specific roles and duties within each Department and the requirements for processing and recording the various noise-related issues. These aspects are dealt with in more detail in Section 3.6.4 and Section 4.
- xi) There are a number of technical procedures which need to be implemented on a more formal and structured basis. These include aspects such as:
- Criteria for review and definition of specific land-use noise-related aspects.
 - Requirements for review of projects.
 - Procedures for noise disturbance evaluation.

These aspects are dealt with in more detail in Section 3.6.4 and Section 4. It should be noted that aspects of the administrative and technical procedural requirements overlap.

3.6.4 Action and Procedures

- i) Council will establish an inter-departmental liaison committee which will be known as

the Noise Management Committee (NMC). It will comprise of a senior representative from the relevant Divisions/Section of the following Departments (refer to Section 3.6.3):

- a) Economic Development Department.
- b) Electricity Department.
- c) Department Social Development, Health Care Division, Section Environmental Health.
- d) Housing, City Planning and Environmental Management Department.
- e) Legal and Secretarial Services Department.
- f) Metropolitan Police Department.
- g) Service Delivery Department.

The NMC will be chaired by the Noise Control Officer or his designate.

ii) The functions of the NMC will be as follows:

- (a) To ensure that this Noise Management Policy is effectively implemented.
- (b) To ensure that meaningful liaison is maintained through the Noise Control Officer, with all relevant external agencies. (Refer to Section 3.5.4).
- (c) To ensure that effective liaison on noise management matters is maintained between all the relevant Departments of the Council.
- (d) To ensure that all relevant noise management procedures are implemented within each Department, all relevant departmental personnel are to be informed as to their responsibilities and tasks. Relevant consultants and other external agencies undertaking work for the Council are to be appraised of their responsibilities and applicable procedures with regard to noise management.

iii) The following administrative procedures will need to be established and implemented:

- (a) Requirements of the Noise Management Committee.
- (b) Requirements for liaison with external agencies.
- (c) Internal inter-departmental procedures.
- (d) Recording of noise sensitive areas and noise sources.
- (e) Recording of noise disturbance complaints.

iv) The following technical procedures will need to be established and implemented:

- (a) Review of land-use spatial development frameworks.

- (b) Review of land-use development plans, rezonings and special consent use applications.
- (c) Defining and recording of specific land-use/noise-related aspects:
 - noise sensitive areas;
 - noise sources;
 - *noise supplementary controlled areas and noise zones*;
 - reported noise disturbance problems.
- (d) Requirements for planning and design of works.
- (e) Requirements for undertaking of a noise impact study.
- (f) Requirements for Environmental Management Plans/Programmes (noise aspects)
- (g) Requirements for addressing noise disturbance complaints.

3.7 SPECIFIC NATURE OF THE CITY OF TSHWANE'S NOISE PROBLEMS

3.7.1 Policy Element Statement

Council will establish a comprehensive understanding of the nature, magnitude and extent of the environmental noise problems within its area of jurisdiction, inclusive of the existing and potential sources of noise pollution and noise sensitive areas.

3.7.2 Issues

- i) The noise problem is complex in that noise disturbances may be related to many different sources and the effect on people varies widely under different circumstances. A base requirement therefore, before any remedial actions can be taken, is to determine the specific nature of the problem and its extent. This is necessary from both a qualitative and a quantitative aspect.
- ii) There are some activities within any normal and well-functioning community which, although from a noise perspective, may be found to be intrusive and disturbing to some individuals or groups living close to the source of the noise, need to be viewed from a different perspective. Sports stadiums, sports clubs, religious activities such as church bells on Sunday mornings, a muezzin calling from a mosque, school fêtes, school sporting activities, children's playgrounds etc. are such activities which must be accepted by all as a *healthy* aspect of our urban community life, albeit as diverse groups and individuals within a community, but with the proviso that such activities are undertaken at reasonable times and are not excessively disruptive to other essential/normal activities or to the point of being a health hazard. Unless there are numerous and widespread complaints, unless the noise levels are excessively loud and incidents take place at unreasonable times (i.e. during the night) and unless complainants (persons affected) can justify the exact nature of how they are disturbed, then the community activities should

be allowed. These however must be carefully monitored to ensure that the situation does not deteriorate.

3.7.3 Scope and Detail

Council will review the situation in its area of jurisdiction and the specific issues of concern, as well as those which need to be addressed. These will be dealt with under the following headings:

- City of Tshwane's noise problem causal factors.
- Main existing sources of noise pollution in Tshwane.
- Potential major sources of noise pollution.
- Noise sensitive areas/activities.
- Scope of necessary prohibitions (noise controls).

The general details of the existing sources of noise pollution, the potential sources of noise pollution in Tshwane and the identified noise sensitive areas are listed in Appendix F.

3.7.3.1 City of Tshwane's Noise Problem Causal Factors

In general, the following factors can be identified as the basis of the growing noise problem in the City of Tshwane:

- i) An historical development of incompatible land-uses adjacent or near to each other. Specifically, the following relationships have resulted in or potentially may result in some degree of noise impact:
 - (a) Residential areas related to major transportation facilities. World-wide surveys have shown that transportation/traffic sources have major noise impact and particularly road traffic noise is experienced as the worst source of disturbance.
 - (b) Residential areas adjacent to retail complexes where there is electro-mechanical equipment such as refrigeration compressors, air conditioning units, etc.
 - (c) Residential areas related to noisy recreational and sporting facilities.
 - (d) Residential areas related to industry and mining operations.
 - (e) Residential areas related to schools/crèches.
 - (f) Schools/education facilities related to any major noise generating land-use/facility/operation.

