











Date Revised:	March 2021	Overall Task Risk Rating:	Before Controls	<b>A</b>	After Controls	<b>C</b>
Description:	Activities that produce loud noises or activities that may expose workers to hearing loss from exposure to noise above the allowable exposure limits. Gazzola employees are commonly exposed to noise from equipment used & activities performed on projects including: equipment engines, power drilling / sawing, air hammering / blasting, compressors, drills, jack hammers and quick cut saws.					
Location(s):	(Shop; Asphalt Plant; Construction Projects)					
Associated Documents:	None					

**RED FLAGS (HOLD WORK UNTIL CORRECTED):**

Note:

- If hearing protection devices are not available when working around loud noise equipment.

**PERSONAL PROTECTIVE EQUIPMENT (CSA APPROVED)**

									
Head Protection	Foot Protection	High-Vis Protection	Hearing Protection	Hand Protection	Eye Protection	Respiratory Protection	Skin Protection	Face Protection	Fall Protection
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note:

Additional PPE Required

- When onsite one must adhere to the minimum site requirements (i.e. Safety Boots, Hard Hat & High Visibility Protection). Safety Glasses when necessary or required by SDS's
- Using more than one hearing protection device may be required depending on the noise measurement levels

**SAFE WORK PRACTICES (SWP)**

**NOISE:**

- Noise has been labelled as “unwanted sound due to the adverse effects and stress it causes.” The hearing loss resulting from excessive noise is extremely serious and irreversible. It happens when small cells in the delicate inner ear are destroyed or damaged by loud noise. Hearing loss risk depends on several key factors:
 

<b>Type of noise</b>	Continuous, intermittent, impact, high or low frequency.
<b>Intensity of noise</b>	Level of loudness.
<b>Duration of exposure</b>	Length of time worker subjected to noise – for example, during day, on specific shifts.
<b>Employment duration</b>	Years worker subjected to noise.
<b>Type of noise environment</b>	Character of surroundings – for example, enclosed, open, reflective surfaces.
<b>Source distance(s)</b>	Distance of worker from noise source.
<b>Worker’s position</b>	Position of worker relative to noise source.
<b>Worker’s age</b>	For instance, a 20-year-old apprentice versus a 50- year-old journeyman.
<b>Individual susceptibility</b>	Sensitivity difference, physical impairments.
<b>Worker’s present health</b>	Whether a worker has any detectable losses or ear diseases.
<b>Home and leisure activities</b>	Exposures to noise other than occupational, such as hunting, skeet shooting, earphone music, snowmobiling, etc.
- Damage is estimated to occur in workers when the noise level of 85 dBA or greater is experienced over a period of 8-hours/per day. Noise risks and exposure must be controlled so that workers are safe. If sound is in excess of the legal limits, employers must comply and implement protective measures.

**Table 1 Details legal obligations under the Occupational Health and Safety Act (OHSA)**

<b>Table 1</b>		
<b>Noise Exposure Limits when Criterion Level = 85 dB(A)</b>		
3 dB(A) Exchange Rate	Maximum Permitted Daily Duration (hours)	5 dB(A) Exchange Rate
Allowable Level dB(A)		Allowable Level dB(A)
85	8	85
88	4	90
91	2	95
94	1	100
97	0.5	105
100	0.25	110

- Use Table 2 to compare typical construction noise levels with the work you are performing. Note: If more than one activity is being performed near the same location the noise levels will increase. Chose your protection based on the highest noise levels.

**Typical Noise Level Measurements for Construction**

**Table 2**

* EQUIPMENT	NOISE LEVEL (DBA) AT OPERATOR'S POSITION
Cranes	78 – 103
Backhoes	85 – 104
Loaders	77 – 106
Dozers	86 – 106
Scrapers	97 – 112
Trenchers	95 – 99
+ Pile drivers	119 – 125
Compactors	90 – 112
+ Explosive-actuated tools	120 – 140
Grinders	106 – 110
Chainsaws	100 – 115
Concrete saw	97 – 103
Sand blasting nozzle	111 – 117
Jackhammers	100 – 115
Compressors	85 – 104

\* Generally, newer equipment is quieter than older equipment.

+ Pile drivers and explosive-actuated tools generate intermittent or “impulse” sound.

## General Safe Work Practices:

- Workers who are uncertain how to work safely around noise are to ask their foreman/superintendent for assistance before starting and/or refer to the equipment operating manual for noise levels.
- Start the work only when you are certain that you understand the work, the hazards and you have implemented the appropriate controls.
- Unsafe conditions and situations must be reported to Foreman/Superintendents immediately (and stop work until the hazard is controlled).

## Preventing Noise Hazards

- It shall be ensured that noise emission data is obtained from the supplier or manufacturer. As far as practicable, preference shall be given to plant and equipment with low noise emissions (levels lower than 85 dB(A)).
- Where the work activity involves installing more than one item in the same location, the combined noise level is not to exceed 85 dB(A) (where practicable).
- New work areas are to be designed and laid out such that the noise level is maintained at the lowest possible level.
- Noise assessment shall be conducted to determine the exposure of noise for workers at risk of being exposed to excessive noise.
- Work areas with excessive noise levels are to be designated as mandatory hearing protection areas (e.g. using signage) if alternative noise level reduction controls are not reasonably practicable.
- Appropriate Hearing Protection Device (Ear Plugs/ Ear Muffs) to be used according to noise levels.

