AVCON
CONSTRUCTION INC.

Corporate Health & Safety Policy
and
Accident Prevention Program

FIELD EDITION

Table of Contents

REVISIONS OF THIS POLICY

Date of Revision	Changes/Topics	No Changes (Official's Initial)	Today's Date	Signature

EMERGENCY CONTACT NUMBERS

AVCON Construction Inc. Head Office	**(416) 245-7700**
AVCON Construction Inc. Fax	**(416) 245-8918**
President	_____
H & S Representative	_____
M.O.L	**1-877-202-0008**
Emergency Services (Police, Ambulance, Fire Department)	**911**

INTRODUCTION

AVCON Construction Inc. is a 100% Canadian owned and operated company with the corporate head office located in Port Credit, Ontario.

Through hard work and commitment to excellence, we are able to provide superb service to all of our clients regardless of their needs or location. We are also committed to applying the same approach to health, safety and environmental concerns.

Our Manual's Purpose and Scope

The AVCON Construction Inc.'s Health and Safety Policy and Accident Prevention manual contains policies and procedures applicable to all workers, contractors, and employees alike regarding safety, health, and environmental responsibilities on AVCON Construction Inc.'s projects and for work performed for AVCON Construction Inc. Employees and contractors should review the sections of this manual that are appropriate to the work to be performed. This manual does not replace existing site procedures or operational specifications outlined by our Clients, Architects or Professional Engineers. Approved site-specific procedures or manufacturing instructions must be followed where applicable. This manual does not relieve employees and contractors of their responsibility for safety, health, and environmental compliance under law, act, or regulation. The manual does not address all possible circumstances and hazard control methods and therefore it is not a definite guide to personal health and safety. Therefore, workers and supervisors must identify actual and potential hazards prior to starting the task and develop and implement adequate controls.

The way this manual is organized

This manual is organized as a reader friendly document that outlines workplace parties' duties and responsibilities starting with the President. In addition to duties and responsibilities of individual parties, this manual also outlines generic and specific guidelines designed to protect workers' health and safety.

General Information

Non-compliance with safety or environmental requirements is treated with highest priority and may result in work stoppage or employee removal from the premises**.** Willful or repeated non-compliance may result in termination. Compliance with federal, provincial, and local codes or regulations is required by law**.** This Health and Safety Manual is a supplementary document to governmental rules, codes, and regulations having jurisdiction, and does not negate, abrogate, or minimize any provisions of these rules, codes, and regulations**.** It is intended to supplement and enforce existing requirements and to coordinate the overall safety effort**.** Supervisors are responsible for the safety and health of their employees, all contractors, consultants, vendors, suppliers, and visitors while on AVCON Construction Inc.'s projects.

Safety is considered an integral part of quality control, cost reduction, and job efficiency**.** Managers and supervisors are accountable for the safety performance demonstrated by their employees. This Health and Safety Policy and Accident Prevention Manual will be updated **annually** using addenda to the current revision**.** Each addendum is approved by the Joint Health and Safety Committee (if established), and the President.

This manual is revised and reprinted annually when necessary, as determined by the committee. Bound and printed copies of this manual be obtained from AVCON Construction Inc.

Goals and Objectives

The goals of the safety program are listed below:

- eliminate accidents and work-related illnesses
- achieve zero fatalities, zero permanent disabling injuries, and zero lost workday cases
- prevent MOL orders, fines and penalties
- eliminate releases to the environment and prevent environmental harm

The main objective of the safety program is to support and assist supervisors/foreman and employees with their responsibility to control the exposures and prevent the incidents that may cause injuries, illness, fatalities, equipment damage, fire, and damage or destruction of property.

HEALTH AND SAFETY POLICY STATEMENT

The management of AVCON Construction Inc. is committed to providing a safe, healthy environment at all of our operating locations. We are dedicated to identifying, correcting and preventing health, safety and environmental hazards that could adversely affect our employees, customers or the general public. Management is committed to ensuring that all applicable regulatory health, safety and environmental protection requirements are complied with and that adequate resources are provided to ensure the health and safety of our employees as well as the preservation of the environment to this end.

It is our policy to provide a healthy and safe work environment for employees at every level through awareness and prevention of occupational injuries and illness. The objective of our company's Health and Safety Program is to reduce work-related accidents (thereby injuries) and illness and to promote health and safety in every task undertaken by employees on behalf of the company.

To this end our Health and Safety Program will include:

1. implementation of a program for conducting routine health and safety inspections to identify and eliminate unsafe working conditions or practices and control health hazards.
2. a comprehensive health and safety training program for all new and existing personnel.
3. provisions for the use of personal protective equipment by all employees.
4. provisions for mechanical and physical safeguards to the maximum extent possible.
5. company-wide health and safety policies requiring every employee of the company to comply with these policies as a condition of employment.
6. provisions for a thorough and prompt investigation of every accident to determine its cause; correct the problem and reduce the likelihood of it reoccurring.
7. a safety incentive program for promoting health and safety, encouraging the active participation of all employees, and acknowledging, through rewards, individuals whose safety record exemplifies the standards set forth in this program.

Copies of this policy will be posted, distributed and explained to all workers. Compliance with this policy will be reviewed regularly at all employee levels. All violations will be recorded. Repeated disregard or willful violations of this policy by any subcontractor or employee at any level may be considered cause for discipline in accordance with the Occupational Health & Safety Act and existing laws.

Regards,

_____
AVCON Construction Inc.
President

December 1, 2019

ENVIRONMENTAL POLICY STATEMENT

At AVCON Construction Inc., we believe that all employees, supervisors and managers shall behave in a way that protects and preserve the environment. We are committed to protecting the environment and resources in all areas affected by our activities.

Compliance to environmental legislation pertinent to our activities or those of our clients is a minimum requirement and an integral part of our policy.

It is the company's policy to:

- comply with applicable environmental laws and regulations at all levels of authority municipal, provincial and federal.
- protect the environment from adverse effects of production operations.
- provide any information in our possession on the most appropriate health, safety and environmental management and waste disposal practices to be utilized.
- conduct workplace audits and walk-through surveys to ensure compliance.
- promote awareness and education.
- stay informed of any law changes and waste disposal requirements.
- maintain all equipment, cranes and vehicles in the manner that prevents leaks, spills and discharge of petrochemical product on the soil or concrete surfaces.

Regards,

_____
AVCON Construction Inc.
President

December 1, 2019

VIOLENCE & HARASSMENT AND SEXUAL HARASSMENT POLICY STATEMENT

The purpose of this policy is to maintain a working environment that is free from violence/harassment and any retaliation for reporting same. AVCON Construction Inc. will not tolerate behaviour from anyone who intimidates, threatens, harasses abuses, injures or otherwise victimizes employees/contractors, and will take appropriate steps to protect all employees/contractors from the potential risks associated with workplace violence/harassment. Complaints will be investigated and resolved quickly and confidentially.

NB: Reference to Harassment shall include Workplace Harassment & Sexual Harassment as defined in the OHSA.

AVCON Construction Inc. is committed to providing all personnel with a workplace free from violence, harassment and discrimination in any form (whether prohibited by human rights legislation or otherwise), and where all individuals are treated with respect and dignity. The Company recognizes its important responsibilities in relation to worker health and safety, and we will take whatever steps are reasonable to protect our workers from workplace violence and harassment from all sources, including, but not limited to, visitors, clients/customers, or delivery personnel. The Company will not tolerate incidents of workplace violence, harassment or discrimination; and we will act swiftly and efficiently to address all such matters that come to our attention. Any worker who is found to have violated the Company Workplace Violence and Harassment Policy will be subject to appropriate discipline, up to and including termination of employment. Visitors, clients, and delivery personnel are also required to comply with the requirements of this Policy; and violations may result in removal from the premises or termination of any business relationship with the Company.

“Workplace harassment” means engaging in a course of vexatious comment or conduct against a worker in a workplace that is known or ought reasonably to be known to be unwelcome. Harassment may relate to any form of discrimination as set out in the Ontario *Human Rights Code* (the "Code"); however, the definition is not limited by the Code.

“Workplace violence” means: the exercise of physical force by a person against a worker, in a workplace, that causes or could cause physical injury; an attempt to exercise physical force against a worker, in a workplace, that could cause physical injury; or a statement or behaviour that is reasonable for a worker to interpret as a threat to exercise physical force against the worker, in a workplace, that could cause physical injury. Workers are encouraged to report any incidents of workplace harassment to Company Management. Management will investigate and deal with all concerns, complaints or incidents of workplace violence or harassment in a fair and timely manner, while respecting workers’ privacy as much as possible.

Any individual who exercises his or her rights under this Policy in good faith has the right to do so without fear of retaliation or reprisal (or the threat of retaliation or reprisal) for so doing.

Disciplinary action can result for any person who engages in retaliation or reprisal against any individual who submits a complaint under this Policy or who otherwise exercises any right or participates in any process set out under this Policy. The Company maintains a Workplace Violence and Harassment Program (the "Program") for the implementation of this Policy. The Program sets out (a) measures and procedures to protect workers from workplace violence and harassment, (b) means of summoning immediate assistance, and (c) a process for workers to report incidents and raise concerns.

"Workplace Sexual Harassment" means,

a. Engaging in a course of vexatious comment or conduct against a worker in a workplace because of sex, sexual orientation, gender identity or gender expression, where the course of comment or conduct is known or ought reasonably to be known to be unwelcome; or
b. Making a sexual solicitation or advance where the person making the solicitation or advance is in a position to confer, grant or deny a benefit or advancement to the worker and the person knows or ought reasonably to know that the solicitation or advance is unwelcome.

AVCON Construction Inc.'s Responsibilities

Risk assessments must be undertaken where employees are at risk of injury from violence on the worksite, or to identify/correct situations where such potential hazards exist. Employees/contractors will be clearly informed if they are working in an area where there is potential for violence/harassment.

The risk assessment must consider:

- the location and circumstances under which work will occur, and previous incidents at that site.
- occupational experience in similar workplaces.

AVCON Construction Inc. will implement appropriate procedures to minimize the risk to employees and contractors from violence/harassment, and ensure employees and contractors are trained in:

- how to recognize workplace violence.
- the policy, procedures and arrangements in place to minimize or eliminate workplace violence.
- appropriate responses, including obtaining assistance.
- appropriate procedures for reporting, documenting and investigating incidents.

Employee/Contractor Responsibilities

All employees and contractors must be familiar with and follow the procedures in place to protect themselves from workplace violence/harassment. Employees/contractors must immediately report all incidents of workplace violence/harassment to their supervisor. Employees/contractors are responsible for participating in worksite risk assessments and doing their part to lessen the associated risk.

Employees/contractors must not subject others to violence or harassment. No employee/contractor will be penalized, reprimanded or criticized when acting in good faith while following the procedures in place for addressing situations involving workplace violence/harassment.

Regards,

_____
AVCON Construction Inc.
President

December 1, 2019

ONTARIO ACCESSIBILITY POLICY STATEMENT

AVCON Construction Inc. is committed to providing an accessible environment in which all individuals have equal access to our goods and services in a way that respects the dignity and independence of persons with disabilities. Our company will ensure to promote inclusive environment that is considerate and accommodating for all individuals, including people with disabilities.

AVCON Construction Inc. will provide training to employees who deal with the public or other third parties on our behalf. We will ensure that our employees are trained and familiar with ways of communication, and in use of various assistive devices we have on site that may be used by persons with disabilities while accessing our goods or services.

We recognize the importance of service animals and allow them on the parts of our premises that are open to the public. A person with a disability who is accompanied by a support person will be allowed to have that person accompany them on our premises.

In the event of a planned or unexpected disruption to services or facilities for customers with disabilities, AVCON Construction Inc. will notify customers promptly. A posted notice will include the reason for the disruption, its expected length of time, and a description of alternative facilities or services, if available.

Comments and suggestions on how to make our premises more accessible and more inclusive are encouraged.

Any policy of AVCON Construction Inc. that does not respect dignity and independence of people with disabilities will be either modified or removed. We will continue to prevent attitudes which devalue and limit the potential of persons with disabilities by designing and supporting inclusive and positive attitudes.

Regards,

_____
AVCON Construction Inc.
President

December 1, 2019

PERSONS WITH DISABILITIES

Administration

The goal of the Accessibility for Ontarians with Disabilities Act, 2005 is to make Ontario accessible to people with disabilities by 2025. The Accessibility Standards for Customer Service has been created to ensure that goods and services are accessible to all Ontarians and that persons with disabilities are treated with respect, dignity, and equality.

AVCON Construction Inc. is committed to provide goods and services to persons with disabilities in a way that is consistent with the principles of independence, dignity, integration and equal opportunity. AVCON Construction Inc. policies, procedures, and practices have been created so that they adhere to the guiding principles established in the Accessibility Standards for Customer Service: Ontario Regulation 429/07.

Definition

Disability – the definition of a Disability is applicable under the Accessibility for Ontarians with a Disability Act may be found in the Ontario Human Rights Code. This is a condensed definition: Any degree of physical infirmity, malformation or disfigurement that is caused by bodily injury, birth defect or illness.

A condition of mental impairment or disorder, a developmental or learning dysfunction.

Epilepsy, paralysis, impaired vision or hearing, speech impediment, reliance on guide god, wheelchair or other assistive devices.

Access to Goods and Services

It is our policy to do our best to provide our services to disable customers by:

- providing access to the premises as far as possible by reasonable accommodation
- access to information in a format that accommodates a disability
- respecting the independence of disabled customers
- respecting the dignity of disabled customers
- considering integration and equal opportunity of disabled customers

While AVCON Construction Inc. does not currently provide goods or services directly to the public, we are committed to ensuring that any customer with a disability can access our goods and services.

As such, we will ensure the following:

- **Support Persons** - It is the policy of AVCON Construction Inc. to allow disabled customers to be accompanied by a support person when accessing AVCON Construction Inc.'s goods and services.

- **Service Animals and Assistive Devices** - It is AVCON Construction Inc. policy to allow service animals on the premises and in all situations where a disabled customer requires the service animal to access AVCON Construction Inc. goods and services.

- **Temporary Disruptions** - In the event of a planned or unplanned disruption to any services or facilities where we serve the public, AVCON Construction Inc. will post a notice in a conspicuous place that clearly states the reason for the disruption, the anticipated length of time, and a description of alternative services, if available.

- **Training -** Employees and others who deal with the public on behalf of AVCON Construction Inc. will be trained on our policies as they relate to the Accessibility for Ontarians with Disabilities Act, 2005. AVCON Construction Inc. workers will also be trained on and be familiar with any assistive devices available on site or that may be used by any customers with a disability while accessing our goods and/or services.

- **Feedback** - AVCON Construction Inc. will accept feedback from anyone who has any concern about the Accessibility Program. Feedback may be submitted in writing, by email or by telephone to the H & S manager. Please direct your feedback to AVCON Construction Inc.'s head office.

- **Availability of Documents** - All documents relating to the Customer Service Standard of the Accessibility for Ontarians with Disabilities Act (AODA) will be made available upon request and in a format reasonably accommodating Disabilities. You can make a request in writing, by email or by telephone. Please address your request to AVCON Construction Inc.'s head office.

Our accessibility policy will be reviewed and/or updated at a minimum of every five (5) years or as often as necessary.

LEGALIZATION OF CANNABIS - SUBSTANCE ABUSE POLICY

It has long been recognized that the use or abuse of drugs, alcohol, medications and other substances can significantly impair a person's ability to work in a safe manner. It is therefore the intent of this policy to identify acceptable safe job performance and outline our position of the use and/or possession of illegal drugs, alcohol, medications and other substances that impairs one's performance while at work. We will not randomly test for drugs and/or alcohol but advise you that the use and/or possession of these substances while at work, prior to reporting for work, or being unfit for work due to the use of these substances, are a major breach of company policy and are grounds for immediate dismissal. Everyone in the workplace has responsibility to be fit for their duties. Employers and supervisors have responsibility to provide safe workplace for everyone and take reasonable precautions for protection of workers.

Impairment and cannabis legalization

The federal government's legalization of recreational cannabis on **October 17, 2018** has brought forward the issue of workplace impairment. Workplace parties should examine the possible workplace hazards posed by impairment arising from substance use, including cannabis. As of October 17, 2019, licensed producers can begin submitting their edible and topical products to Health Canada. These products will then be subjected to a 60 -to-90-day approval and procurement process.

"**The risk of cannabis-related medical emergencies may also increase, due to a lack of knowledge about edibles. The human body processes cannabis more slowly when it is eaten than when it is smokes, so it takes longer for the high to kick in – sometimes 60 minutes or more. Inexperienced users may become impatient and eat more, putting themselves at risk for a medical episode. The time a person spends impaired is also usually longer after consuming edibles than after smoking or vaping cannabis."** Source: Conference Board of Canada

In response to federal legalization, Ontario has developed a balanced and responsible approach to recreational cannabis, which includes ensuring the continued protection of worker health and safety in the province's workplaces. Under AVCON Construction Inc. Alcohol and Drug Policy in Ontario, we continue to have **zero tolerance** with regard to the workplace "use or impairment by drugs, alcohol or other intoxicating substances, whether legal or illegal."

As an employer, AVCON Construction Inc. has a legal obligation under the Occupational Health and Safety Act to ensure the safety of its workforce as well as its contractors, suppliers and other personnel at the worksite. Cannabis use has an impairing effect, and these impairing effects pose significant safety risks that are incompatible with working in a safety sensitive environment. Most of the operational jobs at AVCON Construction Inc. are safety sensitive and may present potential or actual hazards (electrical, work at heights etc.).

As a result, AVCON Construction Inc. has and requires contractors and subcontractors hired to carry out the work on behalf of AVCON Construction Inc. to have alcohol and drug policies and supporting standards in place that address all substances which have a potential to impact safety, including cannabis, whether legal or not. The legalization of cannabis will not impact AVCON Construction Inc. approach to safety or how we enforce our Alcohol and Drug Policy and supporting standards.

Cannabis cannot be used in a way that will impact the fitness for duty of our employees or contractor's personnel while on AVCON Construction Inc. premises or jobsites. Workers are to be cautioned about its use prior to arriving at work and how it may impact their fitness for duty; All workers must arrive for work fit for duty.

Contractor's personnel and AVCON Construction Inc. employees must be aware of AVCON Construction Inc. requirements and the potential effects of cannabis use, including the potential impacts on their fitness for duty. Possession and use of recreational cannabis or any form of cannabis will continue to be prohibited on AVCON Construction Inc. premises and jobsites which means: It cannot be used on AVCON Construction Inc. premises; and all forms of cannabis, including in its dried form and all derivatives from the plant such as oils and edible products, cannot be brought onto any AVCON Construction Inc.'s premises or jobsites.

In accordance with AVCON Construction Inc.'s Contractor Alcohol and Drug Policy, all contractors that deploy personnel to AVCON Construction Inc. premises in Canada must have an alcohol and drug policy that meets or exceeds either AVCON Construction Inc. Alcohol and Drug Policy, and Project Specific Safety Program/Plan (as such policies may be amended from time to time).

AVCON Construction Inc. also recommends that contractor's encourage workers who suspect they may have a substance dependency or an emerging alcohol or drug problem to seek immediate assistance.

Contractors are responsible for ensuring that their subcontractors comply with AVCON Construction Inc. Contractor Alcohol and Drug Standard, and that their subcontractors are aware of AVCON Construction Inc.'s position with respect to the legalization of cannabis as set out in this policy and the related legislation.

AVCON Construction Inc.'s employees/contractors who do not want to enter the client's vicinity to carry out assigned tasks – if cannabis use is observed – are not required to do so. Report to AVCON Construction Inc.'s supervisor.

Also, any form of consuming (smoking, vaping, eating) of cannabis in a motor vehicle, is prohibited (for those driving or having control of the vehicle and for their passengers, and regardless of whether the vehicle is in motion).

SAFETY PROGRAM ADMINISTRATION

General Information

The purpose of this Manual is to establish, implement, and execute a practical and effective method for preventing accidents, illnesses, and injuries and protecting the environment.

This manual will help employees, our supervisors/foremen and subcontractors to recognize, to evaluate, and to control hazardous activities or conditions within their areas of contract responsibility**.** AVCON Construction Inc. will not assume or relieve subcontractors of the responsibility for employee and public safety or regulatory compliance.

This manual defines how the safety program will be administered, identifies responsibilities, and ensures control of work area safety. Relevant provisions of this manual apply to all employees. Contracts signed with subcontractors and the provisions of this manual are intended to complement each other; however, in the event of a conflict between the provisions of this manual and the terms of a specific contract, notify AVCON Construction Inc.'s supervisor/foreman immediately.

The provisions of this manual apply to all AVCON Construction Inc.'s employees. We are responsible for following the rules and regulations applicable to the workplace. If in disagreement of specific safety requests, you must contact AVCON Construction Inc.'s head office for further instructions.

Administration

The effectiveness of the safety program depends on establishing and maintaining a safety culture through the participation and cooperation of employees and coordination of their efforts in carrying out the following basic responsibilities:

- planning and coordinating work to avoid personal injury, property damage, environmental risk, and the loss of production
- establishing and maintaining a system for early detection and correction of unsafe practices and conditions
- developing an emergency plan for the work
- providing adequate protection of public and private properties and the environment and ensuring the safety of the public
- establishing and conducting safety education programs designed to stimulate and maintain the interest and participation of employees through use of the following:
    - safety meetings and communication
    - proper work procedures, personal protective equipment, and mechanical guards
    - safety instructions for individual employees and group safety training programs

- accident, illness, and potential safety incident investigation and reporting to determine causes and corrective actions
- records of accidents and losses and accident/loss experience summaries
- proper waste disposal and emission control procedures

Toolbox Meetings

Toolbox talks of 5 to 10 minutes must be held by supervisors **each week**. Employees never receive too much training, and therefore, our company relies upon crew supervisors/foreman to provide ongoing and continuous employee training.

The subject to each training talk should be chosen to relate to the type of work that is being performed.

Some examples include (this is not an exclusive list):

- the use of safety glasses when potential of eye injury exists such as grinding task.
- work at heights and fall protection requirements.
- fire prevention.
- protective footwear as an all-time requirement.
- a discussion of a recent accident and its cause(s) as well as measures to prevent recurrence
- a discussion of disciplinary procedures for failure to comply with safety policies
- housekeeping
- horseplay
- tool maintenance, inspections, manufacturing instructions
- personal cell phone usage
- dust and noise control
- electrical hazards etc.

A log of toolbox talks must be kept in accordance with the form that follows. A copy should be submitted to the office and kept by management at least weekly for review and filling.

Safety Program Implementation

a) AVCON Construction Inc.'s management is responsible for establishing and implementing a safety program for their employees**.** this program will include maintaining and auditing safety performance for compliance with applicable federal, provincial, local regulations and with established safety and environmental requirements.
b) supervisors/foremen are to conduct regularly scheduled safety inspections of the work being conducted (minimum weekly).
c) supervisors/foremen must take immediate corrective action when a violation of job safety, fire, or environmental safety hazard is observed.

d) failure to correct a problem may result in work stoppage in the related area, and work will not be permitted to resume until the problem is corrected. work stoppages need to be communicated to AVCON Construction Inc.'s management.
e) if a supervisor/foreman fails to correct the problem within a reasonable timeframe, disciplinary procedures will apply.
f) supervisors/foremen are required to administer AVCON Construction Inc.'s safety program in their workplace and are responsible for the safety of their employees**.**

INTERNAL RESPONSIBILITY FOR HEALTH AND SAFETY

The Internal Responsibility System (IRS) is the concept on which the Occupational Health and Safety Act is based on. The IRS encourages addressing health and safety issues and concerns ("at the grass roots") between workers and supervisors, within the area, within the department, within the organization (this will benefit both the employer and the workers) without the intervention of the Ministry of Labour.

Through open lines of communication, objective discussions and cooperation between workers, supervisors, management and the Health and Safety Representatives, the organization's objectives of a workplace free of hazards and illness can be achieved.

Health and safety should not be "added on" to how a job is done. These principles must be integrated into all operations and work activities. It is the responsibility of the supervisor to see that this happens.

Each supervisor must be accountable for the health and safety performance in their crew just as they are responsible for quality, scheduling, sales and service, customer satisfaction or any other operational objectives.

Specific hazards identified will be relayed to you and together with your supervisor; you will determine the most effective control strategy to employ to protect your health and safety.

It is important that workers have input and actively participate in the development and implementation of specific workplace procedures that could affect their well-being.

The Employee Health and Safety Guidelines are based on the premise that the ideas and concerns that are coming from the workers must be addressed in a timely and efficient manner. For the Program to be effective, management must respond to these concerns and implement standards and procedures that are to be followed so that the job can be cone in a safe and health manner.

For the IRS to be truly effective, workers, supervisors and management must accept and share the responsibility for occupational health and safety.

How well the system works depends upon the degree of communications, cooperation and accountability for workplace health and safety.

Definitions

Workplace

Any place in, on or near to where a worker works. A workplace could be a building, a mine, a construction site, an open field, a road, a forest or even a beach. The test is: Is the worker being directed and paid to be there, or to be near there? If the answer is "yes", then it is a workplace.

Worker

A person who is paid to perform work or supply services; this does not include an inmate of a correctional or similar institution working inside the institution on a work project or rehabilitation program.

Employer

A person who employs one or more workers; this includes someone who contracts for a worker's services. For example, if you pay a temporary help agency for the services of workers supplied by the agency, you are the employer of those workers while they are under your direction.

Subcontractor

A person who performs work or supplies services to AVCON Construction Inc., our contractor or subcontractor is also an employer if he or she in turn employs workers.

Constructor

A person who undertakes a construction project for the owner of a site or building; this also includes the owner who personally undertakes all or part of the project, whether alone or with another employer. The constructor is generally the person who has overall control of a project.

Supervisor

A person who has charge of a workplace or authority over any worker.

Owner

The person who owns the lands or premises that are being (or will be) used as a workplace. This includes a tenant, lessee, trustee, and receiver, mortgagee in possession or occupier of the lands or premises. It also includes any person who acts as an agent for the owner.

JHSC (Joint Health & Safety Committees)

A joint health and safety committee is an advisory group of worker and management representatives. The workplace partnership to improve health and safety depends on the joint committee. It meets regularly to discuss health and safety concerns, review progress and make recommendations.

Where are joint committees required?

Joint committees are required in the following workplaces:

- any workplace that regularly employs 20 or more workers [section 9(2)(a)];
- construction projects where 20 or more workers are regularly employed and that are expected to last three months or more;
- any workplace (other than a construction project) to which a regulation concerning a designated substance applies, even if fewer than 20 workers are regularly employed [section 9(2)(c)];
- any workplace where an order has been issued under section 33 of the Act (section 33 orders are explained in Chapter 9 of this guide, "Toxic Substances"), even if fewer than 20 workers are regularly employed [section 9(2)(b)]; and
- any workplace or construction project that has been ordered by the Minister of Labour to establish a committee [section 9(3)].

New Definition of a Worker Under The OHSA

The government has just announced effective immediately, that the formal definition of a worker, under the Ontario Health & Safety Act and Regulations (OHSA) has changed. Under Bill 18, coverage under the OHSA has been expanded to include the following:

- unpaid secondary school students, involved in school board approved co-operative education programs
- unpaid learners within a post-secondary institution approved program
- unpaid trainees who are not employees for the purposes of the employment standards act because they meet certain conditions.

This alteration to the definition of worker to include these above-mentioned classes of unpaid workers is extremely significant. They now have the very same legal rights as paid workers, inclusive of the right to refuse or stop work when there is a danger to health and safety. This also however means; they have the same responsibilities under the OHSA as paid workers. Adherence to all applicable sections within the OHSA, such as wearing protective equipment is legally mandated. In turn, employers now have the same duties and responsibilities to these unpaid workers, under the OHSA, as they do paid workers.

Subcontractor Requirements

All subcontractors are to adhere to the guidelines of the Occupational Health and Safety Act and Regulations for Construction Projects (current edition), and AVCON Construction Inc.'s Health and Safety Policy and Accident Prevention Manual.

All subcontractors are required to provide to AVCON Construction Inc.:

- Valid Workers Compensation Coverage – Clearance Certificate
- Liability Insurance stating AVCON Construction Inc. as third party insured
- Form 1000
- Current CAD 7 rating
- Training documentation such as (but not limited to); including AVCON CONSTRUCTION INC. workers:
    - Working at Heights – by an accredited training provider
    - WHMIS – GHS 2015,
    - Worker Safety Awareness in 4 Basic Steps (O. Reg. 297/13)
    - Supervisor Awareness in 5 Basic Steps (O. Reg. 297/13)
- JSA/JHA will be submitted to AVCON Construction Inc. prior to any work being conducted and pre-approved before the work begin
- All accidents and incidents occurring must be reported to the supervisor and documented; measures to prevent recurrence must also be addressed in the report

Responsibilities – Administration

AVCON Construction Inc. is responsible for ensuring that following documentation is kept on the project at all times for the duration of the project:

a) Copy of AVCON Construction Inc. Health and Safety Policy and Program.
b) In the case of injury poster (WSIB) also known as form 82
c) Proof of supervisor's competency.
d) Registration of Constructors and Employers Engaged in Construction Form (Form 1000) (AVCON Construction Inc.)
e) Registration of Constructors and Employers Engaged in Construction Form (Form 1000) (Subcontractors)
f) WSIB clearance certificates (AVCON Construction Inc. and subcontracting companies)
g) Proof of task related training or professional trade certificate (each worker).
h) Notice of project form where AVCON Construction Inc. acts in the capacity of the Constructor.
i) Any MOL inspector(s) reports/orders.
j) Name of H & S Representative(s)
k) Names of Joint Health and Safety Committee members (if applicable)
l) JHSC minutes of the meetings (if applicable)
m) Emergency contact numbers.
n) Name of qualified First Aid/CPR person.

o) Map to the nearest hospital.
p) Emergency evacuation procedures.
q) Fall arrest rescue procedures. (if applicable)
r) Traffic control plan (if applicable)
s) Confined space entry program (if applicable)
t) Any engineering drawings, specs or recommendation related to health and safety of the workers.
u) Any additional information requested by MOL inspector(s).
v) Copy of recorded project safety orientations for any person(s) entering, performing work on or walking through the area(s) under construction
w) Copy of most current addition of OH & S Act and Regulations for Construction and/ or Industrial Projects/Establishments.
x) Evacuation Staging Areas Site Plan and Procedures

The following must be provided, maintained and accessible to workers:

- Adequate size First Aid Kit according to O. Reg. 1101
- Portable Eye Wash Station
- Drinking Water
- Toilet Facility

In addition, following safety equipment shall be made readily available:

- Fire Extinguishers – ULC rated A40BC
- Reflective Vests
- Stop/Slow Signs
- Portable Barriers
- Roles of Caution Tape
- Respiratory Protection
- Hearing Protection
- Eye Protection
- Gloves
- Warning Signs
- At least two spare hard hats for visitors (architects, consultants, owners etc.)

It is responsibility of each supervisor to take inventory and ensure adequate supply of above noted items.

President

It is responsibility of the President to stay informed of company activities and to ensure that management staff is implementing all aspects of the health, safety and environmental policies and programs effectively. The President shall review the results of existing policies and procedures at least once per year. The President will ensure that safety budget is maintained accordingly.

The President will also,

1. provide the economic and physical resources to implement and operate the health and safety manual
2. review all incidents, which result in fatal injuries, permanent disabilities, and all major losses
3. review the health and safety performance of the company
4. endorse the health and safety and the policy
5. chair quarterly health and safety meetings with management to review the company's performance and health and safety concerns
6. complete an annual health and safety performance review on senior managers, to ensure compliance in these areas
7. establish annual health and safety objectives.

Our Safety Program Review Process – Bi-Annual Supervisor Safety Reviews

The President shall arrange to hold bi-annual safety reviews (every six months) with the Manager of Construction Operations, Project Managers and Supervisors to review safety performances based on internal observations and external (professional safety auditing reports). Constructive dialogue in accurately assessing our safety performances and how enhance and improve our safety program is the key focus of these meetings. This meeting shall be minuted and improvements targeted based on discussions.

Corporate Safety Coordinator

The corporate safety coordinator is accountable to the President for ensuring that all aspects of AVCON Construction Inc.'s health and safety program is being administered and enforced at all levels of our organization. The corporate safety coordinator will work closely with our professional health and safety consultants (if any) to ensure that workers on the project are abiding to the owner's health and safety program devised for the project. Contractors hired directly by AVCON Construction Inc. shall abide also to our health and safety program.