- (g) Retirement homes related to any major noise generating facility/operation.
- (h) Hospitals/rehabilitation centres/hospices related to any major noise generating facility/operation.

Note that for certain land uses such as *residential* there may only be a night-time and weekend noise problem while for others such as retirement homes, hospitals, etc. there is often a 24 hour problem.

- ii) The rapid growth of road traffic on all roads in the City of Tshwane and vehicles travelling at high speeds.
- iii) New developments have been allowed to take place without adequate investigation of potential noise impact being undertaken and controls being placed on the development.
- iv) Rezoning and special consent uses have been allowed to take place without adequate investigation of potential noise impact being undertaken and controls being placed on the development.
- v) Many of the major noise sources are not controllable by the City of Tshwane, as they lie within the jurisdiction of other authorities/agencies. These are:
 - (a) Construction of, maintenance works on, and traffic operations on national, provincial and metropolitan authority roads.
 - (b) Railway noise.
 - (c) Military airbase noise.
 - (d) Civil airport noise.
 - (e) Noise from helipads at hospitals and other emergency service centres.

A number of these agencies have been exempted from applying the Noise Control Regulations (refer to Appendix F).

- vi) Construction sites in general have a disturbance/nuisance factor.
- vii) Many vehicles exceed specified noise emission measurement standards.
- viii) Within the Council there are several departments which are responsible for planning and/or work which have potential noise impact implications. There is not guiding policy for or comprehensive co-ordination between those Departments. Only the Environmental Health Department and the Metropolitan Police Department are specifically tasked with aspects of noise control. Application of effective noise management and control has also been limited by the lack of a comprehensive legal base and enabling procedures.

3.7.3.2 Scope of Necessary Prohibitions

- i) Council will institute a system of noise management and control, the scope of which will need to cover the following prohibitions:
- (a) No person or agency shall establish a new township unless the layout plans concerned indicate in accordance with the specifications of the Council the existing and future sources of noise, with concomitant dB(A) values, which are foreseen in the township for a period of 15 years following the date on which the erection of the buildings in the township commences. Noise sensitive areas within the new township are also to be identified. The effect of the township's noise sources on adjacent land uses as well as the effect of external noise sources on noise sensitive areas in the new township are to be assessed.
 - (b) No person or agency shall erect educational, residential, apartment, hospital, church or office buildings in an existing township in a *noise control area*, unless acoustic screening measures have been provided in the building to limit the reading on an integrating impulse sound level meter, measured inside the building after completion, to 40dB(A) and provided that any air-conditioning or ventilating system shall be switched off during the course of such noise measurement.
 - (c) No person or agency shall make changes to existing facilities or existing uses of land or buildings or erect new buildings, if these will house or cause activities that will, after such changes or erection, cause a disturbing noise, unless precautionary measures to prevent the disturbing noise has been taken to the satisfaction of the Council.
 - (d) No person or agency shall situate educational, residential, hospital or church erven within a controlled area in a new township or an area which has been rezoned, provided that such situations may be allowed by Council in accordance with the acoustic screening measures, specified by Council, in the approved building plans.
 - (e) No person or agency shall build a road or change an existing road, or alter the speed limit on a road, if this will cause an increase in noise in or near residential areas, or office, church, hospital or educational buildings, unless the need for noise control measures has been properly determined by the Council in consultation with the road authority concerned to ensure that the land in the vicinity of such roads will not be designated as a *noise control area*.
 - (f) No person shall drive a vehicle, or allow it to be driven, on a public road if the sound level at the measuring point measured in accordance with the procedure prescribed in SANS 10181 (SABS 0181) exceeds:
 - In the case of a non-exempted vehicle, the sound level specified in Table 1 of SANS 10281 (SABS 0281) for that type of vehicle; or
 - In the case of an exempted vehicle, the applicable reference sound level

indicated in the tables of Annexure A of SANS 10281 (SABS 0281), for that type of vehicle, by more than 5dB(A).

- (g) No person shall drive a vehicle on a public road in such a manner that it may cause a noise nuisance.
- (h) No person or agency shall stage an open-air music festival or similar gathering without the prior consent in writing of the Council, and subject to conditions prescribed by the Council.
- (i) No person shall operate or play, or allow to be operated or played, a radio, television set, drums, musical instrument, sound amplifier, loudspeaker system or similar device producing, reproducing or amplifying sound so as to cause a noise nuisance.
- (j) No person shall offer any article for sale by shouting, ringing a bell or making other sounds or by allowing shouting, the ringing of a bell or the making of other sounds in a manner which may cause a noise nuisance.
- (k) No person shall allow an animal owned or controlled by him or her to cause a noise nuisance.
- (l) No person shall build, make, construct, repair, rebuild, modify, operate or test a vehicle, vessel, aircraft or object on or near residential premises, or allow it to be built, made, constructed, repaired, rebuilt, modified, operated or tested, if this may cause a noise nuisance.
- (m) No person shall erect a building or structure on residential premises or allow it to be erected if this may cause a noise nuisance.
- (n) No person shall use or discharge any explosive, firearm or similar device that emits impulsive sound and may cause a noise nuisance, or allow it to be used or discharged, except with the prior consent in writing of the Council and subject to such conditions prescribed by the Council.
- (o) No person shall, except in an emergency, emit a sound or allow a sound to be emitted, by means of a bell, carillon, siren, hooter, static alarm, whistle, loudspeaker or similar device, if it may cause a noise nuisance.
- (p) No person shall operate any machinery, saw, sander, drill, grinder, lawnmower, power garden tool or similar device or allow it to be operated, if it may cause a noise nuisance. Normal household maintenance activities at reasonable times do not apply.
- (q) No person shall operate or allow to operate any plant if it may cause a noise nuisance.