## TRAINING

All workers who wear Hearing Protection Devices (HPDs) must be trained to fit, use, and maintain the protectors properly. Workers must be instructed in the proper fitting of HPDs as recommended by the manufacturer. Training should include a demonstration. Workers should then practice using the HPDs under supervision. Checks are needed to ensure the best possible protection.

Workers should understand the following:

- that there is risk of hearing loss increases if HPDs are not worn in noisy environments (eight-hour exposure of 85 dBA).
- that wearing HPDs is required in all situations where noise exposure may damage hearing.
- that to be effective an HPD must not be removed even for short periods.
- that various HPDs are available to accommodate differences in ear canal size, jaw size, head size and shape, comfort level, compatibility with other forms of PPE, etc.
- that proper fit is essential to achieve maximum protection.

## Choosing the Correct Hearing Protection

CSA Standard Z94.2, Hearing Protectors, identifies classes of hearing protectors as A, B, and C. Class A protectors offer the highest ability to attenuate, followed by B and C.

Use Table 3 to identify proper hearing protectors based on noise.

### Recommended Class of Hearing Protector

Table 3

MAXIMUM NOISE LEVEL (dBA)	RECOMMENDED CLASS OF HEARING PROTECTOR
Less than 85 dbA	No protection required
Up to 89 dBA	Class C
Up to 95 dBA	Class B
Up to 105 dBA	Class A
Up to 110 dBA	Class A plug + Class A or Class B muff
More than 110 dBA	Class A plug + Class A or Class B muff and limited exposure

JOB HAZARD AND RISK ANALYSIS		RISK RATING SYSTEM			
		A	B	C	
		A	B	C	
		High risk of injury or equipment / property damage.		Medium risk of injury or equipment / property damage.	Low risk of injury or equipment / property damage.
TASK HAZARDS	RATING BEFORE CONTROLS	TASK CONTROLS		RATING AFTER CONTROLS	
<ul style="list-style-type: none"> <li>Lack of training and education</li> </ul>	<b>C</b>	<ul style="list-style-type: none"> <li>Workers receive training and demonstration on proper use of hearing protection devices</li> <li>Workers who may be exposed to noise will receive training regarding the potential hazards and controls</li> </ul>		<b>C</b>	
<ul style="list-style-type: none"> <li>Lack of proper PPE</li> </ul>	<b>B</b>	<ul style="list-style-type: none"> <li>Workers exposed to high noise levels must use hearing protection (Ear Plugs/ Ear muffs) in addition to all required PPE</li> <li>Workers shall wear appropriate PPE where the potential exposure of noise cannot be reduced below the occupational exposure limit</li> <li>Ensure all workers are trained in the PPE that they require</li> </ul>		<b>C</b>	
<ul style="list-style-type: none"> <li>High Noise Levels</li> </ul>	<b>A</b>	<ul style="list-style-type: none"> <li>Monitor noise levels to determine if allowable exposure limits are exceeded (85dBA over an 8-hour period)</li> <li>Ensure workers wear CSA approved hearing protection appropriate for the noise levels to which they may be exposed</li> </ul>		<b>C</b>	

SAFE JOB PROCEDURES (SJP)
<ol style="list-style-type: none"> <li>Complete the Daily GAZZ Card and review with all workers the shift's tasks with associated noise hazard and the associated control strategies</li> <li>Ensure all workers understand the GAZZ Card contents, and sign off in acknowledgement</li> <li>Ensure controls are in place prior to commencing work so risks are mitigated / eliminated</li> <li>Ensure noise-related risks are identified and understood by employees</li> <li>Determine what equipment / machinery / tools and material, are required for the completion of the task</li> <li>Inspect all equipment / machinery / tools prior to use and document the inspections on appropriate forms when required</li> <li>Ensure preventative maintenance activities have been completed where required, prior to using equipment / machinery / tools</li> <li>Determine the source of the noise by examining equipment and the workplace</li> <li>Follow CSA Standard Z107.56-06 Procedures for the Measurement of Occupational Noise Exposure when undertaking noise assessments</li> <li>When Practical, Substitute noisy operations or equipment with quieter ones</li> <li>When Practical, Change the way equipment operates so noise output is reduced (e.g. slower speeds, vibration reduction through dampening or bracing, tool silencers, improved lubrication, etc.)</li> <li>Undertake proper and regular maintenance of equipment</li> <li>Pay Attention to any irregular increase in sound levels</li> <li>Isolate the equipment either with the use of sound absorbent materials, enclosures, barriers or by separating noisy processes from the quieter areas when and where possible</li> <li>Ensure workers are wearing hearing protection in high noise areas</li> <li>Provide workers with appropriate personal protective equipment Including the hearing protection device appropriate for the noise level (Ear Plugs/ Ear Muffs) and Applicable training</li> <li>Ear protection must be securely put deep into the ear canal until the user feels they have properly sealed out harmful sounds around them.</li> </ol>