Project Manager

The Project Manager will assist the Manager of Construction Operations by ensuring that all field operations personnel are aware of, understand and effectively practice the safety policies and procedures as set out in our safety program. Together with the crew foremen, the Project Manager shall insist on compliance with the Ontario Occupational Health and Safety Act and its Regulations for Construction Projects, from both our own staff and that of our subcontractor companies.

The Project Manager shall ensure that our safety program is being routinely assessed for its degree of effectiveness, on all our projects, by a competent person such as our professional Health and Safety Consultant (if any). Our professional safety consultant will routinely assess our projects for hazards and poor work practices and make recommendations for improvement. The professional consultant will review these safety inspection report findings and recommendations with our project super-intendent on site.

The project superintendent is expected to forward his copy of the safety inspection report to the Project Manager within 24 hours, with explanations of the corrective action taken. The Project Manager shall in turn (after review) forward these reports to the Manager of Construction Operations for review.

Supervisor or His/Her Competent Replacement

- Be competent and knowledgeable of the OH & S Act and Regulations and this Injury & Illness prevention Program.
- Ensure that all workers and subcontractors use the personal protective equipment, devices or clothing that is required by the employer to prevent injury.
- Advise all workers, management or others of any potential or actual danger or hazard at a workplace of which you may be aware.
- Take every precaution reasonable in the circumstances to protect the workers safety including workers training (GHS – WHMIS 2015, Fall Protection etc.)
- Unguarded work perimeters and openings in the work area must be adequately covered or otherwise protected to prevent accidental fall of the worker – where not practical to cover or install protective guardrails due to a sequence of work in progress, “DANGER” signs shall be posted and personal protective equipment worn and used in following order: travel restraint and last option fall arrest system.
- Ensure workers follow the clients’ safety policies.
- Conduct weekly safety inspections of the workplace.
- Conduct periodic toolbox talks with workers to promote safe work practices.
- Ensure first aid kits are available and maintained either at job sites or company vehicles, container.
- Preform site orientation to trades contractors, subcontractors and any workers preforming work on our sites
- Investigate all near misses, incident or accidents and submit your findings in writing to immediate management.

- Review company safety policy and legal requirements with all new workers as well as GHS – WHMIS 2015 requirements and SDS.
- Ensure public way protection as required under OHSA and regulations.
- Cooperate with MOL inspectors in all areas of concerns.
- Discipline the violators as per our company disciplinary policy.
- Do not put production before safety.

Qualifications (skills & abilities) required:

- All upper management and supervisors need excellent verbal and written communication skills, the ability to read technical documents, drawings and specifications, and business communications.
- Supervisors/Foreman need to be able to document crew activities, job progress, be able to use company specific procedures to request materials, personnel or other resources required to complete their assigned tasks.
- Upper management and supervisors need the organizational skills to plan the activities of others, and to manage and participate in meetings with their workers and other personnel on site.
- Upper management and supervisors require a good working knowledge of the employer's responsibilities and role for safety, employment practices, and emergency procedures.
- The ability to use computers for entering and retrieving project or crew information is a trend that is becoming increasingly more important.
- Working knowledge of Ontario OH & S Act and Regulations for Construction Projects is a must as well as Basic of Supervision Course/Supervisor Awareness in 5 Basic Steps
- All workers will be monitored closely to ensure full knowledge and safety requirements and that all tasks are being performed safely before being permitted to work on their own.

Responsibilities of Workers

- Work in compliance to the Occupational Health and Safety Act and Regulations for Construction Projects. (O. Reg. 213/91) – current edition
- Work in compliance with company safety policy and accident prevention manual.
- Use all personal protective equipment that is required for your health and safety.
- Report any hazardous conditions to immediate supervisor such as poor housekeeping, missing guardrails or covering over openings, damaged tools, equipment or PPE etc.
- Not remove or make ineffective any protective device required by the regulations or employer without providing an adequate temporary protective measure or device immediately.
- Not engage in any prank, contest, and feat of strength, unnecessary running, rough boisterous conduct or fighting.

- Review SDS prior to working with any of the hazardous materials/substances that may cause adverse effects on the workers' health if instructions and precautions outlined in SDS for that particular product not followed.
- Refuse the work if worker has reason to believe that work conditions are unsafe or protective equipment provided not adequate and report refusal to immediate supervisor or health and safety representative.
- Obtain first aid promptly and notify immediate supervisor of any first aid situation which becomes medical aid condition so the proper authorities can be notified.
- All first aid injuries all illnesses are to be documented
- No worker may drink or be under the influence of drugs or alcoholic beverages. Workers must notify their supervisors if they are taking prescription drugs that may compromise their safe work performance on the job.
- When in doubt ask your supervisor for information.
- Never work in the manner that may endanger yourself or others.
- Stay clear of equipment path and always make eye contact with the operator prior to approaching.

Responsibilities of Health and Safety Representatives

Where 5 or more workers are performing work on the project, one worker shall be elected by the workers in the capacity of health and safety representative**:**

- to improve health and safety conditions in the workplace by conducting regular inspections
- to provide assistance to workers and any workplace health and safety related issues.
- to investigate work refusals
- to assist ministry of labour inspector during workplace routine visits or during accident investigations.
- to stop the work if circumstances may endanger workers health and safety and take action to eliminate the hazard.
- to report any safety related concerns to employer or constructor in writing
- employer or constructor is obligated to respond within 21 days to any written recommendation you made.
- you are responsible then to relate information obtained by employer or constructor response back to workers

Responsibilities of Subcontractors

- Must follow the Safety Policy of AVCON Construction Inc. and that of our client.
- Must attend any safety meeting as required by the supervision of this company or that of our client.
- Must ensure their employees comply with Occupational Health and Safety Act and Regulations.
- Must report any hazardous situation or accident/injury to the supervisor of AVCON Construction Inc.

- Must inform AVCON Construction Inc. of any designated substances that will be used on any job sites.
- Provide a copy of SDS for any hazardous product that will be brought to the work site.
- Provide written proof of training for each worker based on workers task (GHS – WHMIS 2015, Fall Protection, and equipment etc.)
- Not to start any work that requires specific instructions prior to receiving safety orientation by constructor or AVCON Construction Inc. supervisor.
- Must assign only competent supervisors or workers to do the work.

The Joint Health and Safety Committee Requirements

Under the Occupational Health and Safety Act, employers numbering over twenty employees must organize a Joint Health & Safety Committee for their headquarter operations. AVCON Construction Inc. has established such a committee with a posted list of members and policies. This committee meets regularly in accordance with OH&S requirements to discuss and resolve any potential safety concerns.

If AVCON Construction Inc. takes on a constructor role, such a committee may have to be formulated for the project on behalf of the owner. AVCON Construction Inc. management shall cause their employees or their unions to select at least one employee to act as the Labour Health & Safety.

Representative for this JH&S Committee, and this representative shall have the appropriate training for this function. In addition, AVCON Construction Inc. management shall also select a management member to act as the Management Health & Safety Representative for the J.H.&S. Committee. Both the Management and Labour Safety Representatives for the Joint Health and Safety Committee, shall, if the numbers require it, become “CERTIFIED MEMBERS" as defined under the Occupational Health and Safety Act.

Powers of The Joint Health and Safety Committee

For the Committee to be effective, it should deal solely with safety issues and must not be allowed to become a general complaint session. Management response and involvement will determine the overall success of the Committee.

The primary function of the Joint Health and Safety Committee is to identify hazards at the workplace and to come up with solutions to safety concerns. Members of this committee should actively take part in the development, implementation and monitoring of all phases of AVCON Construction Inc. Health and Safety Program.

Copies of the meeting minutes shall be distributed to J.H.&S. Committee members and shall post the meeting minutes for worker review. The Committee shall assist in resolving work refusals and promptly investigate reports of "dangerous circumstances" at the workplace.

Periodic Work Site Inspections by Safety Representatives:

In accordance with the Occupational Health and Safety Act, the Joint Health and Safety Committee shall cause a labour safety representative to conduct a workplace safety inspection at least once a month and any circumstances that may be a source of danger to workers shall be reported to and considered by the Committee. Unsafe situations requiring prompt attention must be reported to the project superintendent or his competent replacement immediately. Recommendations for remedial action on safety issues will be listed on the Committee meeting minutes and assigned to the responsible party.

Requirements for Health and Safety Representatives and Joint Health and Safety Committees for the Workplace

NUMBER OF WORKERS AT A PROJECT REGULARLY	GENERAL REQUIREMENTS
5 (five) or more	one health and safety representative [section 8(1)]
20 (twenty) or more	Joint Health and Safety Committee of two persons. One committee representative selected by management and one committee representative selected by the workers or if it is a unionized project, their unions. [see sections 9(2), 9(5)(a) & 9(5a)]
50 (fifty) or more	A Joint Health and Safety Committee of at least four persons. Two management committee representatives and two labour committee representatives. At least one labour and one management representative must be certified. [see sections 9(5f), 9(5g) and 9(8a)]
Trades Committee:	The joint health and safety committee shall cause a worker trades committee to be formed. All trade contractors having five or more workers should have a labour safety representative who shall participate in these worker trades committees. [see section 10]

The duration of a project must exceed 3 (three) months before the Joint Health and Safety Committee, Safety Representative Certification, and Worker Trades Committee requirements apply. [see sections 9(1); 9(5f) and 9(5g); and 10(1) respectively]

Responsibilities of Workplace Agencies

Work agencies hired on contractual basis through AVCON Construction Inc. are responsible to ensure up to date training of workers assigned by the agency to our projects as well as to advise AVCON Construction Inc. management of any restrictions or limitation that assigned worker(s) may have to perform the work. Failure to do so may result in unnecessary hazard to worker and agency shall be held liable for any consequences as a result of failed communication.

Ministry of Labour Inspectors

Ministry of Labour inspectors uphold and enforce the Act. They inspect the workplace and investigate potentially hazardous situations, accidents and work refusals. An inspector may issue orders where there is a contravention of the Act and may provide advice and mediation where there are disputes between workplace parties.

Ministry of Labour Inspectors are responsible for enforcement of OHSA and Regulations for Construction projects. Their visits are typically unannounced and may result in verbal warning to the violators, orders to comply, stop work orders or summons. Some inspectors prefer to collect the evidence of unsafe act or practices by obtaining pictures prior to approaching violators.

Maximum fines to individuals are **$100,000 per violation** or imprisonment for up to one year or both. Corporation may be fined up to **$1,500,000**. If approached by MOL inspectors, you are responsible to cooperate in professional manner. Ask your safety representative or supervisor/foreman to be present during conversation/interview. Each individual fined by MOL inspector will be responsible for paying the assigned amount or legal assistance.

In the case of serious injury or fatality, secure the scene for MOL inspectors and notify AVCON Construction Inc. office immediately.

What contact will committee members and health and safety representatives have with the inspector?

A committee member or the health and safety representative must be offered a chance to accompany the inspector on all inspections and investigations [section 54(3)]. When orders are issued by the inspector, a copy of the orders should be given to the committee or representative [section 57(10)]. Inspectors are entitled to review the minutes of committee meetings [section 9(22)] and are expected to do so. Inspectors may attend committee meetings when invited by members.

Responsi-bilities	Workers	Supervisors	Managers	Employer
For work	Perform job	Assign tasks and schedule work	Determine objectives	Establish goals and objectives
For people	Direct helpers-new hires-young workers	Orientate and train new hires & young workers	Select and develop supervisors	Establish hiring policies. Select and develop managers
For work performance	Use training, knowledge and skills to perform work	Specify who does what and assign authority	Assign jobs to supervisors and delegate authority	Determine who does what and delegate authority
For direction of work	Follow safe work practices and cooperate with supervisor	Follow safety policies and programs	Implement safety policies and programs	Establish safety policies, programs and procedures
For relations with people	Follow policies, programs and procedures	Coordinate implementation of programs, policies and procedures on shop floor	Implement policies. Conduct daily business in compliance with employer's policies and legislation	Determine policies, procedures and programs and ensure compliance
For facilities and equipment	Safely use tools, equipment and machinery	Provide adequate tools, equipment and machinery	Provide supervisors with adequate resources	Authorize expenditures and assign adequate resources to managers
For conditions of work	Implement and maintain standards. Cooperate with committee	Implement standards and train workers. Cooperate with committee	Help employer develop standards. Train supervisors to implement standards. Help committee to be effective	Determine health and safety philosophy and policies. Maintain effectiveness of committee
For account-ability	Inspect tools and equipment. Report hazards to supervisor	Inspect work areas, tools, equipment and machinery. Report problems to managers and recommend solutions	Develop effective solutions to problems. Accountable to employer for operations	Account to directors and society for safe operation of work

DISCIPLINARY PROCEDURES

The progression of disciplinary action will be determined by the severity of the incident and other mitigating factors. The emphasis is to be on the desire for AVCON Construction Inc. to promote safety through a cultural shift and not through enforcement activities. However, non-compliance with safety requirements may result in work stoppage if an immediate threat to safety exists**.**

Although the disciplinary process is written for the individual, the failure of an individual may under circumstances be linked to a failure of crew supervisor/foreman to ensure compliance.

There will be no penalty or retaliation for reporting any safety or environmental incident, but the reporting of an incident will not protect the individual from consequences related to the incident.

Disciplinary actions will progress as follows, under ordinary circumstances:

Safety Discipline

A. ***Three-Step System***

First violation:	Written warning; copies to employee and employee's file.
Second violation:	Written warning; suspension for ½ or full day without pay.
Third violation:	Written report for file and immediate termination.

B. ***Four-Step System***

First violation:	Oral warning; notation for personnel file.
Second violation:	Written warning; copy for file or Personnel Office.
Third violation:	Written warning; one day suspension without pay.
Fourth violation:	Written warning and one-week suspension, or termination if warranted.

C. A record will be maintained of all discipline.

Temporary or permanent removal from AVCON Construction Inc. premises may occur if the sub - contractor' supervisor, our supervisor, or person in charge of the work being performed requires, requests, allows, or condones employees to work in or around unsafe acts or conditions or violate environmental permits or regulations.

Immediate and permanent removal from AVCON Construction Inc. premises may occur if a sub – contractor's supervisor, our supervisor, or employee engages in any of the following activities:

- openly exhibits disregard, defiance, or disrespect for the safety program
- knowingly falsifies investigative documents or testimony involving an investigation
- participates in fighting, violence, threats of violence, theft, or destruction of property
- violates established safety rules, regulations, or codes that endanger themselves or others
- violates established environmental rules, regulations, or procedures that endanger the environment

Reservation of Rights

AVCON Construction Inc. reserves the right to interpret, to revise, or to depart from safety policies and procedures at any time without notice**.** AVCON Construction Inc. also reserves the right to dictate safety standards during the course of a contract as necessary in the interest of safety.

Compliance with this safety manual or AVCON Construction Inc. policies, procedures, and standards does not confer or entitle sub - contractors or their employees to any benefits, rights, or privileges that go to AVCON Construction Inc. employees by virtue of their status as employees of AVCON Construction Inc.

SET FINES BY THE ONTARIO COURT OF JUSTICE

Schedule 67

Occupational Health and Safety Act **(as it relates to Ontario Regulation 213/91)**

Item	Offence	Section	Set Fine
1.	Worker failing to work in compliance with subsection 26.1(2) of Ontario Regulation 213/91 by not being adequately protected by fall protection	28(1)(a)	$295.00
2.	Worker failing to work in compliance with section 115 of Ontario Regulation 213/91 by using loose object as workplace or as support for object	28(l)(a)	$195.00
3.	Worker having or using stilts or leg extension devices contrary to section 116 of Ontario Regulation 213/91	28(l)(a)	$195.00
4.	Employer failing to ensure compliance with stilts and leg extension devices requirements in section 116 of Ontario Regulation 213/91	25(l)(c)	$295.00
5.	Supervisor failing to ensure worker working in compliance with stilts and leg extension devices requirements in section 116 of Ontario Regulation 213/91	27(1)(a)	$295.00
6.	Worker failing to work in compliance with subsection 195.1 (1) of Ontario Regulation 213/91 by using inadequately grounded cord-connected electrical equipment or tools	28(1)(a)	$195.00

Schedule 67.1

Ontario Regulation 213/91 under the *Occupational Health and Safety Act*

Item	Offence	Section	Set Fine
1.	Worker failing to wear protective headwear	22	$195.00
2.	Worker failing to wear protective footwear	23	$195.00
3.	Worker failing to wear eye protection	24	$195.00
4.	Worker failing to use provided protective respiratory equipment	46 (2)	$195.00
5.	Worker who may be endangered by vehicular traffic failing to wear prescribed garment	69.1	$195.00
6.	Operator leaving the controls of machine unattended	102	$195.00
7.	Signaller failing to wear prescribed garment	106 (1.1)-(1.4)	$195.00
8.	Worker failing to wear adequate personal protective equipment while using fastening tool	117 (3) (a)	$195.00
9.	Worker failing to wear adequate eye protection while using fastening tool	117 (3) (b)	$195.00
10.	Worker failing to wear full body harness connected to fall arrest system while on suspended equipment	141 (1)	$295.00

Schedule 67.3

Occupational Health and Safety Act **(as it relates to Regulation 851 of the Revised Regulations of Ontario, 1990)**

Item	Offence	Section	Set Fine
1.	Employer failing to ensure a safe work surface for worker under s. 11 of Reg. 851	clause 25 (1) (c)	$295.00
2.	Supervisor failing to ensure worker is working on a safe work surface under s.11 of Reg. 851	clause 27 (1) (a)	$195.00
3.	Worker failing to work on a safe work surface under s.11 of Reg. 851	clause 28 (1) (a)	$195.00
4.	Supervisor failing to ensure worker works with guarded opening under s. 13 (1) of Reg. 851	clause 27 (1) (a)	$295.00
5.	Worker failing to work with guarded opening under s.13 (1) of Reg. 851	clause 28 (1) (a)	$195.00
6.	Supervisor failing to ensure worker works with covered opening under s. 15 of Reg. 851	clause 27 (1) (a)	$295.00
7.	Worker failing to work with covered opening under s. 15 of Reg. 851	clause 28 (1) (a)	$195.00
8.	Supervisor failing to ensure worker uses a machine with adequate guarding under s. 24 of Reg. 851	clause 27 (1) (a)	$295.00
9.	Worker failing to use a machine with adequate guarding under s. 24 of Reg. 851	clause 28 (1) (a)	$295.00
10.	Supervisor failing to ensure worker uses a machine with adequate guarding under s. 25 of Reg. 851	clause 27 (1) (a)	$295.00
11.	Worker failing to use a machine with adequate guarding under s. 25 of Reg. 851	clause 28 (1) (a)	$295.00
12.	Supervisor failing to ensure worker uses a machine with adequate guarding under s. 26 of Reg. 851	clause 27 (1) (a)	$295.00
13.	Worker failing to use a machine with adequate guarding under s. 26 of Reg. 851	clause 28 (1) (a)	$195.00
14.	Supervisor failing to ensure worker works with effective operating control that acts as a guard under s. 28 (c) of Reg. 851	clause 27 (1) (a)	$295.00
15.	Worker failing to work with effective operating control that acts as a guard under s. 28 (c) of Reg. 851	clause 28 (1) (a)	$295.00
16.	Employer failing to provide safe chain saw under s. 39 of Reg. 851	clause (25) (1) (a)	$295.00
17.	Employer failing to ensure that chain saw provided under s. 39 of Reg. 851 is used safely	clause 25 (1) (d)	$295.00
18.	Supervisor failing to ensure worker uses a chain saw safely under s. 39 of Reg. 851	clause 27 (1) (a)	$195.00
19.	Worker failing to use chain saw safely under s. 39 of Reg. 851	clause 28 (1) (a)	$195.00
20.	Supervisor failing to ensure no work is done on or near live exposed parts of electrical installations, equipment or conductors without the power supply being disconnected, locked out and tagged under s. 42 (1) of Reg. 851	clause 27 (1) (a)	$295.00

21.	Worker working on or near live exposed parts of electrical installations, equipment or conductors without the power supply being disconnected, locked out and tagged under s. 42 (1) of Reg. 851	clause 28 (1) (a)	$295.00
22.	Supervisor failing to ensure worker uses protective equipment and procedures while doing electrical work under s. 42.1 (2) of Reg. 851	clause 27 (1) (a)	$295.00
23.	Employer failing to provide portable electrical tool protected by a ground fault circuit interrupter under s. 44.1 of Reg. 851	clause 25 (1) (a)	$295.00
24.	Employer failing to ensure portable electrical tool protected by a ground fault circuit interrupter provided under s. 44.1 of Reg. 851 is used	clause 25 (1) (d)	$295.00
25.	Supervisor failing to ensure worker using a portable electrical tool protected by a ground fault circuit interrupter under s. 44.1 of Reg. 851	clause 27 (1) (a)	$195.00
26.	Worker failing to use a portable electrical tool protected by a ground fault circuit interrupter under s. 44.1 of Reg. 851	clause 28 (1) (a)	$195.00
27.	Employer failing to ensure that lifting device is operated safely under s. 51 (2) (b) of Reg. 851	clause 25 (1) (c)	$295.00
28.	Supervisor failing to ensure operator of a lifting device works safely under s. 51 (2) (b) of Reg. 851	clause 27 (1) (a)	$295.00
29.	Operator of lifting device failing to work safely under s. 51 (2) (b) of Reg. 851	clause 28 (1) (a)	$195.00
30.	Supervisor failing to ensure worker works on or near an immobilized and secure unattended vehicle under s. 57 of Reg. 851	clause 27 (1) (a)	$295.00
31.	Worker failing to immobilize and secure unattended vehicle under s. 57 of Reg. 851	clause 28 (1) (a)	$195.00
32.	Supervisor failing to ensure worker works around attended lifting equipment when forks, bucket, blades and similar parts are unsupported under s. 58 of Reg. 851	clause 27 (1) (a)	$295.00
33.	Worker working around unattended lifting equipment when forks, bucket, blades and similar parts are unsupported under s. 58 of Reg. 851	clause 28 (1) (a)	$195.00
34.	Supervisor failing to ensure that worker does not bring object closer than specified distance to overhead electric supply line under s. 60 of Reg. 851	clause 27 (1) (a)	$295.00
35.	Worker bringing object closer than specified distance to overhead electric supply line under s. 60 of Reg. 851	clause 28 (1) (a)	$295.00
36.	Employer failing to provide safe portable ladder under s. 73 of Reg. 851	clause 25 (1) (a)	$295.00
37.	Employer failing to ensure that a portable ladder provided under s. 73 of Reg. 851 is used safely	clause 25 (1) (d)	$295.00
38.	Supervisor failing to ensure worker uses a portable ladder safely under s. 73 of Reg. 851	clause 27 (1) (a)	$195.00
39.	Worker failing to use portable ladder safely under s. 73 of Reg. 851	clause 28 (1) (a)	$195.00
40.	Supervisor failing to ensure worker works around safely secured temporarily elevated machinery, equipment or material under s. 74 of Reg. 851	clause 27 (1) (a)	$295.00

41.	Worker failing to work around safely secured temporarily elevated machinery, equipment or material under s. 74 of Reg. 851	clause 28 (1) (a)	$195.00
42.	Supervisor failing to ensure worker works on a safely secured machine under s. 75 of Reg. 851	clause 27 (1) (a)	$295.00
43.	Worker failing to work on a safely secured machine under s. 75 of Reg. 851	clause 28 (1) (a)	$295.00
44.	Supervisor failing to ensure worker works on a machine with proper precautions where starting may endanger the safety of a worker under s. 76 of Reg. 851	clause 27 (1) (a)	$295.00
45.	Worker failing to work on a machine with proper precautions where starting may endanger the safety of a worker under s. 76 of Reg. 851	clause 28 (1) (a)	$295.00
46.	Employer failing to ensure appropriate head protection provided under s. 80 of Reg. 851 is used	clause 25 (1) (d)	$295.00
47.	Supervisor failing to ensure worker wears appropriate head protection under s. 80 of Reg. 851	clause 27 (1) (a)	$195.00
48.	Employer failing to ensure appropriate eye protection provided under s. 81 of Reg. 851 is used	clause 25 (1) (d)	$295.00
49.	Supervisor failing to ensure worker wears appropriate eye protection under s. 81 of Reg. 851	clause 27 (1) (a)	$195.00
50.	Employer failing to ensure appropriate foot protection provided under s. 82 of Reg. 851 is used	clause 25 (1) (d)	$295.00
51.	Supervisor failing to ensure worker wears appropriate foot protection under s. 82 of Reg. 851	clause 27 (1) (a)	$195.00
52.	Employer failing to ensure proper skin protection provided under s. 84 of Reg. 851 is used	clause 25 (1) (d)	$295.00
53.	Supervisor failing to ensure worker works with proper skin protection under s. 84 of Reg. 851	clause 27 (1) (a)	$195.00
54.	Worker failing to work with proper skin protection under s. 84 of Reg. 851	clause 28 (1) (a)	$195.00
55.	Supervisor failing to ensure worker wears fall protection equipment under s. 85 of Reg. 851	clause 27 (1) (a)	$295.00
56.	Employer failing to ensure protective clothing provided is worn to protect from hazards caused by molten metal under s. 93 of Reg. 851	clause 25 (1) (d)	$295.00
57.	Supervisor failing to ensure worker wears protective clothing provided to protect from hazards caused by molten metal under s. 93 of Reg. 851	clause 27 (1) (a)	$195.00
58.	Worker failing to wear protective clothing provided to protect from hazards caused by molten metal under s. 93 of Reg. 851	clause 28 (1) (a)	$195.00

Ontario Court of Justice
April 1, 2018

SCHEDULE 66.2

Occupational Health and Safety Act

Item	Offence	Section	Set Fine
1.	Employer failing to cause workers to select at least one health and safety representative	8 (1)	$550
2.	Employer failing to cause joint health and safety committee to be established	9 (4)	$550
3.	Employer failing to prepare written occupational health and safety policy	25 (2) (j)	$550
4.	Employer failing to develop occupational health and safety program	25 (2) (j)	$550
5.	Employer failing to maintain occupational health and safety program	25 (2) (j)	$550
6.	Employer failing to prepare workplace violence policy	32.0.1 (1) (a)	$550
7.	Employer failing to prepare workplace harassment policy	32.0.1 (1) (b)	$550
8.	Employer failing to develop workplace violence program	32.0.2 (1)	$550
9.	Employer failing to maintain workplace violence program	32.0.2 (1)	$550
10.	Employer failing to assess risks of workplace violence	32.0.3 (1)	$550
11.	Employer failing to reassess risks of workplace violence	32.0.3 (4)	$550
12.	Employer failing to provide information and instruction on workplace violence policy	32.0.5 (2)	$550
13.	Employer failing to provide information and instruction on workplace violence program	32.0.5 (2)	$550
14.	Employer failing to develop written workplace harassment program	32.0.6 (1)	$550
15.	Employer failing to maintain written workplace harassment program	32.0.6 (1)	$550
16.	Employer failing to provide information and instruction on workplace harassment policy	32.0.8 (a)	$550
17.	Employer failing to provide information and instruction on workplace harassment program	32.0.8 (a)	$550

Ontario Court of Justice
Last Updated: April 1, 2018

SCHEDULE 67.4

Regulation 851 of the Revised Regulations of Ontario, 1990
under the *Occupational Health and Safety Act*

Item	Offence	Section	Set Fine
0.1	Worker beginning work on electrical installations, equipment or conductors without ensuring safety requirements have been met	42 (1) and (2)	$250
1.	Worker failing to use protective equipment and procedures while doing electrical work	42.1 (2)	$350
2.	Worker failing to wear appropriate head protection	80	$250
3.	Worker failing to wear appropriate eye protection	81	$250
4.	Worker failing to wear appropriate foot protection	82	$250
5.	Worker failing to wear fall protection equipment	85	$350

JOB SITE INSPECTIONS

Supervisors shall carry out weekly safety inspections and our health and safety representative shall inspect the workplace at least once per week.

Inspection goals:

- identifying the hazard.
- guarding against the hazard as required by the occupational health & safety act and regulations for construction projects/industrial projects.
- suggest required personal or other protective equipment and enforcing its use.
- continuous training of workers in safe work practices.
- coordinating protection of workers through other contractors.
- stopping unsafe acts or conditions.

Failure to improve will result in disciplinary action that may lead to dismissal or termination of the contract.

A record of all safety inspections and correctional steps will be kept by the site supervisor and forwarded to head office. AVCON Construction Inc.'s site supervisor will administer the health and safety program for AVCON Construction Inc.

The responsibilities for this are as follows:

- being knowledgeable of potential job hazards.
- assuring compliance with the occupational Health and Safety Act and Its Regulations for Construction Projects standard requirements.
- making regular safety inspections.
- establishing safety procedures.
- coordinating regular safety training.
- maintaining safety records.

JOB HAZARD ANALYSIS AND IDENTIFICATION

Purpose

The purpose of the Health and Safety Program is to establish a proactive approach to the elimination of workplace hazards through the policies and procedures contained in this manual, worker participation and training, and through the promotion of constant vigilance by all employees.

Responsibility

It shall be the responsibility of management to implement and monitor this program.

Procedure

The Health and Safety Program shall be based on the following:

Employee Training

The most important and most fundamental requirement of this program. As related to the tasks involved and potential for exposure, employees shall be trained in accordance with AVCON Construction Inc. core training curriculum, the training may be conducted by competent personnel or by others. Employees shall not be assigned job responsibilities until the training associated with the job hazards has been completed, and documentation shall be maintained verifying employee participation and comprehension. Frequency of training shall be in accordance with OHS requirements.

Hazard Identification and Control

Supervisors/Foremen shall be responsible for administration of the program and foremen/supervisors are required to participate in pre-job meetings and hazard assessments prior to work commencing.

The program shall include identification, analysis, and control of the following elements:

Physical hazards are those that can be attributed to the workplace itself and include the worksite or building, machinery, materials, processes, electrical hazards, housekeeping, noise, heat, etc.

Safety inspections shall be conducted by supervisors/foremen. Any discrepancies found by the inspection shall be corrected and the discrepancy and subsequent corrective actions shall be reviewed by the supervisor/foreman.

Because of the wide variety of work accomplished by AVCON Construction Inc., our field employees are subjected to ever changing physical hazards. It shall be the responsibility of the supervisor to survey the worksite prior to the start of operations and weekly thereafter.

Should the supervisor/foreman encounter a situation or hazard that is not familiar or seems irregular, he/she shall contact management and/or his safety coordinator for advice before proceeding.

Chemical hazards are those hazards posed by chemicals inherent or present in the workplace and those chemicals introduced by AVCON Construction Inc. or others. It shall be the responsibility of management to implement and monitor the effectiveness of the program as set forth in the (WHMIS - GHS 2015) program.

Work practices are those tasks, movements, and operations required to accomplish a job. Each segment of the operation may offer real or potential hazards and as such should be scrutinized by personnel trained in hazard recognition.

Areas to be addressed include but are not limited to:

- the materials involved
- the flow of materials and how they are moved and handled
- equipment and machinery involved
- machine guarding (for any exposed moving parts are to be guarded)/locking and tagging
- process produced hazards (dust, vapours, light, heat, etc.)
- personal protective equipment
- worker ergonomics
- lighting, ventilation and noise considerations
- employee training and experience

Findings generated by hazard assessments shall be reviewed by supervisors and methods shall be developed to minimize or eliminate the hazard.

Regardless of the severity, all job-related accidents, injuries and all occupational illnesses shall be reported and investigated. It shall be the responsibility of management to provide the resources necessary to satisfy this requirement.

All supervisors and foremen shall receive training in accordance with this procedure and in accordance with Accident, Injury and Illness reports and all investigations of those incidents shall be reviewed, and prevention measures outlined, by management to the respective area where the incident occurred.

Hazard notification will include all employee communication of real and potential workplace hazards. Specifically, training shall be administered to all employees in accordance with procedures. Additionally, chemical-specific training shall be administered whenever a task requires an employee to come into direct contact with a hazardous chemical or has the potential to be exposed to a hazardous chemical.

Hazard notification shall include all training sessions, notifications, employee suggestions, safety meetings, tailgate meetings etc., where real or potential workplace hazards are discussed. It shall be the responsibility of foreman and supervisors to ensure that hazards assessments are conducted and that the results of those assessment and subsequent corrective actions are communicated to all affected employees.