- (r) No person shall use any power tool or power equipment used for construction work, drilling work or demolition work, or allow it to be used, in or near a residential area or designated noise sensitive area if it may cause a noise nuisance. Normal activities at reasonable times do not apply.
- (s) No person shall load, unload, open, shut or in any other way handle a crate, box, container, building material, rubbish container or any other article, or allow it to be loaded, unloaded, opened, shut or handled, if this may cause a noise nuisance.
- (t) Where Council has so ruled that a specified piece of land, body of water and/or airspace above such a piece of land or body of water may be used for recreational purposes, such activities may take place with the proviso that no person shall move about on or in a recreational vehicle, exercise control over a recreational vehicle, or as the owner or person in control of the piece of land, water or airspace, allow such activity to take place, if this may cause a noise nuisance.

3.7.4 Actions and Procedures

- i) Council will set up a data base for the specific recording of noise-related issues. This data base will, where relevant, be linked to the land-use and environmental geographic information system (GIS) of the Council. Aspects which need to be included in the data base are:
 - noise sensitive areas;
 - noise sources;
 - noise control areas;
 - *noise zones*;
 - reported noise disturbance problems and actions taken.

For relevant procedures required, refer to Section 4.

- ii) Council will task representatives from all Departments on the NMC to become fully acquainted with environmental noise issues, procedures which are to be followed and measures which may be taken to improve the noise situation.

3.8 NOISE LEVEL STANDARDS

3.8.1 Policy Element Statement

Council will set noise level standards for all relevant situations and land uses as the base criteria for providing a suitable *noise climate* which will limit noise impact and which will ensure that environmental noise will not adversely affect the well-being of the general public, groups and individuals who live, work and undertake recreational activities in the City of Tshwane.

3.8.2 Issues

- i) The major industrialised countries of the world have been through a cycle of deteriorating environments due, *inter alia*, to the increase in noise exposure of their populations. The major noise abatement campaigns launched in the 1980s enabled the effective containment of the situation in some areas as well as a reduction of noise exposure in many other areas, but despite these efforts the OECD reported in 1996 that the overall problem was getting worse even though the number of those actually exposed was decreasing. Refer to Section 1.5. The conclusions that may be drawn from this are the following:
 - a) The failure to achieve some of the noise abatement targets may possibly be due to the fact that the set maximum noise standards were not sufficiently stringent to prevent a *creeping* deterioration as allowable criteria and controls were pushed to their limits. This highlights the need for stringent initial standards and stringent application thereof.
 - b) In many areas and for many situations the noise impact had been allowed to deteriorate to such extremely severe levels before remedial actions were initiated that it became extremely difficult to reverse the trends. This highlights the need for timely action.
- ii) Although the City of Tshwane is committed to applying high standards, Council is aware that the nature of the noise problems does not mean that all action is best taken at or that it can be totally effective if only applied at local authority level. This is endorsed by the fact that many of the most severe sources of the environment impacting noise are not of *local origin* in that they fall under the jurisdiction of a higher authority or an outside agency. It is essential therefore that these authorities/agencies are committed to supporting the initiatives of this Policy and especially that of enforcing high standards. Close liaison with these agencies is essential. Refer to Section 3.5.

3.8.3 Scope and Detail

- i) Two aspects relating to noise standards and noise impact criteria need to be defined:
 - a) The acceptable maximum noise levels for specified land uses and activities (acceptable equivalent continuous rating levels for noise).
 - b) The manner in which the land use noise control zones/districts are to be established as the basis for noise impact management and control. Noise control zones will be defined on the basis of land use zoning types in general but with certain noise sensitive land uses being specifically identified where relevant.
- ii) The noise level standards to be applied in the City of Tshwane area of jurisdiction are based on South African National Standards (which have been based on current international criteria).
- iii) In general the approach to specifying and applying the maximum ambient noise level

control standards is structured as follows, essentially defining from a broad to a more specific base:

- (a) The first stage of control will be the identification of land use districts that are mainly homogeneous in land use character.
- (b) The primary level of control will be developed through the designation of specific *noise zones* and standards related thereto. These standards are based on the requirements of SANS 10103:2003.
- (c) A secondary level of control will be the designation of *supplementary controlled areas* which are the defined *controlled areas* in the Noise Control Regulations.

The criteria of *disturbing noise* and *noise nuisance* are to be used as indicators of noise impact.

