

Noise Impact Assessments



*Sound is such a common part of everyday life that we rarely appreciate its functions. Yet, too often in our society, sound annoys us. Many sounds are unpleasant or unwanted; these are called **noise**. The inconveniences caused by noise are fast becoming recognized by growing numbers of the general public. For instance, social surveys from various parts of the world indicate that the noise from surface traffic gives rise to more neighbourhood dissatisfaction than aircraft noise. It is important for today's industries to recognize their contribution to the noise climate and aid in the reduction of noise.*

What is Noise?

Noise may be defined as any pressure variation (in air, water or other medium) that the human ear can detect. These pressure variations travel through any elastic medium (such as air) from the source of the sound to the receiver.

From a regulatory perspective, noise can be defined as "any sound which annoys or disturbs humans or which endangers or injures the safety or health of humans."

Why Measure Noise?

Noise measurements provide definite quantities which describe and rate sounds, and permit precise, scientific analysis of annoying sounds. These measurements can be compared to local, provincial or federal guidelines and regulations to determine if noise levels in a particular area are in compliance with recognized noise level criteria.

From this, noise abatement measures can be introduced to bring the noise climate to acceptable levels.

Noise measurements are most frequently associated with indoor noise levels in factories and warehouses. But, more recently, outdoor noise levels have been measured for compliance with residential and industrial standards.



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Why Conduct a Noise Impact Assessment?

To Identify Baseline Noise Conditions...

A Noise Impact Assessment (NIA) is most often used to determine baseline noise conditions in an area planned for development. Noise measurements are taken at key locations surrounding the proposed area such as residences, commercial establishments and in wildlife areas.

The baseline data can be used as a reference for subsequent assessments to determine a change in the noise climate during and after development.

To Predict Noise Levels Associated with New Developments ...

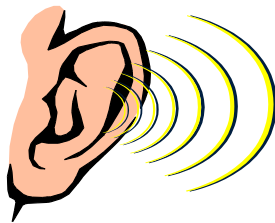
The baseline data gathered in a NIA can also be used in predictive modeling scenarios to estimate the change in noise levels from the new development.

Based on gathered noise information, known noise levels from similar developments and an understanding of local environmental conditions, models can be produced that will accurately predict future noise levels.

To Comply with Regulations and Provide Due Diligence...

Noise Control Directives, Bylaws and Occupational Health and Safety Regulations govern noise in our environment by providing criteria for acceptable noise levels and duration of exposure for workers, residential areas and the general public.

A NIA can determine whether or not a company, or individual, is in compliance with these regulations and thereby provide evidence of due diligence in adhering to these regulations.



To Provide Recommendations for Further Monitoring, Noise Abatement or Planning Strategies...

A NIA may provide a basis for evaluating the need for a long term monitoring program to assess change as a construction project develops. The NIA may be used to suggest noise abatement methods to reduce the amount of noise in an area. Or the NIA may be used proactively to predict future noise levels which may result in a change to the development's plans.

Who should conduct a Noise Impact Assessment?

A NIA should be conducted by a person or organization that possesses the knowledge to provide a technically sound and rational report through an appropriate combination of formal education, skills, experience, and training.

They should be familiar with applicable federal, provincial and municipal legislation and published guidelines used to evaluate noise levels.

They should also have access to up-to-date monitoring equipment and analysis software.

What standards or guidelines apply when completing a Noise Impact Assessment?

Several standards and guidelines are available for conducting noise measurements in Canada and the United States. The Canadian Standards Association (CSA), American National Standards Institute (ANSI), Canadian Mortgage and Housing Corporation (CMHC) and many industry leaders have developed guidelines and standards for measuring noise levels in different environments.

Federal, Provincial and Municipal Regulations and Bylaws also apply to the methods used to conduct noise level measurements.

Green Plan Ltd. and Noise Impact Assessments:

Green Plan Ltd. has a highly qualified team of noise consultants who have completed many Noise Assessments for businesses and industry. Green Plan Ltd. applies the highest standards from such organizations as the Canadian Standards Association, Alberta Energy and Utilities Board, Canadian Mortgage and Housing Corporation and American National Standards Institute and specific standards applied by industry, and government to all Noise Assessments.

If you have any questions regarding Noise Impact Assessment or Noise Level Measurements call Green Plan Ltd. at (780) 455-4292 in Edmonton.