It shall be the responsibility of management to ensure that all records require by this procedure are developed and maintained for a period of not less than 2 years.

These records include but are not limited to:

- hazard assessments
- safety inspections
- training documentation (curriculum, materials, tests, rosters, etc.)
- safety meeting records (roster of attendees, subjects discussed, etc.)
- accident/illness reports and investigations

Moreover, management shall implement the employee's safety suggestion program. The program shall allow free expression of ideas and concerns and shall include a method for anonymous input.

Responsibilities

Company Owner

- prepare and review at least annually a written company health and safety policy
- assign and review the developments of a program to implement the health and safety policy
- provide the necessary resources to implement, support, and enforce the company health and safety policy and program in accordance with the Occupational Health and Safety Act and its Regulations made under the Act
- meet all legal requirements for investigating and reporting critical injuries, accidents, incidents, occurrences and other events
- review site safety training plans for H&S and ensure that adequate resources are available
- conduct an annual H&S review with manager(s) and supervisors/foremen

Supervisors

- supervisors are responsible for actively supporting health and safety performance in their areas.
- employee on the job safety is the primary responsibility of every supervisor. Employee safety cannot succeed without the sincere ongoing effort of every supervisor.
- implement, support and enforce the H&S program at the project level.
- communicate with the owner on the requirements such as of accidents and injuries.
- review the site H&S program with supervisors and subcontractors before they start work, identifying responsibilities and promoting cooperation.
- review safe work procedures for the site.
- identify special site hazards and outline appropriate safe work procedures and training.
- perform site inspections at least **weekly.**

Foreman

- foremen are responsible for actively supporting health and safety performance in their areas.
- employee on the job safety is the primary responsibility of every foreman. Employee safety cannot succeed without the sincere ongoing effort of every foreman.
- provide orientation for new and young crew members.
- implement, support and enforced the H&S program at crew level.
- conduct weekly H&S talks available from various sources.
- inspect H&S equipment weekly.
- review H&S aspects of each task with crew.
- assist in accident investigations.
- report H&S problems to supervisor and correct hazards immediately where possible.
- inspect tools and equipment at least weekly and ensure proper maintained. Ensure that housekeeping is done at least daily.
- review SDS with crew before using hazardous materials.
- go over job hazard assessment each morning with crew for changes that may have occurred over a 24-hour period. This will be per job-site basis.
- perform thorough daily job hazard assessments.

Employees

Employees must recognize their role in safety. The role should involve a responsible attitude for personal safety and the welfare of co-workers and contractors. It is critical to the success of our health and safety program and that employees have as their goal the concept that injuries can be prevented.

Employees should:

- work in accordance with the company H&S policy and program, the project H&S program, the Occupational Health and Safety Act, and the regulations made under the Act.
- report hazards or unsafe conditions to their supervisor.
- report all accidents, injuries and near misses to their supervisor.
- follow emergency response plans when necessary.
- clean up their work area at least daily.
- inspect personal protective equipment (PPE) before use and report any defects or damage to their supervisor.

Hazard Identification and Control

Periodic inspections and procedures for correction provide methods of identifying existing or potential hazards in the workplace and eliminating or controlling them.

AVCON Construction Inc. will examine safe work practices and ensure that they are being followed, and that unsafe conditions or procedures are identified and corrected properly and promptly.

Employees are encouraged to report possible hazardous situations, knowing their reports will be given prompt and serious attention.

Workplace equipment and personal protective equipment will be maintained in good safe working condition.

Hazards, where possible, will be corrected as soon as they are identified, for those that cannot be immediately corrected, a target date for correction will be set. AVCON Construction Inc. will provide interim protection for workers while hazards are being corrected. A written tracking system will be established to help monitor the progress of the hazard correction process.

Worker Orientation and Training

New workers will be provided with:

- the name and contact information for the young or new worker's supervisor.
- workplace health and safety rules.
- hazards to which the young or new worker may be exposed, including risks from, assault or confrontation.
- rules for working alone or in isolation.
- information on violence in the workplace.
- personal protective equipment, training and proper use.

- the location of first aid facilities and means of summoning first aid and reporting illnesses and injuries.
- training in emergency procedures.
- instruction and demonstration of the young or new worker's work task or work process.
- the employer's health and safety program, if required.
- WHMIS GHS 2015 information requirements as applicable to the young or new worker's workplace.

Additional Orientation and Training

Young or New workers will receive additional orientation and training if a workplace observation reveals that the young or new worker is not able to perform work tasks or work process safety, or it is requested by the young or new worker.

Periodic Program Evaluation

A periodic review is scheduled to look at each critical component in our Health and Safety plan to determine what is working well and what changes, if any, are needed.

All employees are encouraged to participate by keeping the employer informed of their concerns regarding the elements of this Health and Safety plan.

Employers are expected to identify workplace hazards and protect workers. Likewise, employees have the right to know about the hazards in their jobs and how to protect themselves. One way to both protect workers, and increase job knowledge, is to conduct a *Job Hazard Analysis* (JHA) on any job that concerns employees.

What is a job hazard analysis (JHA)?

A JHA is an analysis of how a selected job is performed. It is used to identify health and safety hazards in new, modified, or existing jobs. Once hazards are identified, the risks of harm can be assessed, and appropriate controls/precautions put in place. In a JHA, each basic step of a selected job is examined to identify potential hazards, assess the risks of harm, and implement controls.

What are the benefits of using JHAs?

Employers can use JHAs to:
- provide or help develop written work procedures.
- develop orientation, training, and inspection documents.
- provide reference documents during incident investigations.
- prepare documents for anyone hired under contract.
- identify and control undetected hazards.

Other terms used to describe this procedure include job hazard analysis, job hazard breakdown, and job risk analysis.

*A **job*** is a sequence of steps designed to accomplish a goal. We'll define a job step as a segment of the operation necessary to advance the work. The terms "job" and "task" are commonly used interchangeably to mean a specific work assignment, such as: operating a grinder, using a pressurized water extinguisher, or changing a flat tire.

A ***hazard*** is any activity, situation, or substance that can hurt someone. Hazards are divided into health and safety categories. A health hazard is any agent, situation, or condition that can cause an occupational illness. A safety hazard is anything that could cause an injury. A ***risk*** is the chance of a hazard causing harm.

How to identify job hazards:

- provide workers with efficient, safe, work procedures.
- promote acceptance of safe work procedures.
- raise health and safety awareness through improved orientation of inexperienced workers, better job training, and so forth.
- protect the health and safety of people hired under contract.
- review job procedures during inspections and incident investigations.
- improve communication between workers, supervisors, and the employer.

JHAs can help to help meet requirements under OHS "Occupational health and safety program" regulation: the identification of existing and potential risks to the health or safety of workers at the place of employment and the measures, including procedures to respond to an emergency, that will be taken to reduce, eliminate or control those risks; to identify existing and potential job risks to the health and safety of workers.

How is a JHA prepared?

Many employers develop JHAs by using job-observation and group discussion/verification. This involves having a job reviewer watch a safety-conscious, experienced worker, perform the job step-by-step and writing down:

- resources, tools, personal protective equipment, documents, and so forth needed to do the job safely
- procedures to follow during each job step
- hazards present at each step
- controls that must be used to reduce the risks of the hazards causing harm
- **each hazard is identified and rated for risk:**

1 – HIGH RISK, 2 – MEDIUM RISK, 3 – LOW RISK

The completed JHA/written work procedure is then verified through:

- "try outs" and job observations.

- group discussions with workers, supervisors/foremen and regular reviews and monitoring.

The major advantages of the job observation and group discussion/verification method is that it:

- taps the knowledge, experience, and good will of expert workers and supervisors.
- does not rely only on documents or one person's memory.
- reduces the chance that key points or hazards that could be created by unexpected events will be missed.
- prompts recognition of hazards and the development of suitable controls for each job and job-task.

Select the job to be analyzed

- dangerous jobs based on the number of incidents (accidents and dangerous occurrences) documented over a given time period and the resulting harm or potential harm; examples include jobs where an incident, hazardous condition or exposure to harmful substances has caused, or could cause, serious injury.
- new jobs - due to lack of experience, hazards in new jobs may not be obvious or anticipated.
- infrequently performed jobs - workers may be in more danger when undertaking non-routine jobs or working alone.
- modified jobs - changes in job procedures or conditions may create new hazards.

Divide the job into its sequence of tasks or steps

- after a job has been chosen for analysis, the next stage is to break it into its sequence of steps.
- observe the job as it is performed under normal conditions.
- what resources (tools, equipment, supplies, documents, and so forth) are required to do the job?
- what basic step starts the job?
- what happens next?

Identify the potential health and safety hazards

Once you have recorded the basic job steps, identify the potential hazards in each one. List the things that could go wrong based on:

- job observations.
- knowledge of the causes of workplace incidents and illnesses.
- experience and input from other workers during group discussions.
- you may need to observe the job again. since the basic steps have already been recorded, you can now concentrate on identifying potential hazards.

Examples of questions to ask

To help identify potential hazards, the job analyst may use questions such as these:

- can suspended or residual energy harm a worker?
- can any body part be caught in or between objects?
- do tools, machines, or equipment present any hazards?
- can the worker make harmful contact with objects?
- can the worker slip, trip, or fall?
- can the worker suffer strain from lifting, pushing, or pulling?
- is the worker exposed to extreme heat or cold?
- is excessive noise or vibration a problem?
- is there a danger from falling objects?
- is lighting a problem?
- can weather conditions affect safety?
- could the worker be exposed to harmful amounts of radiation?
- can contact be made with hot, toxic, infectious, or caustic substances?
- are there dusts, fumes, mists, or vapours in the air?

Select and integrate precautions

The next stage in a JHA is to determine ways to eliminate or control the hazards identified.

Generally, control options for a job are to:

- find a new way to do the job.
- change the conditions that create the hazard.
- change the work procedure.
- change the pace of work or when the job is done.
- when describing precautions, avoid general statements like "be careful" or "use caution". instead, use specific statements that describe both what to do and how to do it.

Carefully consider the implications of each hazard control, such as:

- new hazards that could be created
- the effects of change on other jobs in the work process or workplace
- implications for orientation, training, and inspections

The employer is responsible for selecting and implementing appropriate controls.

Hazard Control Principles

The generally accepted measures to control hazards in a job, in order of preference, are:

Eliminate the hazard (most effective)

- choose a different process (find a new way to do the job)
- modify an existing process. for example, consider changing the layout of the workflow, where the job is done, and so forth.
- substitute a less hazardous substance or material, for example:
    - replace solvent-based paints with water-based paints
    - dilute/reduce the hazard by improving ventilation or using other environmental controls
    - modify or change materials, equipment, or tools

Contain the hazard

If the hazard cannot be eliminated, contact might be prevented by using enclosures, machine guards, booths, or similar devices to separate workers from the hazard.

Revise work procedures

Think about modifying hazardous steps in the job, changing the sequence of steps, or adding additional steps.

Reduce exposure through administrative controls

These measures are the least effective and should only be used if no other solutions are possible.

Here are some examples:

- reducing the number of times workers are exposed to a hazard – eg: a machine could be modified so less maintenance is necessary
- using job rotations to limit the time each worker spends doing certain work
- requiring the use of appropriate personal protective equipment and clothing (PPE)
- providing emergency facilities, such as eyewash stations and emergency showers, to reduce harm if a worker is hurt

Review the JHA periodically and when things change

Before the completed JHA is submitted for approval, get a group of experienced workers and supervisors to review it one last time to ensure that nothing has been overlooked.

Ask a few inexperienced workers to review it to see if they understand the instructions and safety precautions. Rewrite sections that have missing information or are confusing.

Communicate information throughout the workplace

Once the analysis is complete, communicate it to every worker who is involved in the job and update orientation and training documents.

HAZARD ASSESSMENT, ANALYSIS AND CONTROL

Purpose
To provide a comprehensive breakdown of risks associated with the various job tasks at our workplaces, in order educate and train our workforce on proper methods of control to eliminate or mitigate these risks.

Scope
Applies to our office operations, shop operations and field operations. Such assessments will cover our machinery, tools, work site conditions and operations.

Standards / Procedures
Our Job Task Hazard Assessment Forms and JHA (Job hazard analysis) Forms shall be used to breakdown our various job tasks with corresponding assessments on Risk Probability, Risk Severity, Risk Frequency and Risk Significance. Controls to eliminate or mitigate risks are also noted with the dates of training.

Our hazard assessment forms will be used to identify
Physical risks, Chemical risks, Biological risks, Ergonomic, Stress & Physiological, Machinery & Equipment, Energy risks, Material Handling and Job tasks risks.

In addition to general studies on risks, all project managers and project superintendent shall ensure specific JHA (Job hazard analysis) studies are done for each project, prior to commencement of work. Such JHA studies will require the participation of the crew foreman and all members of the work crew.

Roles and Responsibilities
Through safety checklists and Job hazard analysis studies, we will all take part in recognizing and assessing hazards at our workplaces. As a minimum the following shall occur:

Company Health & Safety Coordinator (if available)
Shall collect all required JHA assessments conducted for each project from the project manager and review them to ensure follow up controls adequate and that these control measures are taking place.

The Supervisor
The supervisor shall collaborate with his or her workers, to conduct a JHA (job hazard analysis) study of the scope of work to be done, identify sequential steps, hazards, risk levels and the controls necessary to minimize or eliminate risks. Daily Reviews - The supervisor shall review the JHA document each day with crew so as to determine whether there are any changes to risks based on changes to the work environment.

Project Manager

- The project manager is responsible to ensure that these JHA studies are being conducted on their projects.
- The project manager shall review the pre-job JHA assessments, in collaboration with the crew foreman to ensure all aspects of our work and project areas are checked for actual and potential risks.
- The project manager is also expected to conduct an LMRA – (Last Minute Risk Assessment), on a worker at least once for every project. The project manager shall assess a pass or fail to the worker during the LMRA assessment and retrain worker if he or she fails to explain the JHA content sufficiently. Copies of these JHA studies shall be forward to the company health and safety coordinator for review and filing.

The Worker

The worker shall notify his or her crew foreman of any hazards observed or recognized at the workplace, so corrective action can be taken by the foreman. Hazard reporting forms are available for record purposes. The worker is also required to participate in all JHA studies related to the projects applicable.

Subcontractor Crew Foreman Job Task Safety Analysis Reviews

The subcontractor foreman together with the crew workers shall also conduct a JHA (Job hazard analysis) study of the scope of work to be done, identify hazards, risk levels and the controls necessary to minimize or eliminate risks. The foreman's workers involved in the task must be included in this JHA process so they can contribute their valuable input into the JHA and gain a better understanding of job risks and controls.

Communication

Our hazards recognition and assessment policies will be communicated through our safety program orientation sessions and related safety courses offered.

Training

Training for such inspection tasks will be provided to our employees through our safety talks related safety courses offered by AVCON Construction Inc. Any coaching or formal course event held by AVCON Construction Inc. shall be recorded on an attendance roster and all training records shall be kept on file by the company health and safety coordinator.

How to Complete A Job Hazard Analysis

1. Select a job, occupation or common hazard. Ideally, you should start with an item that has been identified as a health and safety problem. For instance, jobs where accidents occur frequently or result in serious injuries should be a priority. Jobs in high hazard areas, such as where people work alone, where consequences of an accident are severe such as major injury or fatality, jobs where workers have voiced concerns or had work refusals or newly established jobs as due to lack of experience in these jobs, hazards may not be evident or anticipated.
2. Break each task down into steps. Describe and list each step-in sequence.
3. Identify the risk factors that may occur at each step. Beside each task, write down the materials, equipment, processes and environmental factors involved that could cause an accident or health effects. People factors may also be relevant. You also have a separate page on the JHA for listing tool, equipment, P.P.E. (personal protective equipment), required notification to authorities if needed, and disposal requirements.
4. Identify the hazards associated with each task/factor combination. Systematically go through every risk factor for every task and consider what specific hazards might be involved.
5. Assess the hazard. Evaluate the degree of risk that is the extent to which the hazard is likely to cause loss of life, permanent disability or serious injury as well as the probability of occurrence. When considering health hazards, you can consider the number of persons exposed and the duration of exposure. Where there is exposure to hazardous chemical, biological or physical agents, you will need to include workplace and personal exposure monitoring to ensure that exposures do not exceed regulated or recommended limits.
6. Identify controls. Identify procedures or modifications needed to eliminate or control the hazards. This may require changes to people factors, equipment, materials, procedures, tools, systems or processes.
7. Validate the analysis. Implement the needed controls, and then validate the analysis by observing the task in operation. Make sure that new hazards have not been introduced. Get feedback from the employees performing the job to see how the hazard controls work.
8. Evaluation. Assess the need to repeat the analysis. The hazard analysis document (JHA) should be
9. Reviewed daily by all crew members for any changes to risks. For example, collateral work by another crew could pose risks, bad weather, poor surface conditions, etc.

What do you do once you have completed your hazard analysis?

Once you have validated your hazard controls, you need to develop safe work procedures if the degree of the risks is A class. These procedures must be communicated to all employees who are or will be performing the job or task.

CONTRACTOR GUIDELINES TO OUR SAFETY PROGRAM

AVCON Construction Inc. contractual commitment with contractors and other vendors, suppliers or service firms engaged at the work site requires their active participation in our site safety program and adherence to the rules and procedures as set out in this safety policy.

Contractor companies shall only start work when AVCON Construction Inc. is in receipt of the acknowledgement sheet, which is to be signed by the management representative of the contractor. The contractor shall ensure that any sub-trade contractors or, suppliers or persons working on their behalf, are provided with a copy of these contractor guidelines and policy/site requirements.

These guidelines include our corporate health and safety rules to assist them in reducing accidents and incidents, and in complying with Ontario's safety legislation. Also, in addition to the trade contractor signing off on the guideline acknowledgment sheet, the contractor shall also sign off on AVCON Construction Inc. – Contractor Health and Safety Agreement before commencement of work on any of our projects.

Qualifications (skills & abilities) required (Contractor and subcontractors)

- evidence of experience in the same type of work
- references from previous clients which are checkable
- accident ill health statistics
- qualifications, skills and ongoing training programs including health and safety training
- how they will do the work i.e. risk assessments and method statements
- criteria for selecting trade contractor contractors
- MOL orders/fines statistics

Contractor Responsibilities

On our projects, the contractor shall actively promote safe work practices and procedures among their employees. All contractors must ensure their crew supervisory personnel have received appropriate training in Health & Safety practices and legislation and that they are competent (as defined by the OHSA) to perform all required work in a safe and legal manner. Contractor supervisors are required to abide by our specified supervisory responsibilities as listed in our safety policy. All contractors shall ensure that our corporate safety policy and guidelines are communicated and understood by their supervisors, workers, subcontractors and suppliers are enforced.

Contractors/subcontractors are to be included in pre-job meetings and all hazard assessments for the work they are to preform and submit findings to the site supervisor prior to work commencing.

Training and On-Site Safety Meetings

In addition to trade contractors providing competent supervisors of their crews, workers should be oriented to the AVCON Construction Inc. work site safety rules and program requirements by the trade contractor supervisor. All supervisors on our sites, whether working directly or under contract with AVCON Construction Inc. are expected to perform their duties and responsibilities in a manner that ensures that workers under their authority have the knowledge, training or experience to perform their job tasks in the safest manner possible. All supervisors must ensure their workers are familiar with the *actual* and *potential* hazards of the job and with an understanding of the safety standards and regulations that apply to their work.

Crew "Toolbox – Safety Talks"

Health and Safety crew "toolbox talks" are to be held by the trade contractors' supervisors at least one a week or as often as the project supervisor establishes, and records of these talks are to be submitted to AVCON Construction Inc. project supervisor for review. We invite you to use our policy's crew safety talk forms of recording purposes. Trade contractors shall attend all safety meetings and management production meetings as required by AVCON Construction Inc.

Contractor's Labour Representative

Each trade is to be represented by an on-site Labour Health & Safety Representative elected by their trade workers or their union, in accordance with Ontario's legislative requirements. Trade Contractors and subcontractors are to co-operate in causing their respective labour safety representatives to be selected. These representatives will from time to time, be required to participate in our Joint Health and Safety Committee Meetings or in Worker Trade Committee meetings (where applicable).

Trade Contractors and Project JHSC

Trade Contractors labour safety representatives or their unions shall appoint, among them, one who is to act as the Joint Health & Safety Committee's Labour Representative on behalf of all labour safety representatives on the project. This J. H. & S. Committee member shall exercise his/her rights as outlined in Ontario's Occupational Health & Safety Act and this policy. The trade contractor must provide training of this representative as required, to meet "Certified Member" standards (where applicable).

Competent - refers to the definition as provided in Ontario's Occupational Health and Safety Act and Regulations for Construction Projects. (Competent persons and Competent Workers)

Trade Contractor and Subcontractor's Provision of Documentation

The Contractor and subcontractor shall provide to AVCON Construction Inc. any or all of the following:

- Copy of their health and safety policy and procedures.
- Any engineered stamped and signed design drawings and specifications required (e.g. horizontal lifeline system approval, anchor approval, contractor's shoring/bracing procedures prior to placement of concrete etc.).
- Written safe work procedures as required (e.g. fall arrest rescue and compliance plan, lock out - tag out, contractor, confined space entry etc.)
- Traffic control protection plans for both or either inside or outside of project.
- Records of up to date training required by the safety regulations and AVCON Construction Inc. safety policy. Any trade certifications, licenses or permits, logbooks and operator manuals of equipment.
- All documents required by Ontario's O.H. & S. Act and its Regulations.
- Copies of Hazardous Material - Safety Data Sheets (SDS) and records of GHS-2015 training for all Contractor's workers on our projects.
- Signed copy of our Declaration of Supervisor Competency form.
- Provide your WSIB Clearance Certificate – account in good standing.
- Provide a copy of your most current WSIB – Cad 7 performance report.
- Registration of Constructors and Employers engaged in construction T1000 form (all trades and subtrades)
- Copies of SDS for hazardous product used on site.

Contractor shall maintain copies of all documentation required to be kept on the work site, in accordance to applicable legislation, prior to the commencement of work and the arrival of material/equipment arriving on site. This includes but is not limited to the above.

Contractors that are not legally required to have a Health & Safety Policy and Program in place (i.e. less than 5 workers) shall follow the requirements set out in AVCON Construction Inc. Health and Safety Policy and Program.

Notification of Near Misses, Incidents and Accidents

Contractors, subcontractors, their employer, supervisors or workers are required to report all incidents, accidents or near misses to AVCON Construction Inc. site supervisor immediately.

Copies of documentation required by provisions of Ontario's Occupational Safety Act or the Worker's Compensation Act, for reporting accidents, incidents and injuries to the authorities shall be submitted to the governing authorities and AVCON Construction Inc. project supervisor for review. Saving life or relieving human suffering; maintaining an essential public utility service or public transportation system, or; preventing unnecessary damage to equipment or other property.

Investigation and Reporting Procedures

All contractors and subcontractors must conduct a full investigation of any accident or incident causing personal injury or property loss. Near miss incidents should also be fully investigated. The investigation should identify the events leading to the accident, incident or near miss, along with the root causes, witness statements, related information and measures to be taken to prevent a recurrence.

All contractors and subcontractors are to ensure the proper authorities are notified and the appropriate reporting forms are submitted within the prescribed time restraints as set out in legislation. AVCON Construction Inc. requires to be notified within twenty-four hours of any claim made by anyone against the Constructor, Trade Contractor or Subcontractor of any accident, incident or material or property damage.

Ensuring Compliance on Our Work Sites

Contractors and subcontractors will be held accountable to their obligations to ensure compliance to all provisions of Ontario's Health and Safety Act and its Regulations of Construction Projects, and to our own Corporate Health and Safety Policy requirements and rulings.

Contractors and subcontractors are required to enforce the above in addition to ensuring safe work practices and work site conditions prevail on our projects. In accordance to AVCON Construction Inc.– Contractor Health and Safety Agreement, penalties may be assessed against the trade contractor or subcontractor of non-compliance behaviour of their employers, employees and suppliers.

Any remedial action having to be taken by AVCON Construction Inc. for any reason, to correct trade contractor or subcontractor work site conditions or neglect, and other reasons as per our agreement, such costs incurred by AVCON Construction Inc. shall be back charged to the contractor and/or subcontractor.

Contractor Performance Review

An evaluation of any trade contractor on our projects may be conducted to determine at intermittent stages of their contract and an overall rating assessed. Such assessments will be forwarded to AVCON Construction Inc. management of record and review. Contractor or subcontractors exhibiting poor ratings may not become eligible of future contract bid considerations.

Summation

The corporate health and safety rulings below are meant as a guide to establishing safe work practices and conditions. They are not all inclusive. Contractors and subcontractors are advised to refer to the provisions of the Ontario workplace safety statutes (legislation) and industry standards of further guidance.

CONTRACTOR & SUBCONTRACTOR PREQUALIFICATION POLICY and PROCEDURES/STANDARDS

It is the policy of AVCON Construction Inc. that all contractors/subcontractors must meet prequalification requirements prior to conducting any work on our projects.

Procedures

AVCON Construction Inc. project supervisor must ensure that forms questionnaire below is completed, reviewed and signed by responsible parties.

Training & Safety Orientation of Workers/Subcontractors

The training that new workers and subcontractors will receive is based on legislation and job site specific requirements. Prior to performing specific task, the workers and subcontractors involved must have the appropriate training and undergo our company safety orientation and will be monitored closely for compliance before being permitted to work on their own.

AVCON Construction Inc. shall inform subcontractors of their requirement to ensure that training obligations are met as require.:

After inspecting a job site, the safety person or other designated person will identify and evaluate all potential hazards for:

- injury severity potential
- probability of an accident
- this person will also appraise the skills and knowledge level of exposed workers.
- appropriate training will be given.
- hazards will be pointed out.
- necessary precautions will be explained.
- the higher the hazard the more detailed will be the training.
- ensure that the drug and alcohol policy is addressed to all contractors/subcontractors that will preform work on our sites

Records will be maintained for all training sessions with descriptions of topics covered and names of workers trained. (training proof required below)

1. First Aid – A foreman/supervisor in charge of workers on the project must be trained and hold a current certificate and card in first aid
2. Equipment - All equipment operators must be adequately trained in type of the equipment that they are operating such as: suspended access equipment, power elevating work platforms, aerial lifts, forklift, bob cat etc.
3. WHMIS – GHS 2015 (Global Harmonized System) – All workers and supervisors must be trained, and hold current certificate and card reviewed annually.
4. Respiratory Protection
5. Traffic Control

6. Fire extinguishing equipment
7. Workplace Safety and Insurance Board Forms – All foreman/supervisors are to be trained to fill out the WSIB forms.
8. Fall Protection/Working at Heights
9. Electrical Hazards etc.
10. Compressed Gas Safety (Propane) (if required)
11. Hoisting and Rigging (if required)
12. Designated Substances Awareness
13. Confined Space Awareness (if required)
14. Worker Safety Awareness in 4 Basis Steps – Mandatory (O. Reg. 297/13)
15. Supervisor Awareness in 5 Basic Steps – NB: supervisors must be trained within 1 week of being hired – Mandatory (O. Reg. 297/13)

If the need arises for any other type of training AVCON CONSTRUCTION INC. will assist with any requests.

Prequalification Form for Trade /Subcontractor

Name of Company: _____

1. Please list your Company's Workers' Compensation Rating (CAD 7)
   _____

2. Please use the three most recent years to fill in the number of cases for each year.
   _____ _____ _____

3. How many OH & SA violations has your Company received in the last three years?
Year _____ # _____ Year _____ # _____ Year _____ # _____

4. Any willful Occupational Health & Safety Act Violations? Yes ____ No ____

Please give a brief description of the violation(s) – use additional paper if necessary
_____
_____

5. Any employee fatalities in the past 3 years? Yes _____ No ____

If YES, please give a brief description of the circumstances:
_____
_____

6. Do you have a qualified person responsible for safety within your Company?
Yes___ No___

Please describe his/her qualifications:
_____
_____

7. Does this person do safety inspections on all of your projects? Yes ___ No ____
If yes, at what frequency? _____

8. Does your company have a substance abuse policy? Yes____ No ____
If yes, please indicate which are included in the policy.

Pre-Hire/Initial	_____
Employment	_____
Cause	_____
Post Accident/Incident	_____
Random	_____
Periodic	_____

9. Have you ever implemented 100% fall protection? Yes ___ No ___

If requested, can you provide us with a site-specific program addressing the fall hazards in your work? Yes ____ No _____

10. Do you have a return to work/light duty program? Yes ____ No ____If yes, please describe.

_____
_____

11. Do you require documented safety meetings from your employees? Indicate which, and how often. Yes _____ No _____

Field Supervisors	Yes _____	No ____	Frequency _____
New Hires	Yes _____	No ____	Frequency _____
Employees	Yes _____	No ____	Frequency _____
Contractor contractors	Yes _____	No ____	Frequency _____

12. Does your company provide safety training for all employees? Yes ____ No ____
If yes, please list training _____
_____

13. Do you have home office representative (not directly involved in the project) who will visit and audit the project for safety? Yes __ No ___ Frequency _____

14. Does your company set annual safety training goals? Yes ____ No _____
If yes, please describe.

_____
_____

15. Does your Company have a program recognizing your employees for safety performance excellence? Yes ____ No _____

16. Does your Company have a disciplinary program in place for safety violations? Yes __No__

17. Does your Company review the safety management systems of your sub-Contractor contractors? Yes ___No _____

18. Does your Company conduct accident /incident investigations? Yes ____ No _____

19. List all supervisory employees who have completed an Approved Basics of Supervision Course.

SUPERVISOR'S NAME	IHSA's Course Completed (Dates)

The undersigned warrants and represents the data provided is accurate in all respects.

Name of Company: _____

Address of Company: _____

Telephone Number: _____

Prepared By: _____

Position/Title: _____

Signature: _____

Date: _____

NEW MANDATORY OCCUPATIONAL HEALTH AND SAFETY TRAINING

In an effort to improve health and safety in the workplace, the Ontario Provincial Government is introducing new training requirements under the Occupational Health and Safety Act ("OHSA").

Bill 160, which comes into force on July 1, 2014, sets out mandatory occupational health and safety awareness training to be provided to workers and supervisors. (O. Reg. 297/13)

AVCON Construction Inc. will ensure that their workers and supervisors receive the required training as set out by the Bill 160, under the Occupational Health and Safety Act. (O. Reg. 297/13)

Training will include:

- the rights and duties of workers, employers and supervisors under the OHSA
- the roles of health and safety representatives and Joint Health and Safety Committees under the OHSA
- the roles of the Ministry of Labour, the WSIB and other entities designated under the OHSA

Annual Training Review – All Employees/Supervisors/Foreman

Management is responsible to conduct annual review of all employees and ensure that contractors are in compliance with regards to safety training prior to allowing work to be conducted on our sites. Where refresher training is required on annual basis such as **WHMIS – GHS 2015,** all workers must be notified by their supervisors and course scheduled for attendance.

NEW EMPLOYEE SAFETY

The supervisor should provide safety orientation to all newly hired employees. Each new employee will be given a copy of the safety manual.

General safety orientation containing information common to all employees should be reviewed, ***before beginning their regular job duties.*** Recommendations include (at a minimum):

- review the Safety Manual, with extra time spent on: Accident & hazard reporting procedures, emergency procedures, first aid, personal protective equipment, and special emphasis programs (Drug-Free Workplace Policy, Return-to-Work Policy, etc.)
- encourage & motivate employee involvement in safety. Make each accountable for their safety and the safety of their coworkers.
- explain the workers' compensation system and fraud prevention
- review any known workplace hazards.
- conduct training on any topics that are not scheduled to be addressed within a reasonable timeframe and are relevant to the employee's job.

Continual training should be provided to new hires. Each new hire should be assigned to work with an experienced worker for at least 6 months. The senior employee should act as a mentor and ensure that the employee is working safely and exhibits a positive safe attitude.

All new employees must complete the Ontario's Basic Health & Safety Awareness Training Course. Supervisors hired shall complete the Supervisor Awareness in 5 Basic Steps within one week of performing work as a supervisor.

All records of training will be kept for a minimum of 1 year with AVCON Construction Inc. regardless of the position hire for.