- iv) For the first stage of developing noise control standards, Council will demarcate its area of jurisdiction into districts each of which is mainly of a homogeneous land use type. These demarcated areas will be based on the land use definitions of the City of Tshwane Town Planning Scheme. The land uses defined in Table 1 and Table 2 of SANS 10103 are also to be used as guidelines for *district* demarcation. Noise sensitive areas and major noise generators are to be identified. Defined noise sensitive areas are:

- a) Outdoor noise sensitive areas:
 - Parks.
 - Historic sites used for interpretation.
 - Amphitheatres.
 - Recreation areas.
 - Playgrounds.
 - Cemeteries.
 - Wilderness areas.
- b) Residences (outdoor and indoor aspects):
 - Single family residences.
 - Multifamily residences (apartment buildings, simplex and duplex housing complexes).
 - Retirement homes/villages.
- c) Indoor noise sensitive areas:
 - Places of worship.
 - Educational facilities (schools, universities, technikons, other places of instruction).

- Creches.
- Hospitals/hospices.
- Concert halls/auditoriums/theatres.
- Libraries.
- Recording/broadcast studios.
- Museums and specific historic buildings.
- Hotels/motels/B&B establishments.

The main noise generators are:

- Roads.
- Railway lines.
- Airports and helipads.
- Factory areas.
- Shopping centres.

- iv) As the primary level of noise control criteria, Council will identify and define all areas which are to have specific noise controls placed on them and zone noise levels/impact criteria for these areas will be established. *Noise zones* are to be based on specific land use types and may comprise the whole of a land use district or a subdivision thereof. The controlling maximum outdoor noise levels which are to be applied to the *noise zone* are to be taken from SANS 10103. These are summarised in Table 3.8.1 which is taken from Table 2 of SANS 10103, and indicate the acceptable day-night equivalent continuous rating level factor ($L_{R,dn}$), the daytime rating level ($L_{Req,d}$) and the night-time rating level ($L_{Req,n}$) for ambient noise for various land use districts. Table 1 from SANS 10103 is to be used for the rating land use types not given in Table 3.8.1. These will provide an initial guideline for the more detailed noise control zones standard applications.

The given sound pressure levels include any necessary corrections for tonal character and impulsiveness of the noise. The indoor condition as well as the outdoor condition of some of these land uses must also be considered.

- v) Table 3.8.2 gives the noise level standards to be applied to other land uses not indicated in SANS 10103.

TABLE 3.8.1: RECOMMENDED ALLOWABLE AMBIENT SOUND (RATING) LEVELS FOR VARIOUS LAND USE TYPE DISTRICTS

Type of District	Equivalent Continuous Rating Level for Noise ($L_{Req,T}$) (dBA)					
	Outdoors			Indoors with Windows Closed		
	Day-night ($L_{R,dn}$)	Daytime ($L_{Req,d}$)	Night-time ($L_{Req,n}$)	Day-night ($L_{R,dn}$)	Daytime ($L_{Req,d}$)	Night-time ($L_{Req,n}$)
RESIDENTIAL DISTRICTS						
a) Rural districts	45	45	35	35	35	25
b) Suburban districts	50	50	40	40	40	30
c) Urban districts	55	55	45	45	45	35
NON RESIDENTIAL DISTRICTS						
d) Urban (some workshops, businesses and main roads)	60	60	50	50	50	40
e) Central business districts	65	65	55	55	55	45
f) Industrial districts	70	70	60	60	60	50
<p>Note: Residential buildings such as dormitories, hotel accommodation, residences, etc. should only be allowed in non-residential districts on condition that the calculated anticipated indoor maximum equivalent continuous rating levels ($L_{Req,T}$) values given in Table 1 of SANS 10103 are not exceeded.</p>						

TABLE 3.8.3: RECOMMENDED ALLOWABLE OUTDOOR AMBIENT SOUND LEVELS FOR VARIOUS NON-RESIDENTIAL LAND USE TYPE NOISE ZONES

Noise Zone Type	Rating Level for Ambient Noise in Noise Zones dB(A)	
	Daytime	Night-time
Rural : recreational	45	35
Wilderness	40	40

- vi) A further criterium for control will be the use of the *noise controlled areas* as defined in the Noise Control Regulations and as affected by roads/road traffic, airports/airfields, industrial areas and other significant noise sources. Although not presently specified in

the Noise Regulations a similar evaluation should be undertaken for railway lines. Refer to Appendix G for recommendations on railway operations. These areas will be identified and designated as *supplementary controlled areas* by Council as a further level basis for noise management and control. The sound pressure levels related to various defined sources and which are the base criteria for designating a *supplementary controlled area* are given in Table 3.8.3. The sound pressure levels indicated should not be taken as the maximum allowable standards but provide an indication of the necessity for providing management and control measures if no other criteria apply. These criteria essentially provide Council with another mechanism for control, enabled specifically by the Gauteng Noise Control Regulations.

TABLE 3.8.3: CRITERIA FOR DESIGNATION OF A SUPPLEMENTARY CONTROLLED AREA

Noise Source	Equivalent Sound Pressure Level (L_{Aeq} dB)
Road traffic (24 hour) (*)	60,0 (calculated/measured)
Industrial source (24 hour)	60,0 (calculated/measured)
Any major source (relevant period)	65,0 (calculated/measured)
Rail traffic (06h00 to 22h00): (22h00 to 06h00):	60,0 (calculated/measured) 50,0 (calculated/measured)
Aircraft noise	Noisiness Index dB(A)
	65,0 (calculated)
<p>*Note: With regard to the road traffic noise criteria, it should be noted that the National Noise Control Regulations originally specified a noise control area be established when the equivalent sound pressure level (L_{eq}) over the 18 hour period from 06:00 to 24:00 exceeded 65 dB(A). The Gauteng Regulation of a 60 dB(A) over 24 hours criteria needs to be carefully analysed to ensure that the night-time noise situation, i.e. from 00:00 to 06:00, is not severe.</p> <p>The North West Province applies the National Noise Control Regulations and this situation will need to be reconciled with the Gauteng Regulations.</p>	

- vii) The noise level criteria of the three control elements, namely the *noise zones*, *supplementary controlled areas* and land use districts are to be used in a complementary manner. The more stringent standard, that is, the lowest maximum allowable ambient noise level will be applied, i.e. the less stringent criteria for one control element, if relevant, will not compromise that of another. These criteria will thus be applied as follows:
 - (a) Land use district noise criteria will provide the initial general indication of standards required.

