Minimizing Operations Noise

What does Walker do to minimize noise?

At Walker, we design our sites to operate within noise limits prescribed by The Ministry of the Environment, Conservation and Parks (MECP) and continually look for ways to reduce noise from our operations. Things we do at various sites include:

- Design sites using berms and other appropriate sound barriers
- Place monitors on site and at sensitive receptor points to monitor sound levels
- Plan reasonable operating hours to avoid disruption to surrounding communities
- Replace back-up beepers on Walker's equipment with broad band alarms, designed to be heard within close proximity to the equipment and limits off-site noise
- Line trucks, and equipment with thick sound-dampening rubber
- Locate the crushing plant on the quarry floor
- Locate the portable primary plant near the extracted stone
- Organize on-site traffic flow to minimize backing up of highway trucks
- Enclose crushers and transfer points on the plant
- Line transfer points with rubber to deaden noise of falling stone
- Employ a preventative maintenance program on all equipment
- Only load vehicles with a Ministry approved exhaust system
- Design blasts to minimize noise impacts

What is noise, how is it measured and regulated?

Sound (noise) is a wave that travels in a straight line from its source to a receptor. A receptor is a place on a property where sound originating elsewhere is received by a person.

The MECP has identified a number of receptors that are considered sensitive including; homes, schools, hospitals, nursing homes, retirement homes and daycares.

Industry noise can be disruptive depending on the type, how far it travels, and the background noise level in the surrounding area. For example, an operation in a quiet rural area would be noticed more than the same operation in an urban area, by a highway or in an industrial area. A noise in the quiet of night would be more noticeable than the same noise during the day.

walker

walkerind.com

Minimizing Operations Noise

What are the noise limitations?

The MECP places strict limits on noise resulting from quarry operations and how that noise is perceived by sensitive receptors.

MECP Noise Limits for Stationary Sources		
Time of Day	**One hour Leg (dBA)**	
	Urban and Rural Areas	**Rural Areas**
07:00 - 19:00	50	45
19:00 - 07:00	45	40

Sound is measured in decibels (dB), but what does that mean to the average person?

Typical Sound Levels in Decibels	
130	Jet Take off (60 m)
120	Rock concert, pop group, disco dance floor
100	Arena during playoff hockey (max. levels)
90	Kitchen blender / Lawn Mower (15 m)
80	Ringing alarm clock (1 m) / Inside sports car 90 km/h
70	Subway Train (15 m), Freight train (30 m) Well-projected speech (1 m)
60	Large store, Shopping mall
50	Residential area, Downtown at night
40 - 50	MECP Noise Limits during operating hours
40	Suburban residential areas at night
30	Soft whisper (1.5 m)
0	Pin drop / Threshold of hearing

NOTE: The references to metres (m) in the above chart is how far away the person is from the source of noise.

dBA: A-weighted decibels are an internationally standardized frequency weighting applied to sound levels. They approximate the sensitivity of human hearing as a function of frequency. i.e. If a person hears two sounds of the same pressure but different frequencies, one sound may seem louder than the other. This happens because people hear high frequency noises better than low frequency noises. dBa is the adjusted measurement to correspond to this peculiarity of human hearing.

Leq: Descriptor used in noise impact assessments. It takes into consideration that sound levels are constantly changing. Leq is the level of a steady sound carrying the same total sound energy over a given time interval as the fluctuating sound. For stationary noise source assessments (quarries) a one hour time period is used.