YOUNG WORKERS – STUDENTS

Minimum allowable working age in construction in Ontario is 16 years of age. Where young worker or student is assigned to the crew, Supervisor/Foreman is responsible to in addition to "Company Safety Orientation Session" to closely supervise the worker either personally or by assigning young worker to experienced and competent worker for instructions, monitoring and guidance. Do not permit inexperienced worker, under training to carry out difficult tasks or tasks involving various power tools and equipment until satisfied that worker is adequately trained and capable of carrying those tasks in safe manner.

Young workers and new workers are the most vulnerable to workplace injury. A combination of inexperience, reluctance to ask questions and lack of maturity can lead young workers into lethal situations.

AVCON Construction Inc. is committed to educate young workers on job specific hazards and controls by assigning full- time competent supervision during project activities. Young and inexperienced workers will not be permitted to work alone or handle the task that they have not received training or instructions for.

WORKERS' RIGHTS

The Right to Know

You have the right to know about health and safety hazards in your workplace. This means that all hazardous materials must be properly labelled according to Ministry guidelines. You must be trained so that you learn of the potential and actual dangers of materials and how to deal with them safely.

The Right to Participate

You have the right to participate in keeping your workplace safe and healthy. You have the right to give your ideas and complaints about problems without fear of being punished.

The workers must select a health and safety representative. The representative must be a worker and not a member of management. These are the duties of the representative: The representative inspects the overall health and safety of the workplace at least once per month. The representative informs the employer, the workers, and the union about unsafe conditions, and she/he also recommends changes.

The employer must give the representative a written response within 21 days.

The representative can ask the employer for any information about health and safety of the workplace. The representative receives their regular pay for time spent on health and safety matters.

If a workplace has 20 or more workers, then a Joint Health and Safety Committee must be formed. If there are between 20 and 50 workers the committee will have at least 2 or more members, and if there are more than 50 workers the committee will have at least 4 or more members.

The role of the Joint Health and Safety Committee is to:

- check for dangerous work situations.
- tell the employer and workers ways to improve health and safety.
- tell the employer about ways to measure the safety levels in the workplace.
- get information from the employer about dangerous materials, equipment, or ways of doing things that may be considered dangerous.
- get information on whether or not equipment and the workplace have been tested.
- whenever a workplace is tested, a worker from the joint health and safety committee must be present.
- at least one worker and one member of management of the joint health and safety committee must receive special training, regarding health and safety, paid for by the employer. this training will make them certified members of the committee.

The Right to Refuse

You have the right to refuse work that you think is unsafe. The right to refuse unsafe work includes the right to refuse work that will harm you or any other worker in the workplace. You can refuse work if you think the equipment or machines you are using are unsafe or being used in a way that might be harmful to you or another worker. Or, you can refuse work you think is unsafe if you think the physical condition of the workplace is a danger to you.

Steps to follow if you refuse work that you think is unsafe:

1. Tell your supervisor or H & S Representative or union steward why you think the work is unsafe and let them know it is your right under the act to refuse unsafe work. Also let your supervisor know that you would like them to look at the problem and have the employee health and safety representative accompany you.
2. Stay in a safe place near your work area, until your supervisor, has decided what to do about the problem. If your supervisor has told you to leave the workplace phone the head office immediately and ask to speak with president.
3. If you are satisfied that the problem has been taken care of you can return to work.
4. If, however, you feel that it is still unsafe to continue your work you can tell your supervisor to call the Ministry of Labour and have an inspector look at the problem.
5. If your supervisor refuses to do so, you may call an inspector yourself.
6. The inspector will investigate the problem and if it is unsafe, he will order the employer to make changes. While the investigation is being done your supervisor cannot send you home and must give you some other work to do if it is available.
7. If, however, the investigator says it is safe, but you still feel that it is unsafe, you may appeal the investigator's decision to the *Office of the Adjudicator* at (416) 326-6400. You have 14 days to do so.

Under the law you *cannot* be punished for refusing to do work that you feel is unsafe.

WORK REFUSAL PROCESS

All workers have the right to be able to perform work in a manner, which does not endanger themselves or others. If any worker feels that the work they are about to perform or the equipment/tools will endanger themselves or another worker, they must immediately report the unsafe condition to their foremen/supervisor. If the worker and foreman/supervisor cannot resolve the issue to the satisfaction of the worker, then the worker has the right to refuse that particular work as outlined in the Occupational Health and Safety Act.

It is in the best interest of all parties to avoid work refusals and to resolve any health and safety concerns (thereby avoiding a work refusal) by discussing them with our management team.

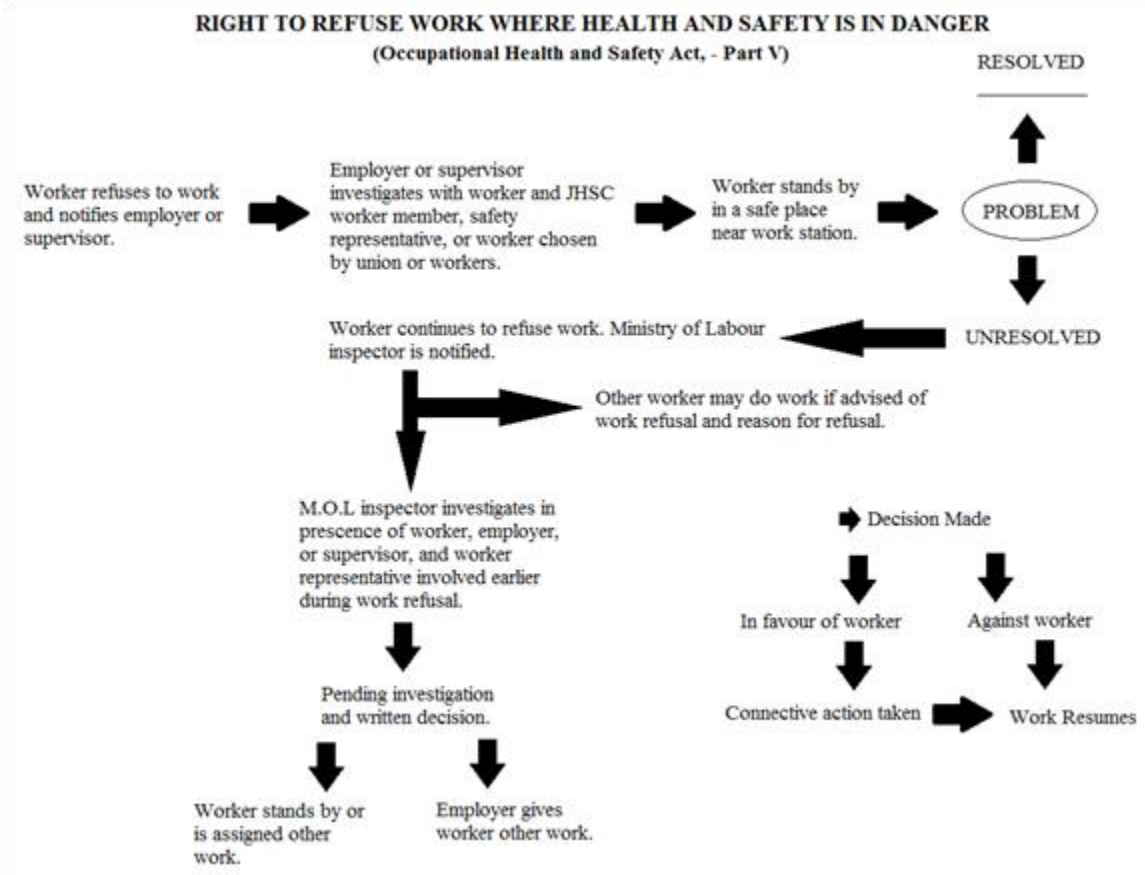
However, if the safety concern(s) fails to be resolved, the following is a guide in the event of a work refusal:

1) Report the work refusal to your foreman/supervisor stating the reason(s) for the refusal.
2) The foreman/supervisor shall notify the workers' health and safety representative (if any, if not, then the Union Steward if any, or another worker chosen by the refusing worker) of the refusal and together with the worker, investigate forthwith the reasons for the refusal. Use the "Work Refusal Reporting Form" to record the details of the investigation.
3) Until the foreman/supervisor, the workers' health and safety representative (if any) and the worker have completed the initial investigations, the worker shall remain near his work area in a safe place.
4) If the work refusal is not resolved at this point, also called "Stage 1", then the provincial health and safety inspector shall be called. Until advise is obtained from the provincial health and safety inspector, follow the requirements for reassigning the refusing worker(s) that are outlined in the OHSA for the province of work

If there is no health and safety representative for the worker, the worker may choose a representative from the workplace.

In the events that follow the conclusions of the initial investigation (Stage 1) will follow those procedures as outlined in the OHSA depending on the outcome and resolution of the workers refusal. However, until the conclusion of the initial investigation noted above, no other worker shall use or perform work on the equipment or area that resulted in the work refusal.

Work Refusal Process - Schematic



No representative of the employer will take any sort of reprisal against the worker for refusing to work.

PERSONAL PROTECTIVE EQUIPMENT

This policy is to ensure that all employees adhere to the Personal Protective Equipment (PPE) Policy as per the Occupational Health and Safety Act and its Regulations for Construction Projects (current edition). All employees must use the proper PPE to protect their health and safety. AVCON Construction Inc. will ensure that training is provided in the use, maintenance and proper storage of PPE.

All employees/workers are required to wear (CSA approved), as a minimum:

- hard hats
- safety boots and,
- high visibility vest (where required)

All employees will also wear long pants, sleeved shirts (long or short) on our job sites.

Additional PPE, such as safety glasses, gloves and hearing protection will be supply by AVCON Construction Inc. and will be replaced as required.

The selection of PPE will be done in accordance with AVCON Construction Inc. policy and will be identified in the daily toolbox meetings.

The safety information in this policy does not take precedence over the local health and safety regulations. Workers should be familiar with the Occupational Health and Safety Act and its Regulations for Construction Projects. (O. Reg. 213/91).

All visitors **MUST** wear the minimum PPE requirements on our sites. (CSA approved)

These are:

- hard hats,
- safety boots, and
- high visibility vests/garment (where required)

Prior to use of any PPE, SDS (Safety Data Sheets) will be reviewed and the hazard will be assessed and follow the legislative guidelines to determine the proper selection of personal protective equipment. All Personal Protective Equipment must be CSA approved/ANSI Standards were applicable.

Supervisors will need to assess the exposure to the workplace hazards and determine the appropriate personal protective equipment that will adhere to any regulatory requirements.

These **must be worn at all times**. Any additional PPE that is required to be worn, shall be made available to the worker; the worker shall be trained on the proper use, maintenance and storage of the equipment and all training records shall be kept on file.

Workers are also required to follow manufacturer's instructions and the type of PPE to be used as required by the available SDS.

Prior to donning any PPE, an inspection shall be conducted on the PPE equipment to ensure that the manufacturer' or legislative requirements are being adhered to.

Head Protection

Hard hats are designed to protect the head from any impacts from falling objects, bumps, splashes from any chemicals or harmful substances and contact with energized objects and equipment.

It is recommended that the type of protective headgear is the Class E with an adjustable fit that has the desired "dielectric strength". Any hardhat that is worn must meet CSA standards for the Class E type.

Hard hats are made up of two parts:
1. the outer shell: light and rigid to deflect any blows
2. the suspension: this will absorb and distribute any energy of an impact

The components are the hard hat must be compatible and maintained according to the manufacturer's instructions. If attachments are added to the hard hat, then it must be designed specifically for that particular headgear that is worn. Bump caps are not considered to be a helmet.

Inspecting and Maintaining

Proper care is required for the hard hat to work properly. The service life of the hard hat is determined by many factors such as temperature, chemicals, sunlight and ultraviolet radiation (welding).

The usual maintenance of the headgear is by washing it with a mild detergent and rinsing it thoroughly.

Do:
- replace hard hats that have been damaged by cracks, becomes brittle, etc.
- replace hard hats that have been subjected to blows even if the damage is not visible
- replace any hard hat components as suggested by manufacturer's instructions
- refer to the OHSA and its regulations for compliance or from the manufacturer of the hard hat.

Don't:

- alter the hard hat (shell, insulation etc.) in any way
- paint or use any chemicals on the hard hat; this could cause the shells to become weak
- use any liner that has metal or any other conductive materials
- use any hard hats or components if there are visual signs of defects
- carry anything in the hard hat while wearing it
- drill, remove peaks or alter the shell or suspension of the hard hat in any way
- put chin straps over the brims of the Class E hard hat

Foot Protection

Foot protection is designed to protect workers from feet injury in the workplace. Safety shoes/boots are designed to prevent puncture injury and any impact or compression injuries.

The tag colour on the boots indicates the amount of resistance the toe will supply to different weight dropped from different heights.

The green symbol on the boot will indicate the strength of the sole. For example, it designates a puncture resistant sole able to withstand 135 kg. of pressure, (300 ft. lbs.) without being punctured by a 5 cm. nail.

AVCON Construction Inc. requires only the green triangle grad of footwear, with a 6" minimum height from the bottom of the sole to the top of the boot to be used on our job site.

Do:

- wear only CSA approved footwear and according to the job hazard
- laces must be laced up securely to prevent tripping hazards
- protect the boots with an effective boot dressing to help the boot last longer and provide greater water resistance (wet boots conduct currents)
- choose foot protection that is high cut that will provide ankle support and fewer injuries
- replace any defective or torn safety footwear (i.e.: exposed steel toe caps)

Don't

- modify any footwear in any way
- under protect your feet

High Visibility Vest – Traffic Control

All workers on our job sites must wear high visibility vests when required. Supervisors must ensure that all AVCON Construction Inc. workers who are responsible for controlling traffic have the following in place, as per the specific job requirements and any legislative requirements, prior to the start of traffic control.

High visibility vests used shall meet the requirements of CSA standards.

Note: Book 7, Ontario Traffic Manual, temporary conditions must be reviewed and complied with.

a. hi- visibility apparel as per (O. Reg. 213/91 s. 69.1(1))
b. stop/slow paddles
c. warning signs
d. barriers
e. lane control devices
f. flashing lights
g. conspicuously identified pilot vehicles
h. designated persons directing traffic
i. two-way radio communication systems with other flaggers working on site
j. an established emergency escape route that is clearly identified.

Do

- keep your high-visibility apparel clean and well-maintained
- replace garments that shows signs of wear and tear, soiling or contamination
- garment should be done up properly around the body with no loose or dangling components

Don't

- wear clothing or other equipment that will cover the high-visibility garment as it will reduce the effectiveness of the visibility qualities. i.e.: equipment belts
- wear apparel that has sharp edges or projections that could cause excessive irritation or injuries
- don't wear apparel that does not fit properly i.e.: worn over bulky clothing

Specialized PPE

Specialized PPE is often required on our job sites.

Specialized equipment such as body and limb protection, eye protection/face shields, hearing protection, respiratory protection, safety harnesses/fall protection, will be provided by the company and made readily available.

Training on specialized PPE will be provided.

Limb and Body Protection

Since there are a number of different hazards associated on a construction site that cannot completely cover specialized limb and body protection in full details. These types of hazards are known as job exposures (exposures to fire, temperature extremes, body impacts, corrosive, molten metal, cuts from sharp or abrasive materials).

Personal protective equipment in this category would be items such as:

- full body suits,
- leather aprons and leggings,
- specialty hand pads and grips,
- leg, arm, chin and belly guards
- flame and chemical resistant clothing and various types of plastic boot covers and overshoes

Further information on these specialty PPE, ask your supervisor, or consult the SDS or the Occupational Health and Safety Act and its Regulations for Construction Projects.

As with all personal protective equipment, follow the manufacturer's instructions on the care and cleaning is vital and will help the longevity of the specialized equipment.

Hand PPE (Gloves & Mitts)

Personal protective equipment for hands include items such as finger guards, thimbles and cots, hand pads, mitts, gloves and barrier items. Select PPE that will protect against the job hazard. Gloves should fit well and be comfortable. This type of PPE should protect against heat and cold, chemicals, scrapes, abrasions and electrical shocks.

Gloves commonly used in the construction industry are made from leather, cotton, rubber, synthetic etc., and other man-made materials or in combination of materials.

When selecting PPE, keep in mind:

- look for anything at the job site that may be hazardous to the hands
- selecting the proper type for the job that is to be done
- inspect and maintain PPE regularly

If in doubt about the selection or require hand PPE, ask your supervisor for assistance; always refer to the supplier/manufacturer, Safety Data Sheets (SDS) or the Occupational Health and Safety Act and its Regulations for Construction Projects.

Do

- inspect hand PPE for defects before using them
- wash all chemicals and fluids off gloves before removing them
- ensure that the gloves fit properly
- use the proper hand PPE for the job
- follow manufacturer's instructions on the care and use of the PPE that you will be using
- ensure that any exposed skin is covered; no gaps between the sleeve and the hand PPE

Don't

- wear gloves when working with moving machinery; gloves can get tangled or caught
- wear hand PPE with metal parts near any electrical equipment
- use gloves or hand protection that is worn out or defective

Eye and Face Protection

Eye and face protection will protect workers from exposure to any eye hazards that may exist. Eye protection will be worn by workers where potential of eye injury exists on our job sites.

The First type "basic eye protection", include:

- eyecup goggles, and
- mono-frame goggles and spectacles with or without side shields

The Second type "Face Protection, include:

- metal mesh face shields for radiant heat or hot and humid conditions
- chemical and impact resistant (plastic) face shields
- welders shield or helmets with specified cover, and
- filter plates and lens

Other points to consider:

- contact lenses may trap or absorb particles or gases causing eye irritation or blindness. Hard contact lenses may break into the eye.
- basic eye protection shall be worn with face shields. Face shields alone aren't enough to fully protect the eyes from work hazards. When eye and face protection are required, refer to Safety Data Sheets (SDS) or your supplier.
- ensure the eye protection fits properly and are cleaned on a regular basis. Do not modify eye or face protection which is CSA approved.
- safety eyewear must meet the requirements of CSA Standard CAN/CSA-Z94.3-92
- welders and their helpers are required to wear a full-face shield or helmet when welding or working around a welding area. Any workers in the area where welding occurs, they must also wear eye protection if a welding shield is not in place to protect them against a flash.

Hardened glass prescription lens and sport glasses are not an acceptable substitute for proper, required industrial safety eye protection.

Do:

- ensure that your eye protection fits properly and close to the face for protection
- wear eye protection that is comfortably fitting. clean safety classes on a daily basis and as often as required
- safety glasses should be stored in a safe and clean dry place when it is not in use
- any safety glasses that has visible signs of damage, scratches etc. should be replaced

Don't

- change or modify any eye and face protection
- wear or use any eye or face protection that is not CSA certified
- wear contact lenses in any area of the workplace where particles, falling debris and gases are present.

Hearing Protection

Hearing protection is designed to protect a worker from noise exposure in areas exceeding 85 dBA.

Workers that are exposed to any sound over 85 dBA requires that hearing protection must be worn. AVCON Construction Inc. will ensure that all reasonable and practical measures are put in place to minimize the noise to which workers are exposed to in the areas of work.

During orientations and toolbox talks/tailgate meetings, workers are trained in the correct use of control measures and hearing protection with regards to the hazards associated with exposure to high noise levels. It will be the responsibility of workers to ensure that the control measures that are in place are used correctly to prevent hearing loss on the job site. Equipment that is required to be used at the work site shall be used in accordance to the manufacturer's instructions.

As a guideline, hearing protection is required when you cannot carry on a conversation at a normal volume of voice when you are 3 feet apart.

Keep in mind, this is just a guideline. Sounds over 85 dBA requires hearing protection. Hearing loss can be very gradual and happens over a number of years.

The most common types of hearing protection in the construction industry are earplugs and earmuffs. It is important to have various types of styles of hearing protection available. This will allow a better chance of a good fit. Each person's head, ear shape and size vary.
Not every style will fit all. If the PPE does not fit properly or if it is painful to wear, the worker will not wear it. If the PPE is not fitted properly, it will not supply the level of protection that it is intended for.

Most earplugs when fitted properly, reduces the noise to a comfortable level. If the hearing protection doesn't take the sharp edge off the noise, the worker will have ringing, pain, headaches or discomfort in the ears.

Maintenance

Disposable foam earplugs may be worn a couple of times if you wipe them off after each time they are worn. However, after about three wearings, the earplugs noise reduction ability will diminish. Wiping off the earplugs removes excess earwax, bacteria and dirt that could lead to infections in the ear canal. Always be certain your earplugs are clean and dry before insertion.

Wash earmuffs with a mild liquid detergent in warm water and then rinse in clear warm water.

Do

- wear hearing protection when working around heavy equipment or tools.
- inspect single-use ear plugs prior to fitting; check for damage or extreme hardness
- replace earmuffs if cracked or if foam is exposed on outer ring.
- insert ear protection (disposable plugs) properly for best protection

Don't

- allow gaps between your head and earmuffs
- use harsh abrasives to clean the earmuffs
- allow the sound-attenuating materials inside the ear cushions to get wet.

Noise – O. Reg 381/15; New Noise Regulation

- prescribing, for workers exposed to noise, a maximum time-weighted exposure limit of 85 decibels over an eight-hour work shift
- requiring employers to put in place measures to reduce workers' exposure based on a "hierarchy of controls", which could include engineering controls, work practices, and the use of personal protective equipment in the form of hearing protection devices and
- requiring employers who provide a worker with a hearing protection device to provide adequate training and instruction on that device

Duty to protect workers

2. (1) Every employer shall take all measures reasonably necessary in the circumstances to protect workers from exposure to hazardous sound levels.

(2) The protective measures shall include the provision and use of engineering controls, work practices and, subject to subsection (5), hearing protection devices.

(3) Any measurement of sound levels in the workplace that is done in order to determine what protective measures are appropriate shall be done without regard to the use of hearing protection devices.

(4) Without limiting the generality of subsections (1) and (2), every employer shall ensure that no worker is exposed to a sound level greater than an equivalent sound exposure level of 85 dBA, Lex, 8.

(5) Except in the circumstances set out in subsection (6), the employer shall protect workers from exposure to a sound level greater than the limit described in subsection (4) without requiring them to use and wear hearing protection devices.

(6) Workers shall wear and use hearing protection devices appropriate in the circumstances to protect them from exposure to a sound level greater than the limit described in subsection (4) if engineering controls are required by subsections (1) and (2) and,

(a) are not in existence or are not obtainable;
(b) are not reasonable or not practical to adopt, install or provide because of the duration or frequency of the exposures or because of the nature of the process, operation or work;
(c) are rendered ineffective because of a temporary breakdown of such controls; or
(d) are ineffective to prevent, control or limit exposure because of an emergency.

(7) Where practicable, a clearly visible warning sign shall be posted at every approach to an area in the workplace where the sound level, measured as described in subsection (3), regularly exceeds 85 dBA.

Respiratory Protection

A wide variety of equipment can be used to protect workers from respiratory hazards. Devices range from simple, inexpensive dust masks to sophisticated self-contained breathing apparatus. Choosing the proper respiratory protection is key to protecting yourself from hazardous gases, vapours, fumes, mists and dusts.

Respiratory protective equipment can prevent illness, disease, and death from breathing hazards. However, the equipment must be properly selected, fitted, worn, and maintained to ensure maximum protection.

Respirator Selection

In order to select the proper respirator for a particular job, it is necessary to know and understand:

- the characteristics of the contaminant(s),
- the anticipated exposure conditions,
- the performance limitations of the equipment,
- any legislation that applies.

Refer to the Safety Data Sheet (SDS) or sheets if more than one product is being used. The SDS will identify any respiratory protection required and should specify the type of respirator to be worn.

It is also important to realize that facial hair and deep facial scars can interfere with the seal between the respirator and face. Respirators should only be selected by someone who understands all of these factors.

If there is any doubt about the correct type of protection for a specific material and operation, consult the manufacturer of the product, a supplier or manufacturer of respirators, or the IHSA.

Fit Testing

Before each use, you must perform a Positive and Negative pressure test. This applies to respirators only. If the required protection is a filtering half facepiece (dust mask) then follow manufacturer's instructions.

Workers shall undergo a medical examination to ensure that they are medically fit to be able to wear a respirator.

Negative Pressure Test

The wearer puts on the respirator and adjusts it so that it feels relatively comfortable. Then the air inlets are blocked off with the hands or a plastic cover, and the wearer inhales gently. If the respirator is properly fitted, it should collapse slightly and not permit any air into the facepiece. If leakage is detected, the mask should be readjusted, and the test repeated until the fit is satisfactory.

Positive Pressure Test

The wearer puts on the respirator and adjusts it so that it feels relatively comfortable. Then the exhaust port of the respirator is covered, and the wearer tries to exhale gently. The face piece should puff away from the wearer, but no leakage should occur.

General Instructions

Filters should be changed as follows:

- dust/mist/fume filters should be changed when there is noticeable resistance to normal breathing.
- chemical cartridge respirators should be changed when the gas or vapour can be tasted or smelled.
- any filter should be changed at the interval specified by the manufacturer or when damaged in any way.

Do

- train workers specifically in the care, use and instructions of respirators
- ensure that respirators are properly cleaned and disinfected after each shift and according to the manufacturer's instructions

- ensure workers are readily protected by:
    a. stored in a readily accessible location
    b. stored in a manner that prevents its contamination
    c. maintained in a clean and sanitary condition
    d. inspected before and after each use to ensure its in satisfactory working condition
    e. serviced and used in accordance with the manufacturer's instructions
- dispose of exhausted cartridges and masks in sealed bags or containers
- keep new and unused filters separate from the old and used filters
- monitor the use of respirators and that they are worn properly
- replace filters when breathing becomes difficult.

Don't

- use respirators where oxygen content in the air is less than 19.5%
- use for protection against materials which are toxic in small amounts
- use with materials that are highly irritating to the eyes
- use respirators if their effectiveness is in question
- use with gases that cannot be detected by odour or throat irritation
- use with gases not effectively halted by chemical cartridges regardless of the concentration (refer to the cartridge label)

Refer to the OHSA and its Regulations for Construction Projects (O. Reg. 213/91)

Safety Harnesses, Lanyards and Lifelines

Harnesses are used in construction to provide workers that are working at heights above ground level with the freedom of movement and protection from falls. These devices will arrest a fall and absorb some of the shock from the fall. The systems are worn around the body and attached to a lanyard, fall arresting device or rope grab. Better quality systems usually have some form of shock absorption in the system.

Lifelines should never be used as a service line. It is very important to get quality advice in the selection, purchase and maintenance of the arresting equipment you will be using.

Always refer to the CSA standards applicable to the selection of the device that will be used.

Do

- purchase fall arrest devices suitable to the work being performed
- properly train and practice with the system that is to be used
- use only the manufacturer's components for replacement parts
- inspect carefully before each use (inspections should be performed by a trained and competent worker)
- have the harness fitted snugly to the worker

- ensure that the anchor points are secure and is able to support the load in the event of the fall
- follow the manufacturer's instructions on the care and use
- use only proper safety rated fastenings with the system
- use a full body harness with shock absorber whenever possible

Don't

- modify, change or put additional holes in the harness or components
- modify or alter the system
- use the system for any other than its intended use
- use the lifeline for a service line
- use a harness, lanyard or other fall arresting device unless you have received fall protection training (Working at Heights) by a Ministry approved facility and practical training with the device.

Additional information and references to be made to the Occupational Health and Safety Act and its Regulations for Construction Projects (O. Reg. 213/91 s. 26.1 to 26.9)

SLIPS, TRIPS AND FALLS

Slips

Slips happen where there is too little friction or traction between the footwear and the walking surface.

Common causes of slips are:

- wet or oily surfaces,
- occasional spills,
- weather hazards,
- loose, unanchored rugs or mats, and
- flooring or other walking surfaces that do not have same degree of traction in all areas.

Trips

Trips happen when your foot collides (strikes, hits) an object causing you to lose the balance and, eventually fall. Common causes of tripping are:

- obstructed view,
- poor lighting,
- clutter in your way,
- wrinkled carpeting,
- uncovered cables,
- uneven (steps, thresholds) walking surfaces.
- poor housekeeping

How to prevent falls due to slips and trips?

Both slips and trips result from some a kind of unintended or unexpected change in the contact between the feet and the ground or walking surface. This shows that good housekeeping, quality of walking surfaces (flooring), selection of proper footwear, and appropriate pace of walking are critical for preventing fall accidents.

HYGIENE

Drinking Water

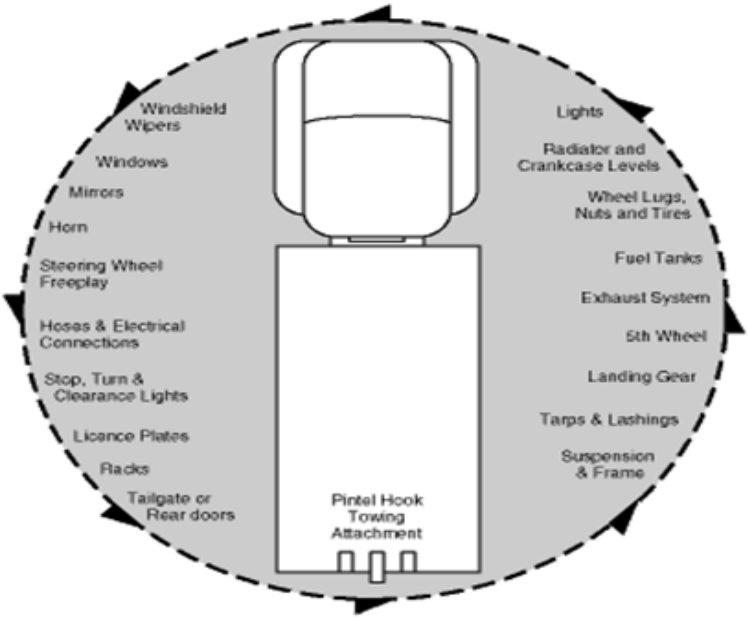
Supervisors/Foremen shall ensure that adequate amount of portable drinking water is available for use of workers. Clearly mark containers used for drinking water and do not use them for other purposes.

VEHICLE START UP – THE CIRCLE CHECK

What should I do before starting a vehicle?

Do

- read, understand, and follow manufacturer's operating manual.
- know how to operate the vehicle and use any related equipment or attachments safety. be familiar with the location and function of all the controls.
- inspect your vehicle daily.
- develop a routine method of inspecting vehicle (e.g. start at the front on the driver's side and walk towards the back, and around past the passenger side, checking the items listed below).
- any vehicles owned by AVCON Construction Inc. shall be inspected every 24 hours prior to driving to ensure safe operation



What should I check before operating a vehicle?

- adjust seat and controls and fasten seatbelts
- make sure you have your driver's license on you.

Check for correct operation of the following:

- parking brake–holds against slight acceleration.
- foot brake–holds, stops vehicle smoothly.
- clutch and gearshift–shifts smoothly without jumping or jerking.
- steering–moves smoothly; no "play".
- lights–headlights, warning lights, and turn signals operational.
- dash control panel–all lights and gauges operational.
- all moving parts–no strange noises.
- horn operational.
- visibility–mirrors properly adjusted; windows clean and intact.
- wipers/washer–functioning and intact.
- tires–pressure, tread depth or damage.
- wheels and fasteners–no defects in rim, loose or missing fasteners.
- seat belts–in good condition and being used.
- vehicle back-up alarm–operational, where required.
- fluid levels – oil, gas, brakes, washer fluid. check for leaks.
- load–secure and complying with regulations; hitch in good condition.
- emergency equipment–installed and inspected as required by law or company policy.
- record and document any defects during daily inspections and report any defects to your supervisor immediately; any defects that might affect the safe operation of a vehicle are repaired before the vehicle is operated on public road
- obey all rules while on public streets and job sites.
- obey speed limit at all times.
- travel at a safe distance behind other vehicles.
- ensure the area behind your vehicle is clear when backing up. sound horn twice.
- when your view is obstructed or limited, obtain assistance of a competent signal person.

Don't

- do not allow passengers in company vehicle that are not company employees unless permit is obtained from upper management of AVCON Construction Inc.
- observe vehicle load rating capacities.
- turn off the motor, and set the brake, when the vehicle is unattended.
- park vehicle only in client permitted parking.
- do not operate vehicle under influence of any prescription drugs, illegal drugs or alcohol – report to your supervisor or upper management of AVCON Construction Inc.
- do not smoke inside vehicle.
- do not leave vehicle unlocked.
- safely secure all loads inside and outside/top of the vehicle prior to driving
- do not operate under extreme weather conditions call office for instructions.
- must inform upper management of AVCON Construction Inc. of any detours from their predetermined route set for the day before varying off course for any reason.