- (b) The identification of *supplementary controlled areas* will define the elements of the existing and potential future problem areas related to major noise generators.
 - (c) The *noise zone* standards and impact criteria will provide the primary control standard.
- viii) The basis of determining noise impact will be the criteria of *disturbing noise* which is defined for purposes of this policy *as the sound pressure level which exceeds the zone noise level*. No allowance will be made for any increase in a designated zone noise level. Any such disturbing noise is to be measurable and noise measurements are to be taken in accordance with SANS 10103:2003.
 - ix) The concept of *noise nuisance* will also be taken into account when assessing noise impact. *Noise nuisance* is defined as *any sound which disturbs or impairs, or may disturb or impair the convenience or peace of any reasonable person considering time of day and environment*. It is not quantitatively measurable and relates to aspects such as barking dogs. Refer to Section 3.7.3.5. This introduces the need for a professional qualitative assessment of the noise source and the impacted environment.
 - x) The measurement and/or calculation of sound pressure levels shall be in accordance with set standards as indicated in Section 3.9.
 - xi) With regard to the planning of new facilities allowance of modification of facilities, due consideration will also be given to the cumulative effects of noise emissions from closely spaced sites on surrounding areas. If each of two adjacent sites emit the same sound energy with the same frequency content, then the sound pressure level at a receptor, equidistant from the two sites, will record a sound pressure level 3 decibels greater than that received from a single site. Thus, for example, if each of two adjacent industries, separated by a common boundary, plan their operations to just meet the permissible rating level of 70 dB(A) at the boundary, the total rating level at the boundary could well be of the order of 73dB(A).

3.8.4 Actions and Procedures

- i) Council will incorporate these standards into necessary by-laws.
- ii) Council will define the homogeneous land use districts, *supplementary controlled areas* and *noise zones* as exist presently within its area of jurisdiction and then will apply the necessary noise management and control measures.
- iii) All new developments, all rezonings and all consent land uses will be reviewed within the requirements of this Policy and any necessary specifications of limitations regarding noise control will be issued.

3.9 APPROPRIATE SCIENTIFIC / TECHNICAL APPROACH

3.9.1 Policy Element Statement

Council will utilise appropriate existing scientific/technical procedures and standard environmental impact assessment techniques for the analysis and evaluation of noise problems.

3.9.2 Issues

- i) The legal proving of noise impact/noise disturbance/noise nuisance requires that an appropriate scientific and technical approach is applied in any investigation/evaluation of any noise-related problem.
- ii) Requirements placed on new developments/rezonings/consent uses regarding noise impact evaluation require a uniform and scientific approach.

3.9.3 Scope and Details

- i) Noise measurement and calculations will be undertaken in accordance with the appropriate standards. Reference to a standard is deemed to be a reference to the latest edition of that standard.
- ii) The procedure set out in SANS 10328 (SABS 0328), *Methods for Environmental Noise Impact Assessments* shall be used as a guide for all noise impact investigations.
- iii) SANS 10103:2003, *The Measurement and Rating of Environmental Noise with Respect to Land Use, Health, Annoyance and to Speech Communications* is to be used as the specific reference for the *acceptable rating levels for noise in districts*. Also all noise measurement surveys are to be undertaken in accordance with this standard.
- iv) SANS 10210 (SABS 0210), *Calculating and Predicting Road Traffic Noise* is to be used to calculate *supplementary controlled areas* related to road traffic as well as any road traffic problem noise levels.
- v) SANS 10117:2003, *Calculation and Prediction of Aircraft Noise around Airports for Land Use Purposes* is to be used to calculate the noisiness index related to the establishment of *supplementary controlled areas* around airports and military air bases. SANS 10117 specifies that the Integrated Noise Model (INM) which has been developed and issued by the Federal Aviation Administration is to be used to calculate the noise contours around airports.
- vi) SANS 10357 (SABS 0357), *The Calculation of Sound Propagation by the Concave Method* is to be used for the calculation of *supplementary controlled areas* related to any major noise source(s).
- vii) The procedures set out in SANS 10181 (SABS 0181), *The Measurement of Noise Emitted by Road Vehicles when Stationary* and SANS 10205 (SABS 0205), *The Measurement of*

Noise Emitted by Motor Vehicles in Motion will be used for the monitoring of individual motor vehicles.

- viii) Procedures set out in the various SABS ISO Acoustics Codes of Practice (refer to Section 5.(ii).(n)) as well as other relevant references given in Section 5.

3.9.4 Actions and Procedures

Council will ensure that all officials dealing with noise management and control, all developers and all consultants undertaking noise impact investigations in the City of Tshwane are to be informed of the procedures and standards to be applied.

3.10 REQUIRED POWERS OF COUNCIL

3.10.1 Policy Element Statement

Council will, within its legal enabling framework, prescribe such powers which are necessary for the implementation and enforcement of this Policy.

3.10.2 Issues

- i) It is essential for Council to have a comprehensive and effective enabling legal framework, administrative procedures and enforcement structure to ensure that this Policy is implemented.
- ii) Council must have effective support from the Department of Justice in the prosecution of offences in the City of Tshwane's area of jurisdiction.

3.10.3 Scope and Detail

- i) Council will ensure that, through its existing legal framework or through amended or new legislation, that all Council officials tasked with noise management and control are fully empowered to carry out their duties.
- ii) Council will ensure that it has the authority to act under the following circumstances in order to ensure the effective application of this Policy and any subsequent by-laws and/or regulations:
 - a) For the purposes of applying any aspect of this Policy, Council may at any reasonable time, enter a premises without prior notice in order to:
 - conduct thereon any appropriate examination, enquiry or inspection as it may deem expedient; and
 - take any steps it may deem necessary.
 - b) Before changes are made to existing facilities or existing uses of land or buildings, or before new buildings are erected, Council may require in writing that noise

impact assessments or tests be conducted to the satisfaction of Council by the owner, developer, tenant or occupant of the facilities, land or buildings and that reports or certificates relating to the noise impact to the satisfaction of Council be submitted by the owner, developer, tenant or occupant to Council.

- c) Council may set conditions relating to noise control to be included in the conditions of the establishment of a new township, or development control for any form of consent land use in order to achieve the objectives/requirements of this Policy.
- d) Council may designate a *supplementary controlled area* or a *noise zone* in its area of jurisdiction or amend or cancel an existing *supplementary controlled area* or a *noise zone* by notice in the *Official Gazette* concerned.
- e) If excavation work, earthmoving work, pumping work, drilling work, construction work or demolition work or any similar activity, power generation or music causes or may cause a noise nuisance or a disturbing noise, Council may instruct in writing that such work, activity, generation or music be forthwith discontinued until such conditions as Council may deem necessary have been complied with.
- f) If a noise emanating from a building, premises, vehicles, recreational vehicle or street is a disturbing noise or noise nuisance, Council may instruct in writing the person causing such noise or who is responsible therefor, or the owner or occupant of such building, premises, vehicle, recreational vehicle or street from which or from where such noise emanates or may emanate, or all such persons, to discontinue or cause to be discontinued such noise within the period stipulated in the instruction.
- g) In order to determine whether a vehicle using any road in Tshwanes area of jurisdiction, including a private, provincial metropolitan or national road crossing its area of jurisdiction, complies with the provisions of this Policy, Council may instruct the owner or person in control of the vehicle to:
 - have any appropriate inspection or test as such authority may deem necessary conducted on the vehicle on a date and at a time and place determined by the local authority in writing;
 - stop the vehicle or cause it to be stopped.
- h) If the owner or person in charge of an animal fails to comply with an instruction referred to in Section 3.10.3(ii)(f), Council may, subject to the applicable provisions of any other law, impound or cause to be impounded such animal.
- i) Council may impose such appropriate conditions as it deems fit when granting any permission or exemption in terms of any aspect of noise management and control.

3.10.4 Actions and Procedures

- i) Council will promulgate all necessary by-laws and regulations, and develop and apply the necessary procedures to enable the effective implementation of this Policy.

- ii) All personnel tasked with noise management and control are to be fully briefed as to their legal powers and as to the legal implications related to their respective areas of responsibility.

4. PROCEDURES

In this section a general indication is provided of some of the requirements and procedures which will be necessary for effective noise management and control. This Policy document provides only a general indication of the procedures and organisational structures required, as many aspects may need to be adapted and integrated into existing procedures used by Council. These recommendations are thus sufficiently flexible so as to be easily accommodated in any present tried and trusted procedures but with the proviso that the basic principles set out in the Policy need to be met. Noise management should be viewed by the officials as an essential adjunct to existing management procedures in the Departments involved.

Departments responsible for aspects of noise management will be required, where necessary, to develop their own more detailed procedures. These will also take into account inter-departmental liaison and co-ordination.

4.1 NOISE MANAGEMENT COMMITTEE

- i) A central aspect to the implementation of an effective noise management system is the establishment of a body which is responsible/accountable for implementation. This inter-departmental liaison committee will be known as the Noise Management Committee (NMC). Refer to Section 3.6.4.
- ii) Each member department of the NMC is to ensure the following:
 - a) That all relevant staff are appraised of the contents of this Policy and the implications thereof.
 - b) That all relevant noise management procedures are implemented within each Department. All relevant departmental personnel are to be informed as to their responsibilities and tasks. Relevant consultants and other external agencies undertaking work for the Council are to be appraised of their responsibilities and applicable procedures with regard to noise management. Each department is to draw up and maintain a list of its responsible persons as well external agencies and consultants assisting/involved with the Department who need to be informed of and also need to act on this Policy.
 - c) Where necessary and where not dealt with in this section, more specific procedures related to personnel and/or external agencies need to be developed by each Department.
- iii) The NMC shall meet on a sufficiently regular basis to enable comprehensive and meaningful liaison. Minutes will be kept of the meetings.

4.2 REQUIREMENTS FOR LIAISON WITH EXTERNAL AGENCIES

- i) The noise control officer will set up and maintain a contact register of relevant external agencies. Refer to Section 3.5.