- any changes to driver license status (demerit points etc.) must be reported to senior management within 24 hours.
- wear your seatbelts at all times
- AVCON Construction Inc. will not permit workers to drive more than 13 hours of driving time or 14 hours of on-duty time in a day.
- must report any traffic tickets including parking violation tickets or police pull over to upper management of AVCON Construction Inc. immediately at the time of infraction.

Vehicle Policy

The purpose of the policy is to ensure the safety of those individuals who drive company vehicles and to provide guidance on the proper use of company vehicles. The following minimum standards of operation, maintenance and protection of the company's vehicles is mandatory.

- all company owned vehicles are to be operated by authorized company employees only with a valid driver's licence.
- all vehicles must be operated in a safe manner in compliance with the local traffic act and regulations.
- driver's abstract will be obtained from the ministry every three months and kept on file.
- the vehicle must be operated in a courteous manner and in compliance with a good corporate image
- vehicle must be kept clean taking into account jobsite conditions
- vehicles are to be serviced on a timely basis according to policy;
- report any accidents immediately to your supervisor or head office – no matter how minor
- vehicles must be safeguarded, within reason, from theft and vandalism.
- the vehicle is not to be driven out of the employee's jurisdiction of work without prior approval from supervisor.
- transponders and fuel cards provided by the company shall be used for company purposes not for personal use.
- any infractions on your driver's licence must be reported to the company immediately.
- cell phone use is prohibited while operating the vehicle
- smoking in the vehicle is prohibited
- seatbelts must always be worn while driving any vehicle
- any cargo carried to a job site must be fully secured
- any use of drugs or alcohol or that a worker is suspected of being under the influence of drugs or alcohol is strictly prohibited
- whenever possible, vehicles should be backed into parking spot prior to unloading any equipment or tools
- workers driving company vehicles or their own vehicles for work shall not exceed 13 hours of driving time and/or 14 hours of on-duty time in any one day
- logs books are not required for AVCON Construction Inc.

SAFE LOADING & UNLOADING OF VEHICLES AND EQUIPMENT

Loading and unloading can be dangerous. Machinery can seriously hurt people. Heavy loads, moving or overturning vehicles and working at height can all lead to injuries or death. This guidance should be followed to help avoid problems.

Loading and unloading areas should be:

- clear of other traffic, pedestrians and people not involved in loading or unloading.
- clear of overhead electric cables so there is no chance touching them, or of electricity jumping to 'earth' through machinery, loads or people.
- level. to maintain stability, trailers should be parked on firm level ground,
- loads should be spread as evenly as possible, during both loading and unloading. uneven loads can make the vehicle or trailer unstable.
- loads should be secured or arranged so that they do not slide around. racking may help stability.
- safety equipment must be considered. mechanical equipment and heavy moving loads are dangerous.
- guards or skirting plates may be necessary if there is a risk of anything being caught in machinery.
- there may be other mechanical dangers and safety procedures to be considered.
- ensure the vehicle or trailer has its brakes applied and all stabilizers are used. the vehicle should be as stable as possible.
- drivers should not remain in their cabs if this can be avoided. no-one should be in the loading/unloading area if they are not needed.
- vehicles must never be overloaded. overloaded vehicles can become unstable, difficult to steer or be less able to brake.
- always check the floor or deck of the loading area before loading to make sure it is safe. look out for debris, broken boarding, etc.
- loading should allow for safe unloading.
- loads must be suitably packaged. When pallets are used, the driver needs to check that:

  a) they are in good condition
  b) loads are properly secured to them.

- loads are safe on the vehicle. they may need to be securely attached to make sure they cannot fall off.
- tailgates and sideboards must be closed when possible. if over-hang cannot be avoided, it must be kept to a minimum. the over-hanging part of the load must be clearly marked.
- if more than one company is involved, they should agree in advance how loading and unloading will happen.
- for example, if visiting drivers unload their vehicles themselves, they must receive the necessary instructions, equipment and co-operation for safe unloading. arrangements will need to be agreed in advance between the hauler and the recipient.

- some goods are difficult to secure during transport. haulers and recipients will need to exchange information about loads in advance so that they can agree safe unloading procedures.
- checks must be made before unloading to make sure loads have not shifted during transit and are not likely to move or fall when restraints are removed.

There must be safeguards against drivers accidentally driving away too early. This does happen and is extremely dangerous.

Measures could include:

- traffic control person or signaler.
- the use of vehicle or trailer restraints.
- the person in charge of loading or unloading could keep hold of the vehicle keys or paperwork until it is safe for the vehicle to be moved.
- these safeguards would be especially effective where there could be communication problems, for example where foreign drivers are involved.
- protect the public way as per TCP training (regulatory requirements)

SAFE LIFTING PRACTICES – HOISTING

Evaluation of the Load

Determine the weight of the object or load prior to a lift to make sure that the lifting equipment can operate within its limitations.

Balancing of the Loads

Estimate the centre of gravity or point of balance. The lifting device shall be positioned immediately above the estimated centre of gravity.

Hoisting Hook

Hoisting hooks must be equipped with safety catch unless design of the hooks are permitting safe levels of safety or better than those assured by safety catch and approved for that particular application.

Landing the Load

Prepare a place to land the load, lower the load gently and make sure it is stable and secured prior to releasing hoisting hooks or slings or chains; the load rated capacity must be clearly marked on the lifting device.

REMEMBER

- use only approved rigging and never exceed the working load limits set out by manufacturer or professional engineer.
- All lifting devices must be inspected prior to each use and documented
- ensure the hoist or crane is positioned directly over the load.
- use slings/chains of proper reach.
- never shorten a line by twisting or knotting – with chain slings
- never use bolts or nuts.
- never permit anyone to ride the lifting hook or the load.
- ensure all personnel stand clear from the load being lifted.
- never work under suspended load.
- never leave a load suspended when the hoist or crane is unattended
- always place “danger due to hoisting” sign adjacent to the hoisting area
- always protect the public way by installing adequate barriers/fencing around hoisting area perimeters
- use guide ropes to prevent unwanted/uncontrolled movement of the load as well as pinch points
- operator to use assistance of signaler where view of the operator obstructed
- do not release the load from hoisting hook unless load secured

- ensure that any lifting devices are operated by competent workers and are trained to do so
- all lifting devices shall have their maintenance/logbooks of inspection with each lifting device used

TRUCKS AND HEAVY EQUIPMENT BACKING UP

All vehicles shall be equipped with back-up beepers and in situations where workers or public are nearby and possibly in danger, a traffic control person will position himself or herself in view of the vehicle operator and his intended path and direct the operator. The traffic control person and workers in the area should be made aware of the vehicle's blind spots, by the operator.

All traffic control person/signalers shall wear required reflective vests while directing traffic or signaling vehicles.

On-Site Signaling Procedures - Hazards Description

On Project:

Workers could be at risk of contact by vehicular equipment such as tractor trailers and dumpster vehicles maneuvering in position.

Reversing to be kept minimal

Driver Responsibility

- The necessity of vehicles having to operate in reverse on our projects will be minimized as much as possible. Operators will be expected to maneuver into position in forward direction as much as practicable. Driver to ensure that they have a functional alarm backup system.
- No vehicular equipment operator shall back up his vehicle until he is directed by a competent signal person. The driver must strictly follow the direction / signals of the signaler.

Communications:

Competent Signaler – Communication with Driver

When vehicular equipment arrives on site, the grounds attendant or another worker [who will be competent signalers] designated by the crew foreman shall be in contact with the driver of the vehicle and discuss the situation and agree upon pre-arranged hand signals, blind spots and the maneuvering procedures necessary.

Positioning

Signaler Positioning & Required Reflective Garments

The signaler shall position himself or herself clear of the vehicle's intended path of travel and shall be in full view of the operator and shall have a clear view of the intended path of travel. The signaler shall pay particular attention to watching the part(s) of the vehicle that the operator cannot see. The signaler shall wear a reflective vest in addition to his/her other personal protective equipment.

Eye contact:

Establishing Eye Contact

All tradesmen who may be in the area, will be reminded, by the crew supervisor or signaler, to establish eye contact with the vehicular equipment operator before attempting to encroach upon the operator's travel zone and before crossing the operator's path of travel. The signaler should also be made aware of such attempts.

Additional Measures:

Traffic Control Measures

If necessary, designated route ways will be established for tradesmen or vehicle work zones will be cordoned off with caution tape and warnings signs, to alert and restrict movement of tradesmen.

ON-SITE SIGNALING PROCEDURES - HAZARDS DESCRIPTION

On Project

Workers could be at risk of contact by vehicular equipment such as tractor trailers and dumpster vehicles maneuvering in position.

Reversing to be kept at a minimal; **Driver's Responsibility**

- the necessity of vehicles having to operate in reverse on our projects will be minimized as much as possible. Operators will be expected to maneuver into position in forward direction as much as practicable. Driver to ensure that they have a functional backup alarm system
- no vehicular equipment operator shall back up his vehicle until he is directed by a competent signal person. The driver must strictly follow the direction / signals of the signaler

Communications - Competent Signaler; Communication with the Driver

- when vehicular equipment arrives on site, the grounds attendant or another worker [who will be competent signalers] designated by the crew foreman shall be in contact with the driver of the vehicle and discuss the situation and agree upon pre-arranged hand signals, blind spots and the maneuvering procedures necessary.

Positioning - Signaler Positioning & Required Reflective Garments

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Additional Measures - Traffic **Control Measures**

- If necessary, designated route ways will be established for tradesmen or vehicle work zones will be cordoned off with caution tape and warnings signs, to alert and restrict movement of tradesmen.

TRAFFIC CONTROL PLAN

AVCON Construction Inc. shall develop in writing and implement a traffic protection plan for the workers at a project if any of them or public may be exposed to a hazard from vehicular traffic. (O. Reg. 213/91 s. 67(4))

The traffic protection plan,

(a) shall specify the vehicular traffic hazards and the control measures

(b) shall be kept at the project and made available to an inspector or a worker on request.

Traffic control workers must be given adequate oral and written instructions and wear required PPE such as fluorescent traffic vests and be equipped with traffic stop/slow signs.

EXCAVATOR HAZARDS

Most fatal and serious injuries involving excavators occur when the excavator is:

- **Moving** – and strikes a pedestrian, particularly while reversing;
- **Slewing** – trapping a person between the excavator and a fixed structure or vehicle; or
- **Working** – when the moving bucket or other attachment strikes a pedestrian or when the bucket inadvertently falls from the excavator.

Controlling the risk - It is important to select the right excavator for the job. There are five main precautions needed to control excavator hazards.

These are:

- **Exclusion:** People should be kept away from areas of excavator operation by the provision of suitable barriers. Most excavator related deaths involve a person working in the vicinity of the excavator rather than the driver. Bunting or fencing can be used to create and maintain a pedestrian exclusion area.
- **Clearance:** When slewing in a confined area the selection of plant with minimal tail swing is preferred. Clearance of over 0.5 m needs to be maintained between any part of the machine, particularly the ballast weight, and the nearest obstruction.
- **Visibility:** Excavators with the best view around them directly from the driver position should be selected. Excavators should be equipped with adequate visibility aids to ensure drivers can see areas where people may be at risk from the operation of the machine.
- **Signaller:** A signaller should be provided in a safe position to direct excavator operation and any pedestrian movements.
- **Bucket attachment:** Quick hitches can be used to secure buckets to the excavator arm. Check that you are able to implement and manage any quick hitch used. A number of deaths have occurred in recent years when the bucket has fallen from the machine.

Training and competence

There are three categories of worker who must be trained and competent regarding the excavator hazards and precautions:

- **Drivers:** should be trained, competent and authorised to operate the specific excavator.
- **Signallers:** should be trained, competent and authorised to direct excavator movements and, where possible, provided with a protected position from which they can work in safety; and
- **Pedestrians:** should be instructed in safe pedestrian routes on site and the procedure for making drivers aware of their presence.

Inspection and maintenance: A program of daily visual checks, regular inspections and servicing schedules should be established in accordance with the manufacturer's instructions and the risks associated with each vehicle.

LOADERS

What should I check before starting the engine?

Check the following before starting the engine:

- fuel and oil levels,
- hydraulic fluid level,
- cooling system fluid,
- operator cab, seat belt,
- lift arm and cylinder pivot points, and
- tires.

Follow the manufacturer's recommendations about how often to lubricate all the "lube" points.

What should I do when using a loader?

Set-up:

Read, understand, and follow instructions in the manufacturer's operating manual and safety decals on the loader.

- know how to load, tie-down, transport, and unload the loader safely
- use only manufacturer-approved attachments and buckets
- always ensure the attachment locking devices are in place, even if you are switching attachments for only a few minutes. If not locked, an attachment could break free and roll down the loader arms or fall onto a bystander
- wear hearing and head protection
- remain alert at all times when operating the loader
- ensure all required safety shields are on the tractor and in good condition
- use the safety treads and grab handles to get on and off the loader

Operation:

- keep your feet on the pedals when operating the loader
- keep other people away from work area
- drive with caution and check behind you before backing up
- travel with the bucket or attachments as close to the ground as possible to maintain equipment stability and give the operator an unobstructed view
- load the bucket evenly (i.e. weight should not be lop-sided) and do not load beyond the limits or rated capacity of the equipment. You can lose stability and steering control
- load, unload, and turn on level ground
- lower the bucket when not using the loader
- go straight up and down slopes, keeping the heavy end of the loader pointing uphill -

back down slopes slowly. Avoid driving forward when going downhill with a loaded bucket
- look out for holes, rocks or obstructions which may cause a roll-over or loss of control
- if you become confused about operation of controls from having to perform too many functions at once, remove hands and feet from the controls. All machine functions should stop when pressure on the controls is released

Repairs:

- turn off the engine before attempting any repairs or adjustments.
- lower the bucket and set the parking brakes before getting off the seat.
- if the equipment is going to be left unattended for some time, remove the ignition key.
- when checking for leaks in the hydraulic system, use a piece of paper or cardboard - never use your hands since oil from a pin-hole leak under high pressure can penetrate the skin. If this does happen, get immediate medical attention.

What should I avoid when operating a loader?

- do not operate loader if you are ill, over-tired or on medication causing drowsiness
- never exceed rated operating capacity
- never attempt to repair, adjust or unplug equipment with the Power Takeoff (PTO) engaged
- do not carry passengers
- do not use the loader as a lift for people, as a fence post puller, or as a work platform
- do not make sharp, fast turns or move bucket controls abruptly
- do not travel or turn with lift arms up
- do not leave loader with engine running or with lift arms up
- do not travel across a slope: go straight up or down slopes with the "heavy" end of the loader pointed uphill
- do not approach overhead wires

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DUMP TRUCK

The Hazard

In the last couple of years, one fatality and at least one serious injury have resulted when dump trucks tipped over. Statistics on the frequency of tip-overs are not available because the occurrences are not reported unless injuries result.

Stability

The main hazard is related to the stability of the end-dump unit when the box is in the raised position. When the centre of gravity of box and load is not roughly between the frame rails of the unit, there is a risk of tip-over.

Stability is adversely affected by one or more of the following factors:

- the unit is not on a level surface when dumping
- a large amount of material is in the upper portion of the raised box
- material does not flow out of the top portion of the box, or does not flow out of one side of the top portion
- the rear wheels settle unevenly as the load moves to the rear during dumping
- wind may exert lateral loads, especially if the box is long, as is the case with end-dump semi-trailers

Stability may also be affected by the unit's mechanical condition:

- poor rear suspension systems on one side of the vehicle
- uneven tire pressures in rear wheels
- worn or inadequate components of the lifting system such as pins
- worn or inadequate lifting cylinders

Hazard Control

Because of stability problems with semi-trailers, they should not be used for haulage to rough grading or fill areas where surfaces are often uneven or loosely compacted. Straight trucks or straight trucks and pup trailers are more appropriate for highway haulage to these dump areas.

Where haulage and dumping are all on site, straight trucks or off-highway vehicles are even better choices. Where aggregates are being spread for road construction, belly-dump semi-trailers are more appropriate than end-dump semi-trailers.

Sometimes vehicle selection is not an option for the Contractor. Material suppliers or haulers do not always use equipment appropriate to a particular site. However, when Contractor contractors do have a choice, they should select equipment in accordance with these recommendations to reduce tip-overs.

Cold weather may cause materials to freeze to the box and stick when dumping. Using heated boxes will reduce the problem. During winter, loads should not be left in dump boxes overnight.

Maintenance

- maintenance can play an important role in preventing tip-overs
- check tire pressures daily. Tire pressures should be equal on each side of the vehicle
- examine and lubricate pins and bushings regularly
- inspect suspension systems under load to ensure that they work properly and provide even suspension. Weak suspension systems should be replaced immediately
- inspect hoist cylinders regularly. Worn cylinders should not be replaced with smaller cylinders or with cylinders rated at lower operating pressure
- make sure that repairs to boxes leave bottom and sides clear and unrestricted. Rough patchwork repairs near the top of the box can catch and hold sticky materials

Loading

- loading of the box front-to-back must meet allowable gross weight and axle weight limitations set by the Ministry of Transportation. From side to side it is best to load as evenly as possible
- if material is likely to flow poorly, lighten up the load in the top end of the box. A slightly smaller load will be better than a full load that causes a tip-over
- box liners will help most materials flow well during dumping. Liners also help to keep the box in good condition

Dumping

- operators should be trained to recognize areas hazardous to dumping, such as soft or uneven surfaces and inadequately compacted fill
- before dumping, operators should ensure that the tailgate is unlocked, and that the vehicle is on a reasonably level surface. Dumping on surfaces that are not level is one of the main causes of tip-overs
- before spreading material by dumping it from a moving truck, make sure that the entire length of travel is reasonably level
- trucks should not dump when they are parked side by side with another vehicle. When a dump unit tips over, it is often the operator in the adjoining vehicle who is injured. Dumping operations should be spread out
- other personnel such as dozer operators, surveyors, and spotters should be warned not to work near a dumping truck in case it tips over. Workers on foot should not congregate in areas where dumping is under way

Making Contact with Power Lines

- drivers and workers must be made aware of overhead power line hazards and know what safe limits of approach to adhere to. Caution should be taken not only when lifting the dump truck box – but also when lowering this to avoid unexpected contact with overhead power lines.
- drivers and workers must be made aware of overhead power line hazards and know what safe limits of approach to adhere to. Caution should be taken not only hen lifting the dump truck box – but also when lowering this to avoid unexpected contact with overhead power lines.
- in the event that your vehicle comes in contact with a power line – A driver can be electrocuted if he/she attempts to leave the truck. Warn others to '**Stay Back!'**
- if someone were to touch the side of the truck, they would be electrocuted by the energized dump truck
- in addition, the ground around an energized vehicle will carry electricity for up to 35 feet
- in the event of a power line call 911 or the Local Distribution Company (Electrical Utility) to ensure that power on the power line is disconnected

MATERIAL/EQUIPMENT/TOOLS STORAGE

All materials/equipment/tools must be stored in the manner that:

- prevents tipping, rolling or collapsing
- at least 1.8 m away from any unguarded openings

O. Reg. 213/91 s. 37(1), s. 39 , s. 40 (1)

TOOLS, EQUIPMENT, MACHINERY & HEAVY EQUIPMENT/VEHICLE INSPECTIONS, SERVICE MAINTENANCE

Maintenance and Management Program

Due to the nature of our work/projects and the contractual relationship with our trade companies, there are at times multiple number of tools, machinery, heavy equipment/vehicles owned and operated by trade company's operators.

Responsibility for inspection, service and maintenance – trade contractors

- it is responsibility of each trade company to inspect, maintain and service their equipment and machinery in accordance with manufacturing instructions for inspection, maintenance and service schedule
- logbook of maintenance and inspections shall be kept up to date and made available for review upon request by MOL inspectors, **AVCON Construction Inc.** project supervisor, or project H&S representative
- equipment, tools and machinery operators are responsible for daily documented inspections and for reporting damage, malfunction or leaks/spills of fluids
- in addition, all equipment operators must be equipped with spill – kit provided by their employers appropriate for type of equipment being operated on our projects

Failure to comply with above noted policies will result in immediate stop work request and request to comply.

Where equipment operator refuses to comply, disciplinary procedures will be implemented not excluding dismissal from the project.

Where trade company refuses to comply, all cost of down time, inspections for compliance and spills will be forwarded to the violator and **AVCON Construction Inc.** reserves the right to terminate the contract immediately.

Responsibility for inspection, service and maintenance – AVCON Construction Inc.

- where equipment owned and operated by **AVCON Construction Inc.** It is responsibility of the equipment operators to inspect on daily basis, perform basic maintenance and clean up and report to our project supervisor any damage or malfunction of the equipment immediately
- in addition to operator responsibilities, **AVCON Construction Inc.** management will ensure that all of the heavy equipment and vehicles are inspected and maintained in accordance with manufacturing instructions and OHSA and Regulations for Construction Projects (O. Reg. 213/91)

CRANES AND RIGGING

General Information

Operators whose activities require the use of cranes are responsible for proper set up and operation**.** This procedure applies to the following mobile cranes and roof hoists. Prior to any lift, supervisor/foreman, crane operator and signaler if any must communicate the safest procedures and ensure that public way and area on the ground surrounding the crane is protected by barriers and warning signs. The crane operator or other competent person must perform a daily inspection of crane**.** The person performing this inspection must document results in writing, and the documentation must be available for examination upon request. In addition to daily inspections, if a crane is moved or the process changes during operations it must be re-inspected prior to performing the lift in order to reflect the changes.

Size and height of the crane may be limited if it is posing the immediate hazards to surroundings for example aircrafts. Where project is carried out on the airport grounds the allowable crane size must be confirmed prior to commencement of the work with airport construction authority.

A third-party crane inspection is required for all critical lifts. A critical lift may include, but is not limited to:

- any lift exceeding 75% of the crane's rated capacity at the required lifting configuration
- any lift that requires the use of more than one crane or is made in combination with other lifting equipment
- any lift located in an area where there is exposure to electrical hazards, overhead piping systems, vessels, operational buildings, etc.
- at no time shall any lift be made over occupied space

Recordkeeping

Records pertaining to crane inspections shall be kept on site with the crane. The crane operations and maintenance manual shall be available for inspection at each crane or hoisting equipment.

Operator Qualifications and Operating Procedures

- only designated crane operators who have been licensed by an approved agency and who meet the minimum requirements as provided in OHSA & Regulations may operate cranes and hoisting equipment on our projects
- no one other than the designated operator shall be in or on the crane during operations**;** exceptions are oilers or supervisors or inspectors whose duties may require their presence

- crane operating procedures must be in accordance with OHSA & Regulations for Construction Projects. Special consideration must be given to overhead power lines and safe approach distance. Load shall not be carried over workers. Tag lines must be used to control the load and avoid pinch points. Spotters are required where operator cannot see intendent path of travel. Qualified rigger must secure and release the loads.

Maintenance

Records indicating a preventative maintenance program based on the equipment manufacturer's recommendations must be made available for inspection if requested.

Rigging Requirements

- a qualified rigger must inspect rigging equipment prior to each use and immediately remove from service and destroy any damaged or defective slings
- rigging devices, including slings, must have permanently affixed identification stating size, grade, rated capacity, and manufacturer
- remove rigging not in use from the immediate work area
- hang rigging and slings on a rigging frame to eliminate bends and kinks
- do not leave slings lying on the ground or exposed to dirt or the elements
- do not shorten slings using bolts, knots, or other devices

Conveyors

- all conveyors must have an emergency shutoff, such as a pull cord. Before operating the conveyor, make a mental note of where the emergency shutoff is located in case of an emergency
- do not wear loose clothing, jewellery or other items that can become caught in conveyors
- never ride or climb a conveyor; never load a conveyor beyond its capacity
- do not operate a conveyor unless you have been trained in its operation
- wear required PPE
- only trained and qualified operators can operate the conveyors

Signs & Tags

Warning signs containing word "DANGER" must be placed:

- adjacent to hoisting area
- where hazardous vapours, fumes or dusts present
- below overhead work
- at confined space entrance
- on top of protective covering
- where covering is missing

SAFE EXCAVATION GUIDELINES

Take Following Steps

- obtain information on locates if any (contractor in performing excavating task)
- identify overhead power lines if any
- ensure stability of adjacent structures if any
- ensure traffic control and public way safety

Determination of the angle of repose and design of the supporting system shall be based on careful evaluation of pertinent factors such as:

- depth and/or cut/soils classification
- possible variation in water content of the soil
- anticipated changes in materials from exposure to sun, air, water or freezing
- loading imposed by structures, equipment, overlaying material or stored material
- vibration from equipment, blasting, traffic or other sources

Additional considerations/precautions

- bridges/walkways with standard railings will be provided when employees or equipment are required to cross over excavations
- walls or faces of ALL excavations in which employees are exposed to danger from moving ground shall be guarded by a shoring system, sloping of the ground or some other equivalent means in compliance with OH & S Act and Regulations for Construction Projects (O. Reg. 213/91)
- no person shall be permitted under loads handled by power shovels
- all employees shall be protected with adequate PPE for the protection of head, hands, feet and other body parts
- safe access/egress must be provided to/from the bottom of the trench/excavation
- worker shall be assigned to monitor workers in the trench or excavation
- at least 1 m clear area free of excavated soil, loose rock, materials and equipment must be established on the top of excavation wall
- excavation/trench must be reasonably free of water
- protective barriers must be installed on top of the excavation walls where depth of the excavation is 2.4 m or more. Barriers must be minimum 1.1 m high
- no worker shall enter excavation unless there is another worker on the top of the excavation wall or in near proximity

Determination of Soil Type

The type of soil in which an excavation is made shall be determined by visual and physical examination of the soil, at the walls of the excavation and within a horizontal distance from each wall equal to the depth of the excavation measured away from the excavation.

The soil in which excavation is made shall be classified based on its type as per following:

Type 1 Soil:

- is hard, very dense and only able to be penetrated with difficulty by small sharp object
- has low natural moisture content and high degree of internal strength
- has no signs of water seepage
- can be excavated only by mechanical equipment

Type 2 Soil:

- is very stiff, dense and can be penetrated with difficulty by small sharp object
- has a low to medium natural moisture content and a medium degree of internal strength
- has damp appearance after it is excavated

Type 3 Soil:

- is stiff to firm and compact to loose in consistency or is previously excavated soil
- exhibits the signs of surface cracking
- exhibits signs of water seepage
- if it is dry, may run easily into a well-defined conical pile
- has a low degree of internal strength

Type 4 Soil:

- is soft to very soft and very loose in consistency, very sensitive and upon disturbance is significantly reduced in natural strength
- runs easily or flows, unless it is completely supported before excavating procedures
- has almost no internal strength
- is wet or muddy
- exerts substantial fluid pressure on its supporting system

Engineering Approvals

Any support systems used for the purpose of supporting the walls of an excavation must be designed by professional engineer. Design drawings and installation instruction must be kept on the project during the use of the system.

Where excavating task is in close proximity to existing structure, structural engineer shall be consulted to ensure stability of adjacent structure during excavation.

Equipment

- all equipment must be inspected prior to being used on regular basis
- manufacturing instructions shall be kept with the equipment
- logbooks of maintenance and inspections shall be kept on the equipment
- only trained and competent operators can operate the equipment
- all operators to stay clear of overhead electrical wires minimum 10 to 15 feet **– if location layout does not permit safe distance contractor in charge of excavation must be notified to arrange for power lock out or insulation of overhead electrical wires by local Hydro Department**
- defective equipment is to be taken out of service immediately until repaired

Definitions of Commonly Used Terms in Excavating

Benching: means protecting workers from cave-ins by excavating the sides of an excavation to form one or a series of horizontal steps, usually with vertical surfaces between levels

Caisson means:

i. a casing below ground or water level whether or not it is designed to contain air at a pressure greater than atmospheric pressure'

ii. an excavation, including water-well but not a well within the meaning of the *Petroleum Resources Act*, drilled by an auger and into which the person may enter

Competent Person: means person capable of identifying existing and predictable hazards in the work area person **with authority** to take prompt corrective action to eliminate the hazards.

Cross Braces: means horizontal members of a shoring system installed perpendicular to the sides of the excavation, the ends of which bear against either uprights or vales.

Excavation: means the hole that is left in the ground, as a result of removing material.

Excavation depth: means the vertical dimension from the highest point of the excavation wall to a point level with the lowest point of the excavation.

Excavation width: means the least horizontal dimension between the two opposite walls of the excavation

Faces or Sides: means the vertical or inclined earth surfaces formed as a result of excavation work

Protective System: means a method of protecting workers from trench collapse. This includes sloping, shoring, trench boxes or other systems of protection

Ramp: means an inclined walking or working surface that is used to gain access to one point from another and is constructed from earth or from structural materials such as wood or steel

Shoring: means a structure such as a metal hydraulic, mechanical or timber shoring system that supports the side of an excavation and which designed to prevent cave-ins

Sloping: means a method of protecting workers from cave-ins by excavating all sides of an excavation to a stable incline. The angle of incline required to prevent a cave-in varies with differences in such factors as the soil type, environmental conditions of exposure, and application of surcharge loads

Support System: means a structure such as underpinning, bracing, or shoring the sides of excavation

Trench: means an excavation where the excavation depth exceeds the excavation width

Shaft: means an excavation with a longitudinal axis at an angle greater than 45 degrees from the horizontal that is used to pass people or materials into or out of a tunnel or that leads to a tunnel or that is used as an access to a boring or auguring operation

Sheathing: means the members of shoring that are placed up against the walls of an excavation to directly resist the pressure exerted from the walls of excavation.

Strut: means transverse member of shoring that directly resists pressure from wale

Wale: means longitudinal member of the shoring that is placed against the sheathing to directly resist the pressure from the sheathing

Safe Procedures for Gas Line Excavation

AVCON Construction Inc. management and supervisory personnel have included the following safety procedures in their corporate safety program, regarding excavation operations to ensure a safe workplace and to eliminate any risk of accidental contact and disturbance of underground services.

Location and uncovering of services: (gas lines)

1. Before any excavation is to begin, **AVCON Construction Ltd.'s** supervisor of the workplace, shall review policy procedures and Ontario's excavation safety regulations applicable to work.
2. Prior to excavating, the Contractor or Contractor performing the excavating task is responsible for the work must contact the utility owner and request the locates of any services within 1 meter of the area of the proposed dig. Reference will be made from survey or plan drawings.
3. The excavator should not work outside of the area covered by the locate stake-out information without obtaining an additional stakeout by the utility owner.
4. Where the service cannot be located within the locate stakeout limits. The utility owner should be contacted to assist with the locate.
5. Mechanical excavation equipment should not be used within the boundary limits of the locate without first digging a hole or holes using the procedure below to determine the service's exact center line and elevation:
   a) machine excavate immediately outside the boundary limits and then hand dig laterally until the gas line is found or
   b) hand dig perpendicular to the center line of the locate in cuts of at least 1-foot depth;
   c) use mechanical equipment to carefully widen the hand-dug trench to the depth of the hand-dug excavation.
   d) repeat steps b and c until the pipeline is located.
6. Note: Center line locates should be provided and test holes dug where:
   a) alignment changes are identified by gas company representatives; or
   b) changes in elevation are identified by gas company representatives.
7. If the gas line cannot be shut off and disconnected, the owner of the utility service shall be requested to supervise the uncovering of the service.
8. Where gas pipelines may need support or where they may shift because of a disturbance of surrounding soil due to excavation, guidelines for excavation and support should be obtained from the gas company.

POWER TOOLS/HAND TOOLS – GENERAL

It is our responsibility to supply and maintain shop tools and other power equipment in good condition. It is the worker's responsibility to use such tools properly and to report any defects to the foreman/supervisor to ensure repair is initiated and proper tagging of defective tools is carried out. Whenever practical, all tools should be CSA approved, however, all electrical tools shall be CSA approved.

- Do not attempt to bypass manufacturer installed safety devices. They are put there for a purpose – your safety. Be sure that safety guards are in working order and in place before operating any power tool. Wear required PPE as per SDS or manufacturing instructions.
- Ensure all extension cords and power cords free of damage and equipped with ground pin.
- Use GFCI (ground fault circuit interrupters) in wet locations.

Defective Tools - What to Look Out For

Inspect all tools prior to use and ensure defective tools are repaired. Defective tools are not to be used; they are to be tagged and removed from site until repaired.