- ii) All departments are to identify specific issues/problem areas related to noise management and relevant to their department, if any, which need to be discussed with external agencies. In particular aspects related to land use planning, land use incompatibility, transportation and construction must be carefully considered.
- iii) All these agencies are to be contacted and appraised of this Policy. Solutions for the aspects of concern regarding these agencies interests related to noise effects on contours are to be identified.

4.3 INTERNAL INTER-DEPARTMENTAL PROCEDURES

- i) All departments are to identify processes/procedures, both internal and inter-departmental, which require noise management input and co-ordination. These relate primarily to:
 - All land use planning aspects.
 - Development plan approvals.
 - Land use rezonings.
 - Building plan approvals.
 - Road planning.
 - Transportation planning.
 - Capital project planning.
 - Construction management.
 - State of the environment (SoE) monitoring of noise.
 - Monitoring of projects.
 - Follow-up and prosecution of transgressors
- ii) The necessary management structure requirements to ensure effective co-ordination on an inter-departmental basis are to be formulated and effected. It must be ensured that all aspects of noise management are addressed.

4.4 NOISE DATA BASE

- i) The City of Tshwane will establish and maintain a noise data base with the following information:
 - a) Base data
 - Noise sensitive areas/land uses.
 - Major noise sources.
 - Noise districts, *supplementary controlled areas* and *noise zones*.

- Erf noise zone coding.
 - Noise contours. As studies are undertaken, data to be included.
- b) As part of this data base Council will also establish and maintain a noise disturbance/nuisance complaint register. For each incident, the following should be recorded:
- Date
 - Erf from where the noise disturbance/nuisance emanates
 - Owner
 - Erf/area impacted
 - Complainant/contact details
 - Nature of complaint
 - Nature of impact
 - Special circumstances
 - Comments/status
 - Action taken

4.5 REVIEW OF LAND USE PLANS

- i) The following aspects must be checked with regard to spatial development frameworks and with the town planning scheme:
- a) Establish the overall noise character:
- Noise sources
 - Noise sensitive areas
 - Noise districts, supplementary controlled areas and noise zones
- b) Check the spatial relationship of potentially noise-incompatible land uses and activities
- c) Identify potential problem areas
- d) Revise where necessary
- ii) The following aspects must be checked with development plan, land use rezoning and special consent use applications.
- a) Establish the overall noise character of the existing area and of the proposed changed situation.
- b) Check the spatial relationships within the new development and/or between the planned altered area/erf for potential noise-incompatible land uses and activities.
- c) Identify potential problems. Where necessary a noise impact assessment may be required. This may be part of an overall environmental impact assessment (EIA)

or a lone-standing study, as necessary. This will be at the discretion of the Council and it will be the responsibility of the applicant to provide the necessary data.

- d) Identify necessary standards and requirements, and set *noise criteria* for the development, redevelopment, rezoning or consent use property.

4.6 REQUIREMENTS FOR THE PLANNING AND DESIGN OF WORKS

- i) All aspects of a contract which will/may generate a noise impact during any phase of the contract must be identified during the planning phase. Where the complexity of the project is such, a detailed noise impact study must be undertaken. This may be part of an overall environmental impact assessment or may be a lone-standing study as dictated by the nature of the project. The necessary mitigating measures, noise standards and criteria must also be identified.
- ii) During the design phase, the necessary mitigating measures, where applicable, must be included in the design and/or the noise control measures/criteria must be included in a construction environmental management plan/programme.

4.7 REQUIREMENTS FOR THE UNDERTAKING OF A NOISE IMPACT STUDY

- i) As and where necessary, a comprehensive noise impact study is to be undertaken. The procedure is to be in accordance with the South African National Standard SANS 10328.
- ii) The investigation is to include the following detail as summarised in the requirements for the investigation report:
 - a) The purpose of the investigation.
 - b) A description of the planned development, changes that are being considered, or the specific noise problem being investigated.
 - c) A description of the existing environment, including the topography, built environment, surface conditions and meteorological condition. This is to include all aspects which may effect the noise climate.
 - d) The identification of the noise sources that may affect the particular environment, together with their respective sound pressure levels or sound power levels (or both) and, where applicable, operating cycles, nature of sound emission and directional characteristics.
 - e) The identified noise sources that were not taken into account and the reasons why they were not investigated.
 - f) Any assumptions, with references, made with regard to any calculations or determination of source and of propagation characteristics.

- g) An explanation, either by description or by reference, of all calculation and measuring procedures that were followed, as well as any possible adjustments to existing measuring methods that had to be made, together with the results of calculations.
- h) An explanation either by description or reference of all measuring and/or calculations methods that were used to determine existing and predicted rating levels, as well as other relevant information, including a statement of how the data were obtained and applied to determine the rating level for the area in question.
- i) The location of measuring and/or calculating points on a standardised map.
- j) Quantification of the noise impact.
- k) Description of the existing noise climate (qualitative assessment) and potential changes, where relevant.
- l) Alternatives that were considered and the results of those that were investigated.
- m) Conclusions that were reached.
- n) Recommendations.

4.8 REQUIREMENTS FOR ENVIRONMENTAL MANAGEMENT PLANS/PROGRAMMES

- i) Environmental management plans/programmes (EMP) are required for the construction phase of all projects and, where necessary, for the operational phase. All of the environmental management actions and controls must be specified in the construction contract documents. From the noise management and control perspective in the EMP, the following need to be specified:
 - Noise levels which are not to be exceeded,
 - Limitations on working times,
 - Special requirements for any specific aspect of the works.
 - Required mitigating measures.
- ii) Where the nature of the project/investigation is such that noise is the only relevant issue, the construction EMP will become a simplified specification of noise controls and standards.

4.9 REQUIREMENTS FOR ADDRESSING NOISE DISTURBANCE/NUISANCE COMPLAINTS

The following procedure is to be followed upon the receipt of any noise complaint:

- i) Establish full details of the complaint as indicated in Section 4.4.
- ii) Inform the noise control officer and register the complaint on the noise complaint register (Refer to Section 4.4).
- iii) Investigate the problem:
 - a) Check all background information relating to the noise criteria status of the noise source and details of the target area.
 - b) Check legality of land uses.
 - c) Ascertain full detail of the noise disturbance/nuisance.
 - d) Undertake noise impact study, if necessary.
 - e) When relevant, issue warning and noise abatement requirements to the transgressor.
 - f) Monitor.
 - g) Where compliance is not forthcoming, institute legal proceedings.

5. REFERENCES

The following legislation, regulations, codes of practise, standards and guidelines are essential complementary references to this Policy.

- i) Central Government Legislation:
 - a) Environment Conservation Act, 1989 (Act No 73 of 1989).
 - b) Constitution of the Republic of South Africa Act, 1996 (Act No 108 of 1996).
 - c) National Environmental Management Act (Act No 107 of 1998).
 - d) Occupational Health and Safety Act, 1993 (Act No 85 of 1993).
 - e) Regulations Regarding Activities Identified under Section 22(1) of the Environment Conservation Act, 1989 (as published in the Government Gazette No 18261 of 5 September 1997).
 - f) White Paper on Environmental Management Policy for South Africa, May 1998 (as published in the Government Gazette No 18894 of 15 May 1998).
 - g) National Noise Control Regulations.

ii) Provincial Legislation:

- a) Gauteng Provincial Government Noise Control Regulations (as published in the Gauteng Provincial Gazette Extraordinary, Volume 5 Number 75 of 20 August 1999).

iii) South African National Standards:

- a) SANS 10103:2003, *The Measurement and Rating of Environmental Noise with Respect to Land Use, Health, Annoyance and to Speech Communications.*
- b) SANS 10117:2003, *The Calculation and Prediction of Aircraft Noise around Airports for Land Use Purposes.*
- c) SANS 10181 (SABS 0181), *The Measurement of Noise Emitted by Road Vehicles when Stationary.*
- d) SANS 10205 (SABS 0205), *The Measurement of Noise Emitted by Motor Vehicles in Motion.*
- e) SANS 10210 (SABS 0210), *Calculating and Predicting Road Traffic Noise.*
- f) SANS 10218-1 (SABS 0218-1), *Acoustical Properties of Buildings – Part 1 : The Grading of Buildings According to their Airborne-Sound Insulation Properties.*
- g) SANS 10218-2 (SABS 0218-2). *Acoustical Properties of Buildings – Part 2 : The Assessment of Building Plans and Buildings with Respect to their Acoustical Properties.*
- h) SANS 10328 (SABS 0328), *Methods for Environmental Noise Impact Assessment.*
- i) SABS ISO 14000 series on Environmental Management Systems:
- SABS ISO 14001:1996, *Environmental Management Systems Specifications with Guidance for Use.*
 - SABS ISO 14001:1996, *Environmental Management Systems – General Guidelines on Principles, Systems and Supporting Techniques.*

- iv) British Standards: BS 5228-1, *Noise and Vibration Control on Construction and Open Sites – Part 1 : Code of Practice for Basic Information and Procedures for Noise and Vibration Control.*

- v) International Standards Organisation (ISO) Publication: ISO 3095, *Acoustics –*

Measurement of Noise Emitted by Railbound Vehicles.

- vi) Department of Environmental Affairs and Tourism Publications:
 - a) *The Integrated Environmental Management (IEM) Procedure Guideline Series, 1992* (6 documents).
 - b) *Integrated Environmental Management Information Series, 2002*, ISBN 0797039767. As at June 2004 seventeen of the proposed twenty documents in the series have been published.
 - c) A National Strategy of Integrated Environmental Management in South Africa, April 1998 (as at June 2004 this was still a discussion document).
 - d) EIA Regulations Guideline Document *Implementation of Sections 22 and 26 of the Environment Conservation Act, April 1998*.
- vii) UK DEPARTMENT OF TRANSPORT, 1995, *Calculation of Railway Noise*, HMSO, London.
- viii) UK DEPARTMENT OF TRANSPORT, 1995, *Calculation of Railway Noise (Supplement No. 1)*, HMSO, London.
- ix) US DEPARTMENT OF TRANSPORTATION, US FEDERAL RAILROAD ADMINISTRATION, 1998, *High-Speed Ground Transportation Noise and Vibration Impact Assessment*, Washington DC.
- x) US DEPARTMENT OF TRANSPORTATION, US FEDERAL TRANSIT ADMINISTRATION, 1995, *Transit Noise and Vibration Impact Assessment*, Washington DC.
- xi) TRANSPORTATION RESEARCH LABORATORY, 1997, *The Prediction of Noise from Road Construction Sites*, TRL, Crowthorne, UK.
- xii) City of Tshwane Town Planning Scheme.