Watch for problems like

- broken or inoperative guards
- insufficient or improper grounding due to damage of double insulated tools
    - e.g. cracked casings
- no ground wire (broken ground post) on plug or frayed cords.
- on/off switch is not in good working order - e.g. jams, releases.
- improper grinding wheel speeds or chipped/cracked blades.

Powder Actuated Tools

- only workers who have furnished evidence of training by the manufacturer shall be allowed to operate a powder-actuated tool.
- eye and head protection shall be worn by all personnel exposed to the use of this type of tool.
- tools shall not be loaded until just prior to use and loaded tools shall not be left unattended unless they are locked in a container.
- these types of tools are not to be used in or near an explosive or flammable atmosphere and cartridges (powder source) shall be kept separated from all other material.

- hearing protection shall be worn by the operator and any workers within the confines of an enclosed area up to 50 feet from the point of discharge and 25 feet in open outdoor locations.

- these tools should never be pointed at anyone, whether loaded or unloaded. hands should be kept clear of the muzzle at all times.
- keep cartridges stored in a suitable container. un-discharged (misfired) cartridges should be kept in a water filled container until they can be safely disposed of.

Use of Compressed Air Tools/Equipment

- all hose connection shall be safety wired.
- wear personal protective equipment recommended by manufacturer.
- check hoses on regular basis for cuts, bulges, or other damage – ensure damaged hoses are immediately replaced or repaired by competent person.
- check pressure regulator and relief device to ensure that correct, desired pressure is maintained.
- the correct air supply hoses must be used for the tool/equipment being used.
- the equipment must be properly maintained according to the manufacturer's requirements.
- follow manufacturer's general instructions and comply with legislated safety requirements.
- where harmful vapors or dusts are created approved respiratory protection must be used.

Compressed Gas Cylinders

Use compressed gas cylinders with extreme caution. Some basic safety rules are:

- only competent and trained workers are to handle compressed gas cylinders
- all compressed gas cylinders should be stored in a secured and upright position
- after using a compressed gas cylinder, always ensure that the valve has been closed and that the protective valve cap is in place
- upon discovery of a compressed gas leak from a cylinder, hose, valve or other connection, discontinue use until the problem has been rectified; under no circumstances is a leaking compressed gas cylinder is to be used
- no empty cylinders shall be left inside enclosed buildings; take them to an outdoor compound.
- when storing compressed gas cylinders, always store empty ones separately from full or partially filled cylinders.
- compressed gas cylinders should be stored in a designated outdoor compound, affording adequate ventilation and explosion proof characteristics
- always keep compressed gas cylinders at least 15 feet away from any heat generating sources
- overhead protection should be provided to the valves and connections to compressed gas cylinders when there is a risk of materials falling from above

Grinders and Cut - Off Saws

- familiarize yourself with the tool's operation before commencing work
- ensure protective guard are in place and wear personal protective equipment recommended by manufacturer
- never exceed maximum wheel speed (every wheel is marked – compare it to the speed of the grinder)
- when mounting the wheels, check for cracks and defects, ensure that the mounting flanges are clean, and the mounting blotters are used; **do not over tighten the mounting nut**
- before grinding, run newly mounted wheels at operating speed to check for vibrations.
- do not use grinders near flammable materials
- never use grinders for jobs for which it is not designed
- where harmful vapors or dusts are created approved respiratory protection must be used

LEAD

Warning: do not attempt to remove paint if you suspect it contains lead.

This can cause an extreme health hazard. Lead paint was common until 1950. All interior and exterior house paints and primers are now made without lead. Some buildings, especially those built before this legislation was enacted, may contain lead paint. These paints present potential health hazards, especially for infants, small children and pregnant women.

Removing lead-containing paint without proper controls can generate lead dust. Lead enters the body when the dust is inhaled or ingested (swallowed). Once it is in the bloodstream, lead can be carried throughout the body. Lead exposure can cause a number of health effects, including weakness, headaches, stomach cramps, muscle and joint pain, and memory problems.

Scope

Employers have a duty to protect their workers from lead exposure on construction projects. This guideline has been prepared to raise the awareness of employers and workers in the construction industry of the hazards posed by lead in construction and the measures and procedures that should be taken to control those hazards. All workers will receive training in the identification and awareness of designated substances.

Background

Lead is a heavy metal that has been in industrial use for thousands of years. It is pale silvery grey when freshly cut but it darkens on exposure to air. It is heavy, malleable, and a poor conductor of electricity. Lead may be used in its pure elemental form or combined chemically with other elements to form lead compounds. Inorganic lead compounds are used in pigments, paints, glasses, plastics and rubber compounds.

Lead can be present on construction projects in two distinct ways:

1. it can be found in construction materials, such as paints, coatings, mortar, concrete, solder, and sheet metal
2. it can be present at a construction site in existing structures, building components, and where lead was previously used in a manufacturing process

Construction activities of particular concern include:

1. abrasive blasting of structures coated with lead-based paints
2. application or removal of lead-containing paints
3. welding, burning, or high temperature cutting of lead-containing coatings or materials
4. removal of lead-containing dust using an air mist extraction system
5. removal of lead-containing mortars using an electric or pneumatic cutting device

Regulation for Designated Substances, O. Reg. 490/09

The Ministry's Designated Substances Regulation (O. Reg. 490/09), specifies occupational exposure limits (OELs) for 11 designated substances including lead, and requires assessment and a control program to ensure compliance with these OELs. **The OEL for inorganic lead is 0.05 milligrams per cubic metre (mg/m3) of air as an 8–hour daily or 40–hour weekly time–weighted average limit.**

Although O. Reg. 490/09 and the OEL for lead do not apply to an employer on a construction project or to their workers at the project, employers still have a responsibility to protect the health of their workers and to comply with the OHSA and other applicable regulations. Section 25(2)(h) of the OHSA requires that employers take “every precaution reasonable in the circumstances for the protection of a worker”.

Hazards of Lead and Health Effects

Lead may affect the health of workers if it is in a form that may be inhaled or ingested. Inhalation of lead is considered the primary route of occupational exposure. When lead is present in the air as dust, fume or mist, it can be inhaled into the lungs an upper respiratory tract and then absorbed into the body. Incidental ingestion may occur when lead on work surfaces are transferred, to clothes and hands, and then to the mouth during eating, drinking, smoking, chewing or, touching of the face. Incidental ingestion may also occur when workplace surfaces are not properly cleaned, and good hygiene practices are not followed.

Lead exposure may occur in the form of dust (created through cutting, drilling, grinding, abrading, sanding, vibrating or polishing; as well as through activities related to renovation, demolition, repair or maintenance operations) or fume (created when lead is heated to temperatures above its melting point). Typically, temperatures above 500°C experienced during smelting, refining, welding and flame cutting or burning, are required before significant airborne concentrations of fumed lead are produced.

When lead is inhaled or ingested, it can enter the bloodstream and travel to soft tissues (such as the liver, kidneys, lungs, brain, spleen, muscles and heart). Some of this lead is filtered out of the body and excreted via urine, faeces, sweat and sloughing of dead skin. However, over time, lead in the body will move into the bones and teeth and can be stored there for a long time. Lead does not have a known function in the human body. It disrupts the function of enzyme systems that use other metals such as calcium, zinc and iron. Many of the health effects from lead take a long time to develop and may only become apparent after years of exposure.

Chronic exposure to small amounts of lead can result in a build-up of lead in the body over time, and the more lead in the body, the more likely that health problems will be experience. Lead will naturally leave the body over time, but under conditions of continued exposure not all lead will be eliminated and will accumulate in body tissues and bone.

Symptoms of Lead Exposure

Harmful effects can follow a high exposure over a short-term (acute exposure). or a low exposure over a long-term (chronic exposure).

The table below are some symptoms of lead exposure:

ACUTE	• abdominal cramps • acute encephalopathy, a condition affecting the rain that develops quickly into seizures, coma and death from cardiorespiratory arrest (extremely rare) • constipation	• diarrhea • headaches • irritability • metallic taste in the mouth muscle and joint pain • tiredness • vomiting
CHRONIC	• anemia, a low number of blood cells • anxiety • blue line on the gums • colic with severe abdominal pain • constipation • damage or impairment to the reproductive systems • damage to the blood forming system • damage to the brain and kidneys • damage to the nervous system • damage to the urinary system • dizziness • excessive tiredness • headaches • high blood pressure	• hyperactivity • impaired intellectual development, behaviour size of hearing of infants • insomnia • loss of appetite • metallic taste in the mouth • muscle and/or joint pain or soreness • nausea • nervous irritability • numbness • pallor • possible carcinogen (cancer causing) • tremors • weakness (including in fingers, wrists, or ankles) • wrist drop (the ability to hold the hand extended

Symptoms listed above should not be relied upon to warn of or to self-diagnose lead-exposure. Some workers may not exhibit a change in health and two workers with similar exposures may exhibit significantly different symptoms. Proper medical assessment and testing by a physician is the only way to assess health impacts due to lead exposure.

Work activities involving lead are categorized by this guideline as Class 1, Class 2 or Class 3 Lead Operations.

If any concentration of lead in paint or surface coating can create an airborne hazard, then every disturbance, including disturbance of new paint or surface coating (legally containing up to 0.009% lead) is a hazard. This implies that tasks such as new paint applications, drilling a hole through a painted surface, or cutting an opening in a painted surface, no matter how small, would be considered a lead operation.

Nearly every construction or maintenance worker would disturb lead at some point. Therefore, each worker would require lead abatement training, medical surveillance, and every employer would require a respirator program.

Since there is no Ontario exposure limit for lead exposures in construction, workers on construction sites may not be protected to the same extent as workers in other workplaces.

This guideline establishes a de minimis (i.e. virtually safe) level of lead in paint or surface coatings where a hazard would not likely be present. The following rationale applies to tasks that do not create excessive or significant dust, mist or fume.

Tasks that generate significant dust, mist or fume are excluded and always require adherence to Class 2 or Class 3 operations or require an exposure assessment.

Considering:

- the Ontario TWA for lead is 0.05 mg/m3,
- the Ontario TWA for Particles Not Otherwise Specified (PNOS), sometimes termed “nuisance dust”, is 10 mg/m3 measured as inhalable dust; and
- the U.S. Environmental Protection Agency (EPA) and The Department of Housing and Urban Development (HUD) guideline states that a lead-based paint is any paint containing 0.5% lead (or 1 mg/cm2 if measured by an X-Ray Fluorescence Analyzer (XRF).

If a paint or surface coating containing 0.5% lead was made completely airborne, but not diluted by other dusts (i.e. if all of the paint was sanded off and made airborne and the substrate untouched), then the PNOS TWA would have to be exceeded in order for the lead TWA to be exceeded - 10 mg/m3 PNOS (nuisance dust) x 0.5% lead = 0.05 mg/m3 airborne lead (which equals the TWA)

If work is done on lead-containing paint or surface coatings (containing up to 0.5% lead) and the PNOS TWA is not exceeded, then the Occupational Exposure Limit (OEL) for lead cannot be exceeded. This is conservative as some of the substrate would be expected to become airborne in most disturbances (e.g. power tool disturbance of paint on plaster or wood, hand or power sanding of painted wood).

“De minimis” or “virtually safe” Lead Level for Paints and Coatings For the purpose of this guideline:

1. Paints or surface coatings containing less than or equal to 0.1% lead by weight (1000 µg/g or 1000 mg/kg or 1000 ppm lead) are considered low-level lead paints or surface coatings. If these materials (and the surfaces to which they are applied) are disturbed in a non-aggressive manner, performed using normal dust control procedures and are completed so that the TWA for PNOS is not exceeded, then worker protection from the inhalation of lead is not required.

General health and safety precautions must still be implemented, which may include, in part, prohibiting eating, drinking, smoking and chewing in the work area, implementing dust suppression techniques and washing facilities for workers to wash hands and face.

2. Paints or surface coatings containing greater than 0.1% lead by weight (1000 µg/g, or 1000 mg/kg, or 1000 ppm) but less than 0.5% lead by weight (5000 µg/g, or 5000 mg/kg, or 5000 ppm lead) are considered lead-containing paints or surface coatings. Tasks performed that disturb these materials must be completed in accordance with the Classifications of Work Operations.

3. Construction operations involving lead-based paints or surface coatings (i.e. concentrations equal to or greater than 0.5% lead by weight (5000 µg/g, or 5000 mg/kg, or 5000 ppm lead) must always be completed in accordance with the procedures listed in the Classifications of Work Operations.

Worker Training

Training is the first step in ensuring a safe and healthy workplace. It provides employers and workers with the knowledge required to protect themselves and others from injury and illness.

All workers involved in the disturbance or handling of lead-containing materials, or are otherwise exposed to lead, shall receive training.

Training shall be provided by a “Competent Person” as defined by the Occupational Health and Safety Act (OHSA) and ideally by an individual with lead identification and lead abatement training and experience.

The employer shall implement and document a training program for workers and ensure worker participation in the program. Training shall be completed for a worker conducting work which involves lead or may expose a worker to lead. Training shall be provided every 3 years at a minimum. For workers who conduct work that is routinely above the time-weighted average (TWA) for lead (i.e. Class 2 or Class 3 Operations), training shall be provided at least annually.

At a minimum training shall include:

1. brief history of lead usage with a focus on lead in building materials
2. review of Safety Data Sheets (SDS)
3. review of the health hazards and illnesses association with lead exposure
4. discussion on the health effects of lead on adults and children
5. lead exposure symptom recognition
6. description of how lead is stored in the body and can cause health affects later in life, and the limitations of blood lead monitoring
7. explanation of routes of entry into the body including inhalation, ingestion and skin absorption. With attention paid to the risks associated with subsequent ingestion and the prohibiting of eating, smoking or chewing in the work area
8. explanation of secondary exposure and exposure of family by taking contamination home on work clothing
9. the identification and nature of operations and activities that could result in lead exposure
10. definition of the di minimis level for lead in paints and surface coatings and an explanation of its concept
11. explanation of legislative exposure values for airborne lead
12. the purpose of Personal Protective Equipment (PPE), particularly coveralls and respirators
13. the selection, fitting, use, maintenance, and limitations of PPE
14. the proper donning (putting on) and doffing (taking off) and disposal of PPE
15. review proper hand and face washing and hygiene techniques
16. the benefits of using indicator and chelating soaps and wipes to ensure adequate hand washing
17. the measures and procedures for various lead operations
18. the purpose and benefits of a medical surveillance program, and
19. general non-lead hazards that may exist on lead projects

Training Requirements

Lead Awareness and Class 1 Operations

In addition to the requirements

1. lead awareness training shall be no less than four hours in duration,
2. workers shall be trained in the measures and procedures prescribed in class 1 operations and
3. proper waste classification and disposal in accordance with the Ontario Ministry of Environment Regulations.

Training Requirements – Class 2 and Class 3 Lead Operations

In addition to the requirements

1. Class 2 and Class 3 Lead Operations Training Program shall at a minimum be 1 day (7.5 hours) in classroom theory and shall include a practical hands-on training component,
2. The employer shall ensure that every worker performing or involved with Class 2 and Class 3 Operations has successfully completed Lead Awareness Training and Class 2 and Class 3 Operations Training Program,
3. Shall clearly define Class 2 and Class 3 Operations, and
4. Proof of successful completion shall be issued to both the worker and employer in the form of a certificate.

NOTE: A worker certified with the 253H designation granted by the Ontario Ministry of Training Colleges and Universities (MTCU) is considered to have training equivalent to the requirements of Class 2 and Class 3 as stipulated in this guideline.

Class 1 Operations	Class 2 Operations		Class 3 Operations	
	Class 2a	Class 2b	Class 3a	Class 3b
0.025 to 0.05 mg/m^3	>0.05 to 0.50 mg/m^3	>0.50 to 1.25 mg/m^3	>1.25 to 2.50 mg/m^3	>2.50 mg/m^3

Class 1 Operations

1. Removal of lead-containing or lead-based paints and surface coatings with a chemical gel/stripper or paste.
2. Application of lead-containing or lead-based paints and surface coatings with a brush, roller or sponge.
3. Installation or removal of lead sheeting or flashing.
4. Installation or removal of lead-containing packing, babbitt, caulking, gasket or similar material.
5. Removal of materials coated with lead-containing or lead-based paints and surface coatings, using non-powered hand tools, where the material remains chiefly intact and is not crumbled, pulverized or powdered.
6. Operating construction or demolition equipment (e.g. excavator, bulldozer) during building renovation or demolition where lead-based paints or surface coatings are present on building materials and are being disturbed.
7. Soldering with lead solder.
8. Removing lead-containing or lead-based paints or surface coatings with a heat gun.
9. Removing lead-containing and lead-based paints and surface coatings using a high-pressure water jet (e.g. pressure washer).

Class 2 Operations / Class 2A Operations

1. Removal of lead-containing or lead-based paints and surface coatings or lead-containing materials using a power tool that has an effective dust collection system[1] equipped with a HEPA filter.
2. Welding, torching or high temperature cutting of lead-containing materials indoors when using an effective fume collector or smoke eater[2] that filters and exhausts lead fume and expels it directly outdoors (away from occupants, entrances, walkways, rest areas, etc.). Fume collector or smoke eater must have effective source control and capture velocity, minimum of 0.5 metres per second (100 feet per minute) at the work surface.
3. Welding, torching or high temperature cutting of lead-containing and lead-based paints and surface coatings or lead-containing materials outdoors.
4. Removal of lead-containing mortar using handheld non-powered tools.
5. Removal of lead-containing and lead-based paints and surface coatings or lead-containing materials by scraping or sanding (including wet sanding) using non-powered hand tools.
6. Demolition of plaster or building components that crumble, pulverize or powder and are covered with lead-containing or lead-based paints or surface coatings.
7. Clean up and removal of a significant amount of lead-containing dust and debris (that can be made easily airborne) using wet methods or HEPA vacuums.

Class 2B Operations

Spray application of lead-containing paints and surface coatings.

Class 3 Operations / Class 3A Operations

1. Removal of lead-containing or lead-based paints and surface coatings or lead-containing materials using a power tool without an effective dust collection system equipped with a HEPA filter.
2. Welding, torching or high temperature cutting of lead-containing materials indoors or in a confined space (e.g. within a ditch or pit).
3. Removal of lead-containing mortar using a powered cutting device.
4. Burning of a material containing lead.
5. Removal, cleaning or repair of a ventilation system or ductwork used for controlling lead exposure.
6. Spray application of lead-based paints and surface coatings.
7. In the absence of an exposure assessment:
    - demolition or cleanup of a facility where lead-containing products were manufactured and significant dust and debris, which can be made easily airborne, is present.
    - cleanup of dust and debris down range of a firing station in an indoor firing range.

[1] An effective dust collection system, which is an engineering control, that controls airborne lead concentration levels (measured on the worker) to below 0.05 mg/m3.
[2] An effective fume collection system/smoke eater, which is an engineering control, that controls airborne lead concentration levels (measured on the worker) to below 0.05 mg/m3**.**

- an operation that may expose a worker to lead dust, fume or mist that is not a Class 1, Class 2, or Class 3B operation.

Class 3B Operations

Abrasive blasting of lead-containing and lead-based paints and surface coatings or lead-containing materials (including wet, slurry and dry abrasive blasting and dry-ice blasting).

Controlling Lead Hazards

The strategy for controlling airborne lead hazard can therefore be broken down into three basic approaches:

- prevent lead from getting into the air
- remove lead present in the air
- if present in the air, prevent workers from inhaling it.

To prevent the ingestion of lead, workers should exercise good work and hygiene practices.

To avoid the ingestion, inhalation and unintentional transfer of lead from contaminated areas, it is essential to have the following control methods in place:

- engineering controls
- work practices and hygiene practices
- protective clothing and equipment
- training.

Even with appropriate measures to control lead, some workers may still be affected. For this reason, periodic medical examinations are important for determining if the control measures in place are effective and if workers are suffering from the effects of lead exposure. This is known as medical surveillance and can be considered to be a method for early detection and prevention of lead poisoning.

Engineering Controls

Workplace parties, which include owners, constructors, contractors, supervisors and workers, involved in construction projects that may expose workers to lead should:

- substitute lead-containing coatings and materials with lead-free coatings and materials (e.g. substitute lead-containing paints with non-lead-based paints). this may also apply to those who develop specifications.

- select methods and equipment for the removal or installation of lead-containing coatings and materials that will reduce dust generation (e.g. wet methods, such as wet sweeping and shoveling, reduce dust generation and should be used whenever practicable). this may also apply to those who develop the specifications.
- general mechanical ventilation should be provided to remove contaminated air from the workplace, and filtered air should be provided to replace the exhausted air.
- local mechanical ventilation should be provided to remove contaminants at the source. this is the most effective method. power tools that can generate lead-containing dust should be equipped with effective dust collection systems.

Work Practices and Hygiene Practices

Work practices and hygiene practices are on-the-job activities that reduce the exposure potential. Lead-containing material can accumulate on the hands, clothing and hair.

From there it can be disturbed, re-suspended in air and inhaled or ingested. Workers should therefore be able to wash and shower at the end of each shift. The specific washing and decontamination facilities that should be provided for the most hazardous work are described. For all work involving lead exposure, there should be no smoking, eating, drinking or chewing in contaminated areas. Food and beverages should be stored in an uncontaminated area.
An effective housekeeping program requires the regular cleanup and removal of lead-containing dust and debris. Surfaces should be kept clean by washing down with water or vacuuming with a vacuum equipped with a high efficiency particulate air (HEPA) filter. Containers of lead-containing waste should be kept tightly covered to prevent dust from becoming airborne. Cleaning with compressed air or dry sweeping should be avoided.

Protective Clothing and Equipment

Personal protective clothing and equipment should be provided where workers may be exposed to lead. Appropriate personal protective clothing and equipment to prevent skin contamination, include but are not limited to coveralls or full-body work clothing; gloves, hats, and footwear or disposable coverlets; and safety glasses, face shields or goggles. Respirators should be provided to prevent the inhalation of lead where engineering controls and work practices do not control the concentration of lead to below the OEL.

Protective Clothing

The purpose of protective clothing is to prevent skin exposure and the contamination of regular clothing. All clothing and equipment that has been worn in a lead-contaminated area must be removed at the end of each shift and be decontaminated. Under no circumstances should these be taken home. When handling lead-contaminated clothing avoid shaking, as this can be a significant source of exposure to lead dust. Lead-contaminated clothing and equipment should be placed in sealed impermeable plastic bags with proper labels indicating lead contamination. Washing facilities and procedures must be suitable for handling lead contaminated laundry.

Respirators

Where engineering controls and work practices do not control the concentration of lead to below the OEL, workers should wear respirators. If respirators are used, a respirator program should be implemented. The program should be developed in consultation with the joint health and safety committee or health and safety representative, if there is one, and should include written procedures for the selection, use, care and maintenance of personal respiratory protective equipment. Workers should be instructed and trained on the care and use of personal protective equipment before using it. Some workers may have a medical condition that causes them to have difficulty breathing when wearing a respirator. If such workers have written medical proof of their condition, they should not be required to do work that requires a respirator.

Respirator selection

Where respirators are provided, they should be appropriate in the circumstances for the anticipated concentrations of airborne lead. Respirators should be selected in accordance with the U.S. National Institute for Occupational Safety and Health (NIOSH) assigned protection factors (APF).

Use, Care, and Maintenance of Respirators

The following general use, care, and maintenance procedures should be followed whenever respirators are required:

- respirators should be used and maintained in accordance with the manufacturer's specifications
- storage of respirators should be in a convenient, clean and sanitary location and in a manner that does not subject them to damage or distortion
- respirators assigned for the exclusive use of one worker, should be cleaned, disinfected and inspected after each shift on which they are used
- respirators used by more than one worker, should be cleaned, disinfected and inspected after each use
- any respirator parts that are damaged or that have deteriorated should be replaced before the respirator is used
- please refer to CSA standard Z94.4-02 for additional information of the use and care of respirators.

Ideally respirators should be assigned for the exclusive use of one worker. But before a decision is made for a respirator to be shared by more than one worker, the following factors should be considered:

- the fit of the equipment
- the health and safety risk to the worker that supplying non-exclusive use equipment would cause
- any undue economic hardship to the employer that supplying exclusive use equipment would cause.

Respirators with a tight-fitting face-piece, must be fitted to the worker in such a way that there is an effective seal between the equipment and the worker's face. Each worker must be fitted for each type of respirator to be worn.

Training

Training is an important component in preventing worker exposure to lead. Control methods, measures and procedures can only be as effective as the workers carrying them out.

It is therefore essential for training to cover the following:

- WHMIS – GHS 2015 training,
- the hazards of lead, including health effects and symptom recognition,
- personal hygiene, respirator requirements, and work measures and procedures, and
- the use, cleaning and disposal of respirators and protective equipment;

Instruction and training should be provided by a competent person. This could be the employer, or someone hired by the employer. A competent person is defined under the OHSA as a person who:

- is qualified because of his/her knowledge, training and experience to organize and carry out the work safely;
- is familiar with the provisions of the act and the regulations that apply to the work; and
- has knowledge of any potential health and safety hazards in the workplace.

The health and safety representative or the representative of a joint health and safety committee should be advised about when and where the training and instruction is to be carried out.

Respirator Requirements

Operations	Required Respirator
Type 1 (0 to 0.05 mg/m^3) • Application of lead-containing coatings with a brush or roller. • Removal of lead-containing coatings with a chemical gel or paste and fibrous laminated cloth wrap. • Removal of lead-containing coatings or materials using a power tool that has an effective dust collection system equipped with a HEPA filter. • Installation or removal of lead-containing sheet metal. • Installation or removal of lead-containing packing, babbit or similar material. • Removal of lead-containing coatings or materials with a non-powered hand tool, other than manual scraping and sanding. • Soldering.	Respirators should not be necessary if the general procedures listed in Section 6.1 are followed and if the level of lead in the air is less than 0.05 mg/m^3. However, if the worker wishes to use a respirator, a half-mask particulate respirator with N-, R- or P-series filter, and 95, 99 or 100% efficiency should be provided.
Type 2a (0.05 to 0.50 mg/m^3) • Welding or high temperature cutting of lead-containing coatings or materials outdoors. This operation is considered a Type 2a operation only if it is short-term, not repeated, and if the material has been stripped prior to welding or high temperature cutting. Otherwise, it will be considered a Type 3a operation. • Removal of lead-containing coatings or materials by scraping or sanding using non-powered hand tools. • Manual demolition of lead-painted plaster walls or building components by striking a wall with a sledgehammer or similar tool.	**NIOSH APF = 10** Half-mask particulate respirator with N-, R-or P-series filter, and 95, 99 or 100% efficiency.
Type 2b (0.50 mg/m^3 to 1.25 mg/m^3) • Spray application of lead-containing coatings.	**NIOSH APF = 25** Powered air purifying respirator equipped with a hood or helmet, and

Operations	Required Respirator
	any type of high efficiency filter. Supplied air respirator equipped with a hood or helmet and operated in a continuous flow mode.
Type 3a (1.25 to 2.50 mg/m^3) • Welding or high temperature cutting of lead-containing coatings or materials indoors or in a confined space. • Burning of a surface containing lead. • Dry removal of lead-containing mortar using an electric or pneumatic cutting device • Removal of lead-containing coatings or materials using power tools without an effective dust collection system equipped with a HEPA filter. • Removal or repair of a ventilation system used for controlling lead exposure. • Demolition or cleanup of a facility where lead-containing products were manufactured. • An operation that may expose a worker to lead dust, fume or mist that is not a Type 1,Type 2 or Type 3b operation.	**NIOSH APF = 50** Full-face piece air-purifying respirator with N-, R-or P-series filter, and 100% efficiency. Tight-fitting powered air-purifying respirator with a high efficiency filter. Full-face piece supplied-air respirator operated in demand mode. Half-mask or full-face piece supplied air respirator operated in continuous-flow mode.
Type 3b (more than 2.50 mg/m^3) • Abrasive blasting of lead-containing coatings or materials.	**NIOSH APF = 1000** Type CE abrasive-blast supplied respirator operated in a positive pressure mode with a tight-fitting half-mask face piece.
Type 3b (more than 2.50 mg/m^3) • Removal of lead-containing dust using an air mist extraction system.	**NIOSH APF = 1000** Full-face piece supplied-air respirator operated in pressure-demand or other positive-pressure mode.

NIOSH APF = National Institute for Occupational Safety and Health Assigned Protection Factor Note: It is recommended that compressed air used to supply air respirators should meet the breathing air purity requirement of CSA Standard Z180.1-00 (View CSA standards). Where an oil-lubricated compressor is used to supply breathing air, a continuous carbon monoxide monitor/alarm must be provided

General Measures and Procedures for Type 1, Type 2, and Type 3 Operations

The following is a list of general measures and procedures that should be followed for all work with lead:

- washing facilities consisting of a wash basin, water, soap and towels should be provided and workers should use these washing facilities before eating, drinking, smoking or leaving the project;
- workers should not eat, drink, chew gum or smoke in the work area;
- drop sheets should be used below all lead operations which produce or may produce dust, chips, or debris containing lead;
- dust and waste should be cleaned up and removed by vacuuming with a HEPA filter equipped vacuum;
- clean-up after each operation should be done to prevent lead contamination and exposure to lead;
- dust and waste should be cleaned up at regular intervals and placed in a container that is:
    - dust tight
    - identified as containing lead waste
    - cleaned with a damp cloth or a vacuum equipped with a HEPA filter immediately before being removed from the work area
    - removed from the workplace frequently and at regular intervals;
- the work area should be inspected daily at least once to ensure that the work area is clean; and
- compressed air or dry sweeping should not be used to clean up any lead-containing dust or waste from a work area or from clothing.

Measures and Procedures for Type 1 Operations

Respirators should not be necessary if the general procedures (above) are followed. However, any worker who requests a respirator should be provided with a half-mask particulate respirator with N-, R- or P-series filter, and 95, 99 or 100% efficiency.

Measures and Procedures for Type 2 Operations

Preparation of the Work Area

For all Type 2 operations, signs should be posted in sufficient numbers to warn of the lead hazard. There should be a sign, at least, at each entrance to the work area.

The signs should display the following information in large, clearly visible letters:

1. there is a lead dust, fume or mist hazard.
2. access to the work area is restricted to authorized persons.
3. respirators must be worn in the work area.

Personal Protective Clothing and Equipment

Suitable protective clothing and equipment, as recommended, should be worn by every worker who enters the work area.

Where lead-containing paints or coatings are being applied by spraying, all workers in the work area should wear a powered air purifying respirator equipped with a hood or helmet and a high efficiency filter, or a supplied air respirator equipped with a hood or helmet and operated in a continuous flow mode should be adequate.

For all other Type 2 operations, a half-mask particulate respirator with N-, R- or P-series filter, and 95, 99 or 100% efficiency should be adequate.

Measures and Procedures for Type 3 Operations

Preparation of the Work Area

Warning signs should be provided for all Type 3 operations. Signs should be posted in sufficient numbers to warn of the lead hazard, and at least at each entrance of the work area.

The signs should display the following information in large, clearly visible letters:
1. there is lead dust, fume or mist hazard.
2. access to the work area is restricted to authorized persons.
3. respirators must be worn in the work area.

Barriers, Partial Enclosures and Full Enclosures

Barriers, partial enclosures, and full enclosures are used to separate the work area from the rest of the project, and in some cases, to prevent lead exposure to other workers not directly involved in the operation. Partial and full enclosures can also prevent or reduce the dispersion of lead into the surrounding work area and environment. Barriers should only be used where full and partial enclosures are not practicable.

Barriers

Ropes or barriers do not prevent the release of contaminated dust or other contaminants into the environment. However, they can be used to restrict access of workers who are not adequately protected with proper PPE, and also prevent the entry of workers not directly involved in the operation. Ropes or barriers should be placed at a distance far enough from the operation that allows the lead-containing dust to settle. If this is not achievable, warning signs should be posted at the distance where the lead-containing dust settles to warn that access is restricted to persons wearing PPE. For example, the removal of mortar and cutting operations, ropes or barriers should be located at least 10 metres away. All workers within the barrier or warning sign zone must be adequately protected.

Partial Enclosures

Partial enclosures allow some emissions to the atmosphere outside of the enclosure. Partial enclosures may consist of vertical tarps and floor tarps so long as the tarps are overlapped and securely fixed together at the seams. A partial enclosure is not a recommended containment system if significant dust is being generated.

Full Enclosures

Full enclosures are tight enclosures (with tarps that are generally impermeable and fully sealed joints and entryways). Full enclosures allow minimal or no fugitive emissions to reach the outside environment.

For full enclosures, the following requirements should be met:

- the enclosure should be made of windproof materials that are impermeable to dust
- the enclosure should be supported by a secure structure
- all joints in the enclosure should be fully sealed
- entrances to the enclosure should be equipped with overlapping tarps or air locks
- the escape of abrasive and debris from the enclosure should be controlled, at air supply points, by the use of baffles, louvers, flap seals and filters
- general mechanical ventilation should be provided to remove contaminated air from the enclosure and filtered air should be provided to replace the exhausted air
- equipment venting such air should be equipped with filters adequate to control vented air to provincial environmental standards
- the air velocity within the enclosure should provide an average minimum cross-draft or down-draft past each worker during abrasive blasting operations as follows:
    - cross-draft velocity of 0.5 m/sec (100 ft/min)
    - down-draft velocity of 0.25 m/sec (50 ft/min)

Indoor Operations

- for Type 3a operations conducted indoors, barriers, partial enclosures, or full enclosures should be provided.
- for Type 3b operations (abrasive blasting, removal of lead-containing dust using an air mist extraction system) conducted indoors, full enclosures should be provided.

Outdoor Operations

- for Type 3a and 3b operations conducted outdoors, barriers, partial enclosures, or full enclosures should be provided.
- for dry abrasive blasting conducted outdoors, full enclosures should be provided.

Decontamination Facility

A decontamination facility should be made available for workers carrying out for the following Type 3 operations:

Type 3a Operations

- removal of lead-containing coatings and materials using power tools without an effective dust collection system equipped with a HEPA filter
- demolition or clean-up of a facility where lead-containing products were manufactured

Type 3b Operations

- abrasive blasting of lead-containing coatings or materials
- removal of lead-containing dust using an air mist extraction system

The decontamination facility should be located as close as practicable to the work area and should consist of:

- a room suitable for changing into protective clothing and for storing contaminated protective clothing and equipment
- a shower room as described below
- room suitable for changing into street clothes and for storing clean clothing and equipment

The rooms in the decontamination facility should be arranged in sequence and constructed so as to prevent the spread of lead dust.

The shower room in the decontamination facility should be provided with the following:

- hot and cold water or water of a constant temperature that is not less than 40° Celsius or more than 50° Celsius
- individual controls inside the room to regulate water flow and, if there is hot and cold water, temperature
- clean towels.

Prior to each shift in which a decontamination facility is being used, a competent person should inspect the facility to ensure that there are no defects that would allow lead-containing dust to escape. Defects should be repaired before the facility is used. The decontamination facility should be maintained in a clean and sanitary condition.

Workers using the decontamination facility should do the following in the order shown:

- decontaminate protective clothing that will be reused on site by vacuuming with a HEPA-filter-vacuum or by damp wiping
- remove the decontaminated protective clothing
- place protective clothing that will not be reused on site in a container suitable for lead-containing dust and waste
- shower without removing the respirator
- remove and clean the respirator

Dust Control Measures

General and Local Mechanical Ventilation

Where the work area is enclosed, general mechanical ventilation should be provided.

The air exhausted from an enclosed work area should pass through a dust collector effective for capturing the size of particulate matter being generated and for the volume and velocity of air moving through the enclosure.

Where a dust generating operation is carried out, local mechanical ventilation should be provided to remove dust at the source. Local mechanical ventilation is highly recommended for welding, burning, and high temperature cutting of lead-containing coatings and materials, and for the removal of lead-containing coatings and materials using power tools. Where local mechanical ventilation is used, the following should be met:

- air velocity at any point in front of or at the opening of the ventilation hood should be sufficient to overcome opposing air currents and capture the contaminated air by causing it to flow into the hood.
- air velocity at the source should be at least 0.5 m/sec (100 ft/min)
- air discharged from the local mechanical ventilation system should pass through a HEPA filter and be routed out of the workplace in a way that will prevent the return of contaminants to the workplace.

If local ventilation is not practicable, an appropriate respirator (as listed in the table) should be provided. However, the decision that local ventilation is not practicable should not be made without first consulting the joint health and safety committee or health and safety representative, if any, and without considering the following:

- any undue economic hardship to the employer that providing a local ventilation system would cause
- the frequency and duration of the operation
- any potential risks to the workers by not providing a local ventilation system.

Wet Methods

Wet methods should be incorporated in the operation to reduce dust generation. Examples of wet methods include wetting surfaces, wet scraping, and wet shoveling.

Wetting should not be used if it would create a hazard or could cause damage to equipment or to the project. Power tools should be equipped with a shroud, and the shroud should be kept flush with the surface.

Clean-Up

Dust and waste should be cleaned up and removed by vacuuming with a HEPA filter equipped vacuum, wet sweeping and/or wet shoveling. Clean-up after each operation should be encouraged to prevent lead contamination and exposure to lead.

When abrasive blasting is finished, cleanup and removal of lead-containing dust and waste should take place.

SILICA DUST

Silica Dust

Exposure to dust containing silica can cause silicosis, a progressive, irreversible, and sometimes fatal lung disease. Every year more and more Canadian workers are exposed to silica dust at their jobs. Deaths from silicosis may number a few hundred cases per year. Hundreds more are being permanently disabled by this disease. Every one of these cases is an unnecessary tragedy. Silicosis is preventable.

If you work or are an employer in one of the many occupations where dust containing silica is present, you need to know how to prevent this disease and save your life or other workers' lives.

Employers, safety supervisors, and foremen should work together to develop a silica exposure control program to protect their workers.

- explain what silica is
- identify occupations that can be exposed
- describe silicosis and other health effects of silica
- list permissible exposure levels of silica
- discuss recommended control procedures
- list guidelines for developing a silica exposure control program

What is Silica?

Crystalline silica, also called alpha silica or free silica, is silicon dioxide ($Si0_2$). In pure, natural form, $Si0_2$ crystals are tiny, very hard, translucent, and colorless. Silica is the second most common mineral in the earth's crust and is a major component of sand, quartz, granite, and mineral ores.

- The three most common types of crystalline silica encountered in industry are quartz, tridymite, and cristobalite. Silicates, composed of $Si0_2$ are also a source of silica (usually less than 1%).
- Silicates include mica, soapstone, talc, tremolite, and Portland cement.
- Quartz content can vary greatly among different rock types. Granite can contain anywhere from 10 to 40% quartz; shales have been found to average 22%, and sandstone averages almost 70 % quartz.

What occupations are at risk to silica exposure?

Any occupation where workers are handling rock, brick, sand, or drilling, quarrying, or tunneling through the earth's crust may expose workers to silica. Silica is present in almost every process where natural minerals are handled.

Occupations exposed to silica dust in various levels:

- construction: sandblasting, rock drilling, masonry work, jack hammering, tunnelling
- mining: cutting or drilling through sandstone and granite
- foundry work: grinding, moldings, shakeout, core room
- ceramics, clay, and pottery
- stone cutting: sawing, abrasive blasting, chipping, grinding
- glass manufacturing
- agriculture
- railroads: setting and laying track
- manufacturing and use of abrasives
- manufacturing of soaps and detergents
- shipyards: abrasive blasting
- rock crushing and transport: sand and gravel operations
- demolition of concrete and masonry structures
- dry sweeping or pressurized air blowing of concrete or sand dust
- cement and asphalt pavement manufacturing: concrete mixing, tunnelling, and cutting
- paper and pulp mills: repair or replacement of linings of rotary kilns
- food processing operations: preparing crops for market, sorting, grading, and washing

Workers encounter high-risk silica exposures through sandblasting, rock drilling, and mining.

Workers who remove paint and rust from buildings, bridges, tanks, and other surfaces; clean founding castings; work with stone or clay; etch or frost glass; and work in construction are at risk of overexposure to crystalline silica.

Health Effects

Silicosis: Silicosis has taken a serious toll, attacking workers in many settings.

Silicosis is lung damage caused by breathing dust containing fine particles of crystalline silica.

If silica particles are inhaled, they become embedded in the lungs, the lung tissues react by developing fibrotic nodules and scarring around the trapped particles. The scar tissue makes the lungs hard and stiff. The scarring can greatly reduce the function of the lungs making it difficult and sometimes painful to breathe.

Not only does silica tear up the lungs but it also reduces the body's ability to fight off infections making workers more susceptible for developing other lung illnesses and infections. If workers smoke, silica exposure may greatly increase the risk of developing lung cancer.

The incidence of tuberculosis is high among silicosis victims.

Symptoms of silicosis:

- early stages of the disease may go unnoticed.
- early symptoms can include:
- shortness of breath during physical exertion
- fever
- occasionally bluish skin at the ear lobes or lips

Progression of silicosis can lead to:

- fatigue
- laboured breathing
- loss of appetite
- pain in the chest
- respiratory failure, which may cause death

In severe cases, fibrous tissue can hinder the flow of blood in vessels of the lung and the heart can enlarge in an effort to pump more blood. Death can result from cardiopulmonary effects of chronic silicosis.

Chronic silicosis

The most common form of the disease; may go undetected for years in the early stages.

Chest x-rays may not reveal an abnormality until after 15 or 20 years of exposure. If you believe you are overexposed to silica dust, visit a doctor who knows about lung diseases.

The progress of silicosis can only be stopped; but cannot be cured.

Accelerated silicosis: A form of silicosis that shows symptoms within five to 10 years.

Acute silicosis: A form of silicosis that develops in workers exposed to very high levels of crystalline silica. Symptoms may appear within only a few weeks of an initial exposure.

Silica dust can also irritate worker's eyes. Goggles or safety glasses should be worn if eye irritation is a problem.

Permissible Exposure Levels

The current occupational exposure limit (OEL) for crystalline silica respirable dust is 10 milligrams silica per cubic metre of air (mg/m^S) divided by the percent silica in the dust +2. For total dust the OEL is 30mg/m^A3 divided by the percent silica in the dust +2. *Formula:*

Mineral Dusts		
Substance	mppcf [a]	mg/m^3
Silica:		
Crystalline		
Quartz (Respirable)	250 [b] $\%SiO_2+5$	10 ma/m^3 [e] $\%SiO_2+2$
Quartz (Total Dust)		30 ma/m^3 $\%SiO_2$ +2
Cristobalite: Use 1/2 the value calculated from the count or mass formulae for		
Tridymite: Use 1/2 the value calculated from the formulae for quartz		
Amorphous, including natural diatomaceous earth	20	80 ma/m^3 $\%SiO_2$
Silicates (less than 1% crystalline silica):		
Mica	20	
Soapstone	20	
Talc (not containing asbestos)	20 [c]	
Talc (containing asbestos) Use asbestos limit		
Tremolite, asbestiform		
Portland cement	50	
Graphite (Natural)	15	
Coal Dust:		
Respirable fraction less than 5% SiO_2		24 mg/m^3 [e]
Respirable fraction greater than 5% SiO_2		10 ma/m^3 [e] $\%SiO_2+2$
Inert or Nuisance Dust: d	15	5 mg/m^3
Respirable fraction	50	15 mg/m^3

Conversion factors - mppcf X 35.3 = million particles per cubic metre = particles per c.c.

1. Millions of particles per cubic foot of air, based on impinger samples counted by light-field techniques.
2. The percentage of crystalline silica in the formula is the amount determined from airborne samples, except in those instances in which other methods have been shown to be applicable.
3. Containing less than 1% quartz; if 1% quartz or more, use quartz limit

4. All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by this limit, which is the same as the Particulates Not Otherwise Regulated (PNOR) limit
5. Both concentration and percent quartz for the application of this limit are to be determined from the fraction passing a size-selector with the following characteristics:

Aerodynamic diameter (unit density)	Percent passing selector
2	**90**
2.5	**75**
.5	**50**
5.0	**25**
10	**0**

NIOSH has recommended an OEL of O.O5mg/m^3 for a 10-hour shift, 40 hours per week.

The American Conference of Governmental Industrial Hygienists (ACGIH) recommends the following levels for respirable fraction of the dust.

- 0.05mg/m^A3 for cristobalite
- 0.1mg/m^A3 for quartz
- 0.05mg/m^A3 for tridymite
- 0.1mg/m^A3 of contained tripoli respirable quartz

Control of Silica Dust Exposures

The key to preventing silicosis is preventing silica dust from being in the air. Employers are required to provide and assure the use of appropriate controls for dusts containing crystalline silica.

Engineering Controls

To achieve compliance with the established OEL, the employer must first implement engineering controls or administrative controls whenever feasible.

Wet work

Airborne silica dust can be minimized or reduced by applying water to the process or clean up. When sawing or drilling concrete or masonry use saws/drills that provide water to the blade.

Isolation

Use containment methods such as blast-cleaning cabinets when sandblasting. Cabs of vehicles or machinery cutting or drilling through rock that might contain silica should be enclosed and sealed.

Ventilation

Use local exhaust systems to remove silica dust from industrial processes. Dilution ventilation may be used to reduce the silica dust concentration to below the OELs in large areas.

Adequate measures should be taken to ensure that any discharge would not produce health hazards to the outside environment. A dust collector should be set up so that accumulated dust can be removed without contaminating work areas. Routinely maintain ventilation systems to keep them in good working condition.

Dust Control: A vacuum with a high-efficiency particle air (HEPA) filter can be used to remove dust from work areas.

Substitute with less hazardous materials: Do not use silica sand or other substances containing more than 1% crystalline silica as abrasive blasting materials.

Administrative Controls

Air Monitoring: Air monitoring must be performed to determine exposures, evaluate engineering controls, selecting respiratory protection, evaluate work practices, and determine the need for medical surveillance.

- exposure measurements should be made in the employee's actual breathing zone.
- any appropriate combination of long-term or short-term respirable samples is acceptable.
- total sampling time must be at least 7 hours.

Monitoring should be repeated at least quarterly. Workers should be trained in the following:

- the health effects of silica dust exposure
- operations and material that produce silica dust hazards
- engineering controls and work practice controls that reduce dust
- the importance of maintenance and good housekeeping
- the proper use of respirators and personal protective equipment
- personal hygiene practices to reduce exposure
- details of the employer's hazard communication and crystalline silica program

Housekeeping: Remove dust on overhead ledges, on floors, and equipment before it becomes airborne due to traffic, vibration, and random air current.

- never dry sweep or use compressed air for cleanup of dust that may contain silica.
- use wet methods or vacuums with a HEPA filter for clean-up.
- gentle wash down of surfaces is preferable if practical.

Personal Hygiene: Practice good personal hygiene to avoid unnecessary exposure.

- hand-washing facilities should be conveniently located throughout a worksite in order to minimize worker contact.
- lockers should be provided for employees to store uncontaminated clothing.
- workers should shower (if possible) and change out of work clothes contaminated with silica dust before they leave the jobsite. wearing work clothes home covered in silica dust can expose the workers family to the hazard.
- work clothes should not be cleaned by blowing or shaking. they should be vacuumed with a HEPA filter vacuum before removal.
- locate eating/lunch areas away from exposed areas.
- workers should park their cars where they will not be contaminated with silica.

Restricted areas

- post warning signs in areas where silica exposure already exists or is possible.
- unauthorized employees should not be allowed in restricted areas.
- warning signs should contain the following information:

    - SIGN - WARNING SILICA DUST HAZARD: RESPIRATOR REQUIRED
    - SIGN - SILICA DUST CAN CAUSE SILICOSIS: RESPIRATOR REQUIRED

Provide medical examinations: Employers should provide medical examinations for employees who may be exposed to respirable crystalline silica.

- medical exams should include chest x-rays, pulmonary function tests, and tuberculosis test.
- chest x-rays should be read by a specialist in dust diseases.
- develop a plan for reducing exposures of employees whose x-rays show changes consistent with silicosis. ordinarily, this is accomplished by removal from jobs or tasks involving crystalline silica exposure, but in some cases, it may be accomplished by the effective use of supplied air respirators.

Report cases: All cases of silicosis should be reported to health departments and recorded, as required.

Personal Protective Equipment

Personal Protective Equipment (PPE) should only be used when engineering and administrative controls do not provide adequate worker protection and reduce the OELs below recommended limits. PPE is the last line of defense for fighting silicosis.

Respiratory Protection

Only when all engineering or administrative controls have been implemented, and the level of respirable silica still exceeds permissible exposure limits, may an employer rely on a respirator program to protect workers.

- the respirator program must comply with the standards for respiratory protection set forth in the respiratory section of your manual.
- the employer must select and provide an appropriate respirator that will effectively protect their employees.
- when abrasive blasting is done, the type c supplied-air, positive pressure, demand type abrasive blasting respirator shall be worn.
- respirators must be approved by NIOSH for protection against the specific type of dust encountered.
- an abrasive-blasting respirator must cover the wearer's head, neck, and shoulders to protect from rebounding abrasives.
- the respirator program outlined in your manual must be strictly followed to protect workers and comply with OHS standards.

Respiratory Selection Chart for Crystalline Silica Dust

Respiratory Selection Chart for Crystalline Silica Dust	
Particulate Concentration	Minimum Respiratory Protection* Required Above X**
5X** mq/m^{A}3 or less	Dust respirator
10X**mg/m^{A}3 or less	Dust respirator, except single-use or quarter-mask respirator Fume respirator or HEPA filter respirator Self-contained breathing apparatus (SCBA)
50X**mg/m^{A}3 or less	HEPA filter respirator with a full-face piece Supplied-air respirator with a full-face piece, helmet, or hood SCBA with full face piece
500X**mg/m^{A}3 or less	Powered air-purifying respirator with a HEPA filter. Type C supplied-air respirator operated in pressure-demand or other positive pressure or continuous-flow mode.

Greater than 500X**mg/g^{A}3 or entry and escape from unknown concentrations	SCBA with a full face piece operated in pressure demand or other positive pressure mode. A combination respirator which includes a Type C supplied-air respirator with a full face piece operated in pressure-demand or other positive pressure or continuous-flow mode and an auxiliary SCBA operated in pressure-demand or other positive pressure mode.
*Only NIOSH-approved or CSA-approved equipment should be used **X indicates the occupational exposure as defined above	

Crystalline Silica Protection Program

A silica protection program is an effective tool that can be used by employers committed to protecting their workers from silicosis.

Elements which need to be included in an effective crystalline silica protection program:

- ongoing personal air monitoring program
- ongoing medical surveillance program
- training and informing workers on hazards of silica dust.
- availability of air and medical surveillance data to workers.
- engineering controls and a scheduled maintenance program.
- work practice controls
- an effective respiratory protection program
- hygiene facilities and clothing change areas
- appropriate recordkeeping
- housekeeping program
- regulated areas.

Silica Dust Exposure Control Program

Employers must develop their own program specific to their industry or worksite. Our Company recognizes that exposure to silica dust can cause silicosis (a deadly lung disease) and may cause lung cancer. Our Company takes responsibility for protecting the safety and health of its employees.

The Occupational Silica Dust Control Program includes the following parts:

Hazard Identification

- AVCON Construction Inc. recognizes that the following jobs/task can produce silica dust hazards at our workplace (sandblasting, concrete cutting, determine hazards for each site)
- when any of these jobs/tasks are performed by a worker employed by AVCON Construction Inc. they will be protected by the Occupational Silica Dust Exposure Control Program.

Worksite Monitoring

- when a job/task is identified as a silica dust hazard, the process and the worker's breathing zone will be monitored for silica dust concentrations. Employee exposure measurements must represent actual breathing zone exposure conditions for each employee.
- each job/task identified in part one will be monitored every four months and whenever a change is made to the process. Engineering controls will be monitored immediately after implementation and quarterly thereafter.

Employee Training

All employees working in the jobs/tasks identified in part one is required to complete a training course prior to working in the exposure area. Workers will be trained when first assigned to the job/task and annually thereafter.

Training for Occupational Silica Dust Exposure will include the following topics:

- health hazards of silica dust exposure (including signs and symptoms of silicosis.
- operations and materials that can produce silica dust exposures.
- engineering and work practice controls used to protect them from exposures.
- the importance of proper equipment and control maintenance.
- housekeeping procedures.
- proper use of respirators and the respirator standard.
- personal hygiene procedures to reduce exposures.
- how smoking increases the risk of developing silicosis and other lung damage.
- the details of the occupational silica dust exposure program.

Housekeeping Procedures

Dry sweeping and the use of compressed air are prohibited for removing dust in jobs/task identified in part one. Work areas and equipment covered by dust will be cleaned at the end of every shift by using a HEPA filter vacuum.

Vacuums are stored

Supervisors are responsible for ensuring that work areas are free from dust at the end of each shift.

Engineering Controls

- our company will use engineering controls whenever possible to control silica dust exposures
- ventilation systems will be checked at least weekly to determine if they are functioning properly
- our company will not use abrasives that contain more than 1% crystalline silica during blasting operations

Personal Hygiene

- employees working at the jobs/tasks identified in part one will change out of contaminated clothing and work boots before leaving the jobsite. contaminated clothing will be vacuumed with a HEPA filter vacuum to remove silica dust.
- lockers or containers will be provided to store clean clothes at the jobsite. employees are required to wash their hands and shower (when feasible) before leaving the worksite.
- when worksites are located in the field away from normal operation our company will provide water in portable containers to hand washing.
- employees will not eat, smoke, or use smokeless tobacco in areas identified in part one.

Personal Protective Equipment

When respirators are required to protect employees for silica dust exposure Our Company's Respirator Program will be strictly followed.

Medical Surveillance

All workers working in jobs/tasks identified in part one will be given medical examinations to prevent the development of silicosis. Medical examination will be conducted once a year for employees working in jobs/tasks that expose them to silica dust.

Medical examination must include:

- Chest X-rays
- Pulmonary function tests
- Tuberculosis evaluation

Recordkeeping

Training, medical records, air monitoring, engineering control maintenance records, and injury records will be kept.

Emergency First Aid Procedures for Silica Dust

Eye Exposure

- if crystalline silica dust gets into the eyes, wash immediately with large amounts of water, lifting the lower and upper lids occasionally.
- if irritation is present after washing, get medical attention.
- portable eyewashes will be kept at jobsites in the field away from the company locations.

Breathing

- if a person breathes in large amounts of crystalline silica dust, move the exposed person to fresh air immediately.
- if breathing has stopped, perform chest compressions (if trained).
- keep the affected person warm and at rest.
- get medical attention as soon as possible.

Spill and Disposal Precautions

If crystalline silica is spilled or released in hazardous concentrations, the following steps will be taken:

- ventilate the area of the spill or release.
- persons doing the clean-up are required to wear appropriate respirators.
- collect spilled material in the most convenient and safe manner for reclamation or disposal in a secured sanitary landfill.

HOT WORK

To control hot work operation on the work site, to protect employees from the hazards of hot work operations and prevent damage to property while complying with CSA requirements of the CSA Standard W117.2-01 “Safety in Welding, Cutting and Allied Processes”. This company does not perform hot taps.

Definitions

Hot Work means work in which a flame is used, or sparks or other sources of ignition may be produced including:

- cutting, welding, burning, riveting, drilling, grinding, and chipping.
- using electrical equipment not classified for use in a hazardous location.
- introducing a combustion engine to a work process.

Responsibilities

Managers

Managers shall:

- ensure personnel who issue hot work permits are sufficiently trained to do so.
- provide specialized equipment to fire watch personnel, such as fire extinguishers and gas testing equipment.

Site Safety Representatives

Site Safety Representative shall:

- ensure hot work does not begin until a hot work permit is issued where a hazard location may exist.
- ensure that personal protective equipment required to complete hot work is used.
- ensure that fire watch personnel are competent and have any required specialized equipment, such as fire extinguishers and gas testing equipment.
- ensure a hot work permit is obtained before any work commences in a hazardous or potentially hazardous work location.
- before the welding or allied process is commenced, the area surrounding the operation is inspected; and
    i. all combustible, flammable or explosive material, dust, gas, or vapor is removed; or
    ii. an alternate method of rendering the area safe is implemented.
- ensure that operators of an electric welding machine do not leave the machine unattended without removing the electrode.

- ensure that welding or allied process equipment is erected, installed, assembled, started, operated, used, handled, stored, stopped, inspected, serviced, tested, cleaned, adjusted, carried, maintained, repaired, and dismantled in accordance with the manufacturer's specifications.

Supervisors

Supervisors shall:

In the absence of the Site Safety Representative, assume the responsibilities of the Site Safety Representative.

Controls

Training / Competencies

- New Employee Orientation

Training shall include:

- review of the OHSA & its regulations for construction projects requirements
- use of hot works permit system
- supervisor responsibilities
- fire watch responsibilities
- operator responsibilities
- contractors' responsibilities
- documentation requirements
- respirator usage requirements
- fire extinguisher training
- propane handling CH-02 TSSA Standard

Permits or Forms

- pre-construction hazard identification report
- hazard assessment form
- hot work permit

Procedures and Practices

- pre-job hazard assessment and control
- work site inspections
- hazard assessment procedure
- handling of propane cylinders

Since propane is heavier than air and invisible, it is of special concern when it is used on the job site. All installations and use of this product on the job site must comply with the Government Legislation set out for its safe use. Suppliers delivering the product or setting up the equipment at the site must be part of the safe work practice.

- No person shall handle propane cylinders or use propane cylinders until they are fully aware of the potential hazards and the precautions necessary to handle propane safely.
- Supervisors are responsible for facilitating and/or providing proper instruction to their workers on protection requirements and training (GHS - 2015, TDG compliance).
- Ensure GHS or TDG labels are in place. Cylinders should not be used if the shoulder label/stamp is not legible.
- Nylon slings must be used in a “choker” fashion when loading, off-loading or lifting propane tanks.
- “Lifting lugs” provided on tanks are not to be used. Slings are to be wrapped around the shell of the tank. Crane hooks shall be equipped with a “safety latch”.
- Tank valves and regulators are to be removed from the tank prior to any movement of the tank.
- Ensure cylinders in storage or transit are equipped with a valve cap or collar and the regulator is removed.
- All trucks, cranes or equipment used to handle propane tanks must be equipped with a fire extinguisher appropriate for the size and type of tank being handled.
- Any movement or repositioning of tanks shall be performed by a competent worker, unless in an emergency.
- Tanks are not to be heated to increase flow.
- Propane cylinders are to be securely held in an upright position when in use. Cylinders should not be stored in buildings or carried in closed canopies, vehicles or vans.
- When not in use, cylinders should be secured in an upright position, valve closed, and regulator removed. A plug or cap should also be used to seal the valve opening.
- Tanks are not to be hooked up and used without proper regulators.
- Cylinders should not be painted over in any fashion.
- When checking a cylinder for leaks, use a soapy water solution.

FIRE PRECAUTIONS/FIRE EXTINGUISHERS

- Place fire extinguisher in the area where internal combustion engine is being used (concrete quick saws, portable generators, air compressors etc.)
- Place at least one fire extinguisher in the area where hot work is carried on (generating sparks, heat, open flames etc.)
- Shall be supplied in sufficient number.
- Shall be ULC approved and rated 4A40BC
- Shall be maintained and inspected at least once per month.
- Inspection shall be documented on the tag attached to the unit.
- All fire extinguishing equipment shall be readily available in all work areas
- All workers required to use fire extinguishing equipment shall be trained in its use O. Reg. 231/91 s. 52(1.1)

WORK AREA LIGHTING

Stairs and work areas must be adequately lit at all times. An area in which a worker is present and the means of entering and exiting that area shall have lighting that is a least 55 lux (lumens per square metre). Dark areas should not be entered without the assistance of portable lighting or flashlights.

At any time, a worker finds the lighting inadequate in the work area they are about to enter, inform the foreman/supervisor who will supply task lighting as required. Missing or burnt out lamps shall be replaced before other work is performed in the area. All lamps in the area shall be shatterproof or be protected from damage.

WIND RELATED HAZARDS

Strong winds and gusts pose a real risk to workers. In these conditions refrain from handling materials at heights of risk of being blown over. Walls and structures of any type are vulnerable to collapse and special bracing precautions should be taken.

Secure all materials to prevent unwanted movement.

MATERIAL/EQUIPMENT/TOOLS STORAGE

All materials/equipment/tools must be stored in the manner that:

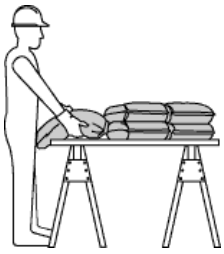
- prevents tipping, rolling or collapsing
- at least 1.8 m away from any unguarded openings

MANUAL MATERIAL HANDLING

What are some general good habits?

- assess the load to be lifted and the overall conditions. get assistance with items that appear too heavy or awkward. ensure that there is enough space for movement and that you can walk along the surface safely.
- stay balanced – keep your feet shoulder-width apart, with one foot beside and the other behind the object to be lifted.
- carry the object close to your body. to change direction, turn your whole body by shifting your foot position – don't twist your body!
- to lower object, bend your knees – not your back!

What are some guidelines for lifting?



Store bags at waist height

Do not bend over and try to lift the bag all at once

How do you lift heavy objects from ground level?

Raise bag upright

Put one knee against bag

Pull bag up the leg

Rest bag on edge of knee of the other leg

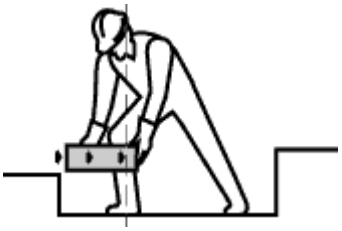
Stand upright

Carry the load with your back in upright position

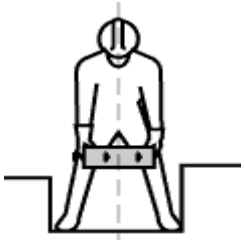
What are some guidelines for transferring objects?

Reduce the load on your back by transferring your body weight. Shift your body weight from one leg to the other. Avoid twisting your back. Momentum helps move the load.

Pull material towards you



Transfer your weight to the lift side



Lift only to level required

Shift weight to your other leg

Push material into position

LADDER SAFETY

AVCON Construction Inc. is responsible for the implementation and enforcement of the following safety rules as they apply to ladder & stairway safety.

AVCON Construction Inc. shall ensure that each employee has been trained by a competent person in the following areas:

- the nature of all fall hazards in the work area.
- the maximum intended load-carrying capacities of ladders and the correct procedures for erecting, maintaining, and disassembling the fall protection systems to be used.
- the proper construction, use, placement, and care in handling of ladders.

Proper Use of Ladders

The following general safety rules shall be utilized:

- ladders should be set up on a firm level surface. if the base is to rest on soft, un-compacted or rough soil, a mud sill should be used. portable ladders should be equipped with non-slip bases.
- ladders should be tied off or otherwise secured to prevent movement.
- when a task must be performed with the worker standing on an extension ladder, the length of the ladder should be such that the worker stands on a rung no higher than the second from the top.
- when climbing up or down, workers should always face the ladder.
- ladders should not be erected on boxes, carts, tables, scaffold platforms, elevated platforms or on vehicles.
- ladders shall be set up 1 foot out for every 3 or 4 feet up.
- metal ladders, or ladders with wire reinforcements, shall not be used near energized electrical conductors.
- all ladders erected between levels must be securely fastened, extend 90 centimetres (3 feet) above the top landing and afford clear access at top and bottom.
- ladders with weakened, broken, bent or missing steps, broken or bent side rails, broken, damaged or missing non-slip bases or otherwise defective parts shall not be used and should be tagged and removed from the site.
- ladders should not be used horizontally as substitutes for scaffold planks, runways or any other service for which they have not been designed.
- workers on a ladder should not straddle the space between the ladder and another object.
- three points of contact should always be maintained when climbing up or down a ladder (two feet and one hand or one foot and two hands).

Training

All AVCON Construction Inc.'s employees required to use ladders shall be trained in their proper use and safety.

- the nature of fall hazards in the work area
- how to correctly use, place, handle, and maintain ladders
- the maximum load-carrying capacities of ladders used
- OHS requirements for the types of ladders that will be used

Working from Ladders

A worker must wear a safety belt or safety harness with the lanyard tied off to either a fixed support or a lifeline whenever the worker is:

- 3 metres (10 feet) or more above the floor; or
- above operating machinery; or
- above hazardous substances or objects

Workers can reduce ladder fall risks by doing the following:

- frequently inspect & maintain ladders.
- match tasks to appropriate ladders.
- set up ladders correctly.
- climb & descend ladders properly

Using Ladders at the Beginning of Each Job

- select the appropriate ladder for your task or job.
- inspect the ladder before you use it. make sure it is in sound condition — clean and undamaged.

Placing a Ladder

- move the ladder near the work you are doing.
- angle the ladder properly. the base should extend not less than one-fourth the ladder's length. the minimum slope should be 50 degrees.
- place a solid rest for the rail tops across window openings.
- protect the base of a tall, occupied ladder if it could be struck by vehicles or pedestrians.

Never

- Place a ladder in front of an unlocked, unguarded door.
- Place a ladder on boxes, tables, trucks, or other moveable objects.

Securing a Ladder

- nail or lash a ladder in place if it will be used repeatedly in the same spot.
- select a ladder that will extend at least 1 metre above the access area it is serving. avoid
- working on ladders in exposed areas during a severe storm or strong wind.
- working on ladders covered with ice or snow.
- using a portable ladder if an approved stairway could be used instead.

Ascending and Descending

- face the ladder at all times.
- grasp the side rails with both hands; you have a better chance of avoiding a fall if a rung or step fails.
- raise and lower heavy, awkward loads with a hand line or hoist.
- attach light, compact tools or materials to the ladder or to yourself. avoid sliding down the ladder.
- climbing when your hands or shoes are slippery.
- using your hands for carrying items.
- carrying awkward loads when ascending or descending a ladder.
- placing tools or materials on a ladder if they could fall off.

Metal Ladders/Step Ladders

Make sure steps and rungs have a skid-resistant surface that minimizes the risk of slipping. ("Skid resistant" means corrugated, knurled, dimpled, or coated with skid-resistant material.)

Avoid

Using any ladder with conductive side rails near exposed, energized equipment. (Such ladders must be permanently, legibly marked with the words, "**WARNING — Do Not Use Around Energized Electrical Equipment.**")

Precautions

- place both feet firmly on the ladder rungs and steps.
- make sure only one person stands on, or works from, a standard ladder. (use a scaffold or a second ladder if two or more people are doing the same task.)
- immediately inspect any ladder that has collapsed, tipped over, or been exposed to oil or grease. clean and repair the ladder if necessary.
- remove defective ladders from service. tag or mark defective ladders with the words: "dangerous, do not use."
- make sure an extension ladder extends at least 1 metre above an access landing.
- keep the area around the top and bottom of a ladder free of debris.
- keep the load on the ladder (including yourself) below its maximum load capacity.
- do not paint ladders. paint conceals defects. use transparent preservatives instead.
- do not use ladders with broken, patched, oily, or cracked rails, rungs, or steps.
- do not reach out over the side rails, lean, or turn excessively on a ladder.
- do not use a ladder as guy, brace, or skid.
- do not stand or sit on the top two steps of a stepladder.
- do not use a self-supporting ladder without first opening it up and securing the metal spreader or locking device.
- do not load a ladder beyond its maximum load capacity.

Transporting Ladders

Some ladders are easier to move than others. Here are a few guidelines to help you protect ladders and the people who use them.

- when you hand-carry a ladder, keep the front end elevated, especially around blind corners, in aisles, and through doorways. you will reduce the chance of striking another person with the front of the ladder.
- when you transport a ladder in a truck or trailer, place it parallel to the bed. avoid tossing, throwing, or dropping it in the bed.
- if you transport a long ladder on a short truck bed over long distances, support the ladder so it will not sag or bend.
- drive slowly over rough terrain. tie the ladder securely to eliminate nicking, gouging, chafing, and road shock.

Storing Ladders

- the storage area should be well ventilated.
- wood ladders should not be exposed to moisture or excessive heat. avoid storing ladders near stoves, steam pipes, or radiators.
- store straight or extension ladders in flat racks or on wall brackets. make sure there are enough brackets to support the ladder so that it does not sag. if the ladder rails have a lateral curve, the wall brackets should match the curve.

- store stepladders vertically, in a closed position, to reduce the risk of sagging or twisting. secure stored ladders so that they will not tip over if they are struck.
- store ladders, especially wood ladders, promptly after using them. exposure to moisture and sun will shorten the life of a wood ladder.

Maintaining and Repairing Ladders

Neglected ladders quickly become unsafe ladders. Step bolts slacken, step sockets and other joints work loose, hole sizes increase — eventually the ladder becomes twisted and unstable.

Periodic maintenance extends a ladder's life and saves replacement costs. Maintenance includes regular inspection of the ladder, repairing damage and tightening step bolts and other fastenings.

- replace lower steps on wooden ladders when one-fourth of the step surface is worn away. typically, the centre of a step receives the most wear. (mineral abrasive or other skid-resistant material reduces wear.)
- do not use cleats to repair rung ladders.
- do not paint a wood ladder — paint conceals defects.
- consider stocking repair parts if you use different types of ladders. typical parts include ladder bolts, related hardware, and lower steps or rungs (which wear out faster than upper steps or rungs).

Improving Slip Resistance

Slip-resistant materials are often used on industrial ladder treads. Notable is the anti-slip treatment on metal platform ladders used in file and parts rooms, tool cribs, and frozen-food lockers. The obvious benefit of slip-resistant material is that it reduces fall risks when a worker is climbing or descending.

Ladder Inspection Checklist

- are any wooden parts splintered?
- are there any defects inside rails, rungs, or other similar parts?
- are there any missing or broken rungs?
- are there any broken, split, or cracked rails repaired with wire, sheet metal, or other makeshift materials?
- are there any worn, damaged, or missing feet?
- are there any worn, damaged, or unworkable extension ladder locks, pulleys, or other similar fittings?
- is the rope on extension ladders worn, broken, or frayed?
- has the rope on extension ladders been replaced by material inferior to the ladder manufacturer's original rope?
- are the spreader arms on step ladders bent, worn, broken, or otherwise rendered partly or totally ineffective?

*** Do Not climb the ladder next to protective guardrail system or edge of unguarded opening unless full body harness worn, equipped with lanyard and lanyard secured to adequate anchor/fixed support.**

****Any ladder that is found to be defective, it must be tagged and removed from site.**

TEMPORARY WORK PLATFORMS

- A scaffold platform or other work platform made of sawn lumber planks shall have planks of number 1 grade spruce that do not have any defect affecting their load – carrying capacity.
- Shall be at least 48 mm thick by 248 mm wide (1 7/8” x 9 ¾”).
- Shall be arranged so that their span does not exceed 2.1 m (7 feet).
- Shall overhang their supports by not less than 150 mm (6 in) and not more than 300 mm (12 in).
- Shall have cleats and be secured from sliding or lifting.
- Shall be placed tight on their supports leaving no space between the planks.
- Shall be capable of supporting all loads applied without failure.
- Shall be provided with safe means of access (ladders, benches etc.)
- Shall be at least 450 mm (18 in) wide.

Other work platforms

- Load limits for any temporary work platform must not be exceeded and specified by manufacturers’ instructions
- All temporary work platforms must be inspected prior to use; any defects found must be tagged and removed from service and repaired before being used again
- Workers using any temporary work platforms shall be trained on its proper use

POWERED WORK PLATFORMS

Refer to – OHSA. Regulations for Construction Projects – Elevating Work Platforms

A worker who operates an elevated work platform shall, before using it for the first time, be given oral and written instruction on the operation and be trained to operate that class of elevated platform. Instruction must cover; manufacturer's requirements, load limitations, hands-on demonstration of all controls and limitations of surface for which platform is designed.

The Genie Lifts, Personnel Lifts (or other similar brand name personnel lifts) are designed to be narrow in length and width for the ease of transportation only. They become unstable if outriggers are not correctly installed when the basket is raised. Furthermore, outriggers must be set-up on a hard, stable surface and the base must be level before the basket is raised. If outriggers are not used correctly and/or the base is not level, the personnel lift may tip over when in the raised position. Workers using elevated lifts for any job **must** wear a safety harness and clip in the appropriate anchoring points on each lift before operating the lift at any time. Elevated work platforms are designed for different uses; ensure you have the right machine for the job.

Every elevating work platform must:

- not be loaded in excess of its rated working load; load capacities must be clearly marked on the equipment
- be used on a firm level surface
- be operated according to manufacturer's written instructions
- not be loaded in ways that will affect stability or endanger a worker
- not be moved unless each worker aboard is protected by a safety belt attached to the platform – at all times
- be inspected before use and that they are not used if defects are found; regular inspections, maintenance and repairs are to be conducted and repairs according to manufacturer's instructions
- operator must ensure that a signal person is available when the operator's view is obstructed

Place "Danger due to overhead work" signs on the ground or install barriers/fencing around work area perimeter to protect public or other workers from entering the area of overhead work.

Operating manuals, logbook of maintenance and inspections must be kept on the project during the use of the device.

Any powered mobile equipment that is equipped with a seatbelt must be worn by operator at all times.

PERSONAL PROTECTIVE EQUIPMENT (FALL PROTECTION)
Working at Heights Policy - Safe Work Practice

Note: Ministry of Labour has introduced new standards and requirements for working at heights training for workers on construction projects.

Falls from heights are a major hazard for workers and are one of the leading causes of critical injuries and fatalities in Ontario workplaces.

This change focuses on the construction sector because the number of fatalities due to falls from heights on construction projects is disproportionally large compared to other workplaces.

Employers, supervisors and workers will all benefit from the implementation of the working at heights training standards because they set a minimum standard for high quality, consistent training for the high-hazard activity of working at heights.
Ministry of Labour's new requirements for working at heights training

The Occupational Health and Safety Awareness and Training (O. Reg. 297/13) will require employers **to ensure** that workers on construction projects successfully complete a working at heights training program if they use specified fall protection systems.

The program must be approved by the Chief Prevention Officer (CPO) and must be delivered by a training provider approved by the CPO.

As of April 1, 2015, the new training requirements will be **mandatory** for workers on construction projects who use any of the following methods of fall protection:

- travel restraint system
- fall restricting system
- fall arrest system
- safety net
- work belt or
- safety belt

The new requirements must be met in addition to existing training requirements for workers who use fall protection systems on construction projects, as set out in the Construction Projects Regulation (O. Reg. 213/91).

FALL PROTECTION – WORKING AT HEIGHTS (O. Reg. 213/91)

OHSA & Regulations for Construction Projects clearly specifies fall protection requirements in following sections:

Sections 26.1 to 26.9 apply where a worker is exposed to any of the following hazards:

- Falling more than 3 metres.
- Falling more than 1.2 metres, if the work area is used as a path for a wheelbarrow or similar equipment.
- Falling into operating machinery.
- Falling into water or another liquid.
- Falling into or onto a hazardous substance or object.
- Falling through an opening on a work surface. *O. Reg. 145/00, s. 12; O. Reg. 85/04, s. 4*.

Where it is not possible or practical to install protective guardrail systems or protective coverings and personal fall protection equipment must be worn one of the following methods must be applied:

Travel Restraint System: An assembly of components capable of restricting a worker's movement on a work surface and preventing the worker from reaching a location from which he or she could fall that meets the requirements of section 26.4.

Fall Restricting System: A type of fall arrest system that has been designed to limit a worker's fall to a specified distance that meets the requirements of section 26.5.

Fall Arrest System: An assembly of components joined together so that when the assembly is connected to a fixed support, it is capable of arresting a worker's fall that meets the requirements of section 26.6.

Travel Restraint Systems

s. 26.4 (1) A travel restraint system shall consist of a **full body harness** with adequate attachment points or a **safety belt**. O. Reg. 145/00, s. 14.
(2) The full body harness or safety belt shall be attached by a lifeline or lanyard to a **fixed support** that meets the requirements of section 26.7. O. Reg. 145/00, s. 14.
(3) The travel restraint system shall be inspected by a **competent worker** before each use. O. Reg. 145/00, s. 14.
(4) If a component of the travel restraint system is found to be defective on inspection, the defective component shall immediately be taken out of service. O. Reg. 145/00, s. 14.

Fall Restricting Systems

s. 26.5 (1) A fall restricting system that is not designed for use in wood pole climbing shall consist of an assembly of components that is,
(a) attached to an independent fixed support that meets the requirements of section 26.7; and
(b) designed and arranged in accordance with the manufacturer's instructions and so that a worker's free fall distance does not exceed 0.6 metres. O. Reg. 85/04, s. 6.
(2) A fall restricting system that is designed for use in wood pole climbing,
(a) shall consist of an assembly of components that is designed and arranged in accordance with the manufacturer's instructions; and
(b) shall not allow pole slippage in excess of the distances set out in the applicable National Standards of Canada standard referred to in subsection 26.1 (3). O. Reg. 85/04, s. 6.
(3) A fall restricting system shall be inspected by a competent worker before each use. O. Reg. 85/04, s. 6.
(4) If a component of the fall restricting system is found to be defective on inspection, the component shall be taken out of service immediately. O. Reg. 85/04, s. 6.
(5) If a worker who is using the fall restricting system falls or slips more than the distance determined under clause (1) (b) or (2) (b), as the case may be, the system shall be taken out of service immediately and shall not be used again by a worker unless all components of the system have been certified by the manufacturer as being safe for reuse. O. Reg. 85/04, s. 6.

Fall Arrest Systems

s. 26.6 (1) A fall arrest system shall consist of a full body harness with adequate attachment points and a lanyard equipped with a shock absorber or similar device. O. Reg. 145/00, s. 14.
(2) The fall arrest system shall be attached by a lifeline or by the lanyard to an independent fixed support that meets the requirements of section 26.7. O. Reg. 145/00, s. 14.
(3) The fall arrest system shall be arranged so that a worker cannot hit the ground or an object or level below the work. O. Reg. 145/00, s. 14.
(4) Despite subsection (1), the fall arrest system shall not include a shock absorber if wearing or using one could cause a worker to hit the ground or an object or level below the work. O. Reg. 145/00, s. 14.
(5) The fall arrest system shall not subject a worker who falls to a peak fall arrest force greater than 8 kilonewtons. O. Reg. 145/00, s. 14.
(6) The fall arrest system shall be inspected by a competent worker before each use. O. Reg. 145/00, s. 14.
(7) If a component of the fall arrest system is found to be defective on inspection, the defective component shall immediately be taken out of service. O. Reg. 145/00, s. 14

(8) If a worker who is using the fall arrest system falls, the system shall be immediately removed from service and shall not be used again by a worker unless all components of the system have been certified by the manufacturer as being safe for re-use. O. Reg. 145/00, s. 14.
(*9) Subsections (1) to (8) do not apply to fall restricting systems designed for use in wood pole climbing. O. Reg. 85/04, s. 7.*

Fixed Supports/Anchors

26.7 (1) A permanent anchor system shall be used as the fixed support in a fall arrest system, fall restricting system or travel restraint system if the following conditions are met:

1. The anchor system has been installed according to the Building Code.
2. It is safe and practical to use the anchor system as the fixed support. O. Reg. 145/00, s. 14.

(2) If the conditions set out in subsection (1) are not met, a temporary fixed support shall be used that meets the following requirements:

1. Subject to paragraph 2, a support used in a fall arrest system shall be capable of supporting a static force of at least 8 kilonewtons without exceeding the allowable unit stress for each material used.
2. If a shock absorber is also used in the fall arrest system, the support shall be capable of supporting a static force of at least 6 kilonewtons without exceeding the allowable unit stress for each material used.
3. Subject to paragraph 4, a support used in a fall restricting system must be capable of supporting a static force of at least 6 kilonewtons without exceeding the allowable unit stress for each material used.
4. Paragraph 3 does not apply to a support that is used in accordance with the manufacturer's written instructions and is adequate to protect a worker.
5. A support used in a travel restraint system shall be capable of supporting a static force of at least 2 kilonewtons without exceeding the allowable unit stress for each material used. O. Reg. 145/00, s. 14.

(3) Despite the requirements listed in subsection (2), the support capacity of a temporary fixed support used in a fall protection system may be determined by dynamic testing in accordance with good engineering practice to ensure that the temporary fixed support has adequate capacity to arrest a worker's fall. O. Reg. 145/00, s. 14.
(4) A fixed support shall not have any sharp edges that could cut, chafe or abrade the connection between it and another component of the system. O. Reg. 145/00, s. 14.
(5) Subsections (1) to (4) do not apply to fall restricting systems designed for use in wood pole climbing. O. Reg. 85/04, s. 8.

Preferred Method of Fall Prevention

AVCON Construction Inc. management is in agreement that where possible and practical guardrail system shall be the preferred method of fall prevention.

Guardrail Systems

s.26.3 (1) Despite paragraph 1 of section 26, a guardrail system that meets the requirements of this section shall be used if a worker has access to the perimeter or an open side of any of the following work surfaces and is exposed to a fall of 2.4 metres or more:

1. A floor, including the floor of a mezzanine or balcony.
2. The surface of a bridge.
3. A roof while formwork is in place.
4. A scaffold platform or other work platform, runway or ramp O. Reg.145/00, s. 14

(2) One of the following precautions shall be used to prevent a worker from falling through an opening on a work surface:

1. A guardrail system that meets the requirements of this section.
2. A protective covering that,
   i. completely covers the opening,
   ii. is securely fastened,
   iii. is adequately identified as covering an opening,
   - is made from material adequate to support all loads to which the covering may be subjected, and
   - is capable of supporting a live load of at least 2.4 kilonewtons per square metre without exceeding the allowable unit stresses for the material used. O. Reg. 145/00, s. 14.

(3) The guardrail system or protective covering required under subsection (1) or (2) may be removed temporarily to perform work in or around the opening if a worker is adequately protected and signs are posted in accordance with subsections 44 (1) and (2). O. Reg. 145/00, s. 14.

(4) The following are the specifications for a guardrail system:

1. It shall have a top rail, an intermediate rail and a toe board.
2. The intermediate rail may be replaced by material that can withstand a point load of 450 newtons applied in a lateral or vertical downward direction.
3. The top of the guardrail system shall be located at least 0.9 metres but not more than 1.1 metres above the surface on which the system is installed.
4. The toe board shall extend from the surface to which the guardrail system is attached to a height of at least 100 millimetres or, if the toe board is made of wood, at least 89 millimetres.
5. If the guardrail system is located at the perimeter of a work surface, the distance between the edge of the surface and the guardrail system shall not be greater than 300 millimetres. O. Reg. 145/00, s. 14.

(*5)* A guardrail system shall be capable of resisting anywhere along the length of the system the following loads when applied separately, without exceeding the allowable unit stress for each material used:

1. A point load of 675 newtons applied in a lateral direction to the top rail.
2. A point load of 450 newtons applied in a vertical downward direction to the top rail.
3. A point load of 450 newtons applied in a lateral or vertical downward direction to the intermediate rail, or midway between the top rail and the toe board.
4. A point load of 225 newtons applied in a lateral direction to the toe board. O. Reg. 145/00, s. 14.

(6) If the distance between any two adjacent posts of the guardrail system is greater than 2.4 metres, the system shall be capable of resisting the loads specified in subsection (5) increased in proportion to the greater distance between the posts. O. Reg. 145/00, s. 14.

(7) The following additional requirements apply to a guardrail system that is made of wood:
1. The wood shall be spruce, pine or fir (S-P-F) timber of construction grade quality or better.
2. The wood shall be free of sharp objects such as splinters and protruding nails.
3. The system shall have posts that are at least 38 millimetres by 89 millimetres, are securely fastened to the surface and are spaced at intervals of not more than 2.4 metres.
4. The top rail and the intermediate rail shall each be at least 38 millimetres by 89 millimeters. O. Reg. 145/00, s. 14.

(8) The following additional requirements apply to a guardrail system that is made of wire rope:
1. The top rail and intermediate rail shall be made of wire rope that is at least 10 millimeters in diameter, and the rope shall be kept taut by a turnbuckle.
2. The outward deflection of the top rail and intermediate rail resulting from the loads specified in subsection (5) shall not extend beyond the edge of a work surface.
3. The system shall have vertical separators at intervals of not more than 2.4 metres and horizontal supports at intervals of not more than 9 metres.
4. The intermediate rail shall be located midway between the top rail and the toe board. O. Reg. 145/00, s. 14.

Horizontal Lifeline System Requirements

The following requirements apply to a horizontal lifeline system:

1. It shall be designed by a professional engineer in accordance with good engineering practice.
2. The design may be a standard design or a custom design.
3. The design shall,

i. show the arrangement of the system including the anchorage or fixed support system,
ii. indicate the components used,
iii. state the number of workers that can safely be attached to it,
iv. set out instructions for installation or erection, and
v. show the design loads for the system.

4. The system shall be installed or erected, and maintained, in accordance with the professional engineer's design.
5. Before each use, the system shall be inspected by a professional engineer or a competent worker designated by a supervisor.
6. The constructor shall keep the design at the project while the system is in use.
O. Reg. 145/00, s. 14.

Warning Barriers and Bump Lines

- warning barriers and bump lines prevent falls by alerting workers to fall hazards. warning barriers and bump lines should be set up around the work area at least 2 metres (6 feet 6 inches) from unprotected edges.
- when a work area is enclosed by properly installed and maintained warning barriers or bump lines, work inside the area can be done without additional fall protection measures.
- but anyone outside the area who is working less than 2 metres from the edge must use approved fall protection.
- lines or barriers should be 1.07 metres (42 inches) high and consist of weighted posts, fibre rope, and warning flags or signs along their entire length, as per the regulations.

FALL PROTECTION COMPLIANCE REQUIREMENTS – GENERAL

WARNING! No worker shall be exposed to heights greater than three meters when near an unguarded edge of a floor, roof, platform, opening or on a ladder without first providing guardrail protection, travel restraint or fall arrest. Any person found doing so shall be subjected to disciplinary action. Fall protection is also required if a worker may fall into opening in the work surface, operating machinery, into water or other liquids, into or onto hazardous substances or objects regardless of height. A site-specific fall arrest rescue plan must be developed before workers may use a fall arrest system at a work site.

Equipment Standards and Set-Up

All fall protection system components used must carry a C.S.A. label and meet the C.S.A. National Standards of Canada standards as stated in Section 26.1 (3) of the Ontario Safety Regulations for Construction Projects – current edition. All fall equipment must be inspected prior to donning and any defective fall protection equipment must be removed from service.

Lifelines and Their Set-Up

All lifelines shall be:

- CSA standard Z259.2.5-12 – polypropylene blend rope
- used only by one worker at a time.
- free of any cuts, abrasions, other defects and protected against chaffing.
- long enough to reach the ground or be knotted at the end.
- connected at right angles to the worker's position.
- provided with a rope grab (cam lever) device of lanyard attachment.
- secured to adequate anchor/fixed point

Travel Restraint Protection

This is the second preferred method of fall prevention, as this setup prevents a worker to reaching an unguarded edge, such as a typical floor slab exposure. Although the applicable legislation allows for waist type belts it is the policy of AVCON Construction Inc. to require all workers to wear and use **- full body harnesses only!** This system must be adjusted so the worker cannot reach an exposed edge, therefore if he or she should trip or lose their balance they will fall on the work surface.

Note:
All workers should set up for Travel Restraint Protection if at all possible. Fall arrest setups should only be used as a last resort.

Fall Arrest Protection Requirements

In the normal course of setting up for Fall Arrest protection where a worker is not at risk of " Bottoming Out " - that is hitting an object, level or ground below the work, it is expected that a Shock Absorber Device will be part of the worker's fall arrest equipment setup. Shock absorber devices assist in limiting the peak arrest forces applied the wearer in a fall. However, if a risk of " Bottoming out " exists, the following applies.

Exception Ruling – Removal of Shock Absorber Device

Section 26.6 (4) of OH & S Regulations states that the fall arrest system shall not include a shock absorber device, if wearing or using one could cause a worker to hit the ground, an object or level below the work. Without the use of a shock absorber device, we expect the wearer to shorten up on his or her system components in order to minimize the amount of free fall.

Fall Restriction Protection

This consists of an assembly of components that is attached to an adequate fixed support on the project and is designed and arranged in accordance with the manufacturer's instructions, so that a worker's fall distance does not exceed 0.6 meters [2 feet].

Temporary or Permanent Anchors

All designated anchor points must be predetermined by project supervisor, crew foreman and competent person for each specific area or level of work.

Temporary and permanent anchor systems must meet requirements of OH & S Act and Regulations for Construction Projects, Ontario Building Code or Professional Engineer.

EMERGENCY RETRIEVAL PROCEDURES FOR RESCUE OF A WORKER SUSPENDED ON A FALL ARREST SYSTEM

This emergency retrieval procedure is above is generic and should be customized to the specific needs of each project.

In the event a worker falls and is arrested by fall arrest system, it is imperative that the following rescue procedures be taken to retrieve this worker **within fifteen minutes** from the time of suspension. Being suspended for prolonged durations beyond fifteen minutes could cause serious internal injury to the worker.

Communications

All workers will be informed of these procedures and the crew foreman will organize the rescue process. Handheld radios or telephones should always be available by crew supervisors to notify the constructor of a fall arrest event.

Retrieval Procedures

Emergency facilities, including site safety personnel shall be immediately notified when a worker has fallen and is suspended by his/her fall arrest system.

All work is to be suspended in the area near the fallen worker, until such time as the worker has been rescued and the fall event has been fully investigated.

Where possible, the suspended worker is to be secured by secondary means of support another lifeline, rope, etc.).

One person is to be designated to remain in constant contact with the fallen worker and shall continuously monitor the fallen worker's condition and maintain contact with the rescue team.

This designated person shall be tied off through the use of appropriate fall protection equipment and shall at no time expose herself/himself to the hazard of falling.

The fallen worker shall NOT attempt to release or disable the descent control device nor shall he/she attempt self-rescue.

Power Elevating Work Platforms

In the event there is a power elevating platform available on the project, (of sufficient capacity and reach) the operator will be summoned to position the power lift device directly underneath the suspended worker and raise the platform slowly so as to land the suspended worker onto the platform.

Crane with Approved "Man Basket"

A crane equipped with an approved "man basket" may be utilized to rescue the fallen worker, provided that the rescuer is properly secured utilizing double lanyards connected to the platform of the basket.

The Rescuer should be equipped with a First Aid Kit and be a qualified first aider who can render treatment if necessary, to a suspended worker.

The worker, once he/she has been recovered, shall be immediately removed to the nearest healthcare facility or medical attention.

No work may commence until all investigations have been completed, and where required, recommendations implemented to prevent a recurrence.

All components of the fall arrest system involved in arresting the worker in the fall shall be gathered and taken out of service. This equipment (used in the fall arrest event), shall only be reused once it has passed the manufacturer's tests and approvals for reuse.

Ladders

In the event there is no power elevating work platform or crane equipped with a retrieval "man basket" available on the project, an extension ladder, suitable to reach the necessary height, will always be made available at the workplace. At least two workers will be summoned by the crew foreman to assist in securely setting up a ladder beside the worker suspended on his/her lifeline. The suspended worker will be asked to mount this ladder from his suspended position and fellow workers will hold the ladder stable for this purpose.

Extreme Heights

In this situation, only a crane of sufficient capacity and reach, equipped with an approved man basket or other retrieval device, or a properly equipped fire rescue vehicle equipped with an extension ladder of sufficient reach (outside of fire rescue service authorities), is to be used. Should the heights involved not be able to be reached by the equipment on site, the local Fire Department should be called in to assist in the rescue.

Rescue Team Co-Ordination

One person must be designated as the team co-coordinator ("person in charge") and should have a thorough understanding of the retrieval procedures to follow. All persons assisting in the rescue shall co-ordinate their efforts through the direction given by the Team Co-coordinator. There must be verification of the crane operator's knowledge and understanding of the rescue requirements, and this should apply to all crane operators working on the construction project. Meetings should be held to convey these rescue and retrieval procedures to all persons who may possibly be involved in the rescue.

GUARDRAILS

Refer to OHSA. Regulations for Construction Projects Guardrails and Protective Coverings

Guardrails consisting of a top rail, mid-raid and toe-board must be provided around work platforms on all scaffolds, floor openings, ramps and open areas where a worker can fall from one level to another (~2.4 m or 8 ft.). A guardrail shall consist of a top rail, intermediate rail and toe-board secured to vertical posts and shall be capable of resisting any load that may be applied to it. Construct and use guardrails as required by the provincial Occupational Health and Safety Act.

When guardrails or opening covers are temporarily removed, workers in the area must be protected by a safety harness and shock absorbing lanyard secured to a supporting structure. Barricades, guardrails and covers must be replaced properly and immediately after work is completed.

All barricades, guardrails and covers must be of adequate strength and properly secured to withstand all potential loads likely to be applied to them. Ensure that proper signs are posted warning of the hazards.

ELECTRICAL SAFETY

General Information

Electricity has ability to cause shocks, burns or fatalities. Project supervisors/foreman must inspect work areas prior to commencement of work to determine if there is an actual or potential electrical hazard present in the work area or in close proximity to it.

Overhead power lines are often easily identifiable; however electrical conduits or installations on existing roofs are often not. No work shall proceed until all electrical hazards identified and control measures in place. AVCON Construction Inc.'s supervisor/foreman must consult with our client representative during evaluation and assessment stage.

No object shall be brought closer to an energized overhead electrical conductor with a nominal phase-to-phase voltage rating set out in Column 1 of the Table to this subsection than the distance specified opposite to it in Column 2.

TABLE

Column 1	Column 2
Nominal phase-to-phase voltage rating	Minimum distance
750 or more volts, but no more than 150,000 volts	3 metres
more than 150,000 volts, but no more than 250,000 volts	4.5 metres
more than 250,000 volts	6 metres

All electrical tools/equipment including generators must be equipped with or plug into GFCI (ground fault circuit interrupter)

Definitions

Grounding is a conducting connection between an electrical circuit or equipment and earth, or to a conducting body that serves as earth.

A *ground fault circuit interrupter* is a device for the protection of personnel that de-energizes a circuit or portion of a circuit.

Electrical Safety Procedures

Only qualified or authorized electricians familiar with code requirements are allowed to perform electrical work (fixing of the tools/equipment, extension cords etc.)

Employees are not permitted to work near an unprotected electrical power circuit unless they are protected against electrical shock by de-energizing the circuit and grounding it, or are protected by effective insulation or other means, and are wearing required personal protective equipment**.** Work around energized systems must be done in accordance with the site-specific procedure**.** If no site-specific procedure exists, AVCON Construction Inc.'s office must be contacted to approve the process.

No work is to be preformed by any contractor on live equipment unless site-specific safe work procedures are received by the contractor and approved by AVCON Construction Inc.

Do not operate electrical tools or equipment in wet areas or areas where potentially flammable dusts, vapors, or liquids are present, unless specifically approved for the location.

Switches must be enclosed and grounded**.** Panel boards must have provisions for closing and locking the main switch and fuse box compartment.

Avoid wearing rings, necklaces, or other conductive apparel.

Extension Cords.

- limit the use of extension cords as much as possible.
- extension cords used with portable electric tools and appliances must be extra hard usage, heavy duty (no less than 12-gauge conductors for construction work) and of the three-wire grounding type.
- flat electrical extension cords are prohibited.
- elevate (at least 7 feet) or otherwise protect from damage electrical cords and trailing cables that could create a hazard to people in the area**.**
- protect portable electric tools and cords by a ground fault circuit interrupter (GFCI) throughout each phase of the work**.** GFCI protection for temporary wiring is mandated on construction sites at all times.

In areas where water or moisture is present or likely to be present, always use ground fault circuit interrupters on power circuits**.** If permanent power circuits are not GFCI, use a portable GFCI box with electrical tools and equipment**.** Test interrupters on a regular basis.

Should a circuit breaker or other protective device "trip," ensure that a qualified electrician checks the circuit and equipment and corrects problems before resetting the breaker.

Provide suitable means for identifying electrical equipment and circuits, especially when two or more voltages are used on the same job**.** Mark circuits for the voltage and the area of service they provide.

Inspect tools and cords on regular basis. If damage is observed, tag and remove from use immediately until it is serviced and/repaired.

Special attention must be given to hoisting operation and placement of extension ladder to the proximity of electrical installations or power lines.

Any electrical work that is preformed on our work sites must be done by a licensed electrician/qualified person.

Any equipment with defective electrical components is to be immediately tagged and removed from service until repaired.

Explanation of Lock-Out Procedural Sequence

1. Receive work assignment.
2. Locate the area and identify the equipment or machinery to be worked on.
3. Identify all power sources affecting the equipment or machinery, such as electrical, pneumatic, hydraulic, steam, gravity or momentum.
4. Determine whether lockout is required to perform the work assignment.
5. Locate and identify all power source components on equipment or machinery.
6. Determine whether it is physically possible to lock out each power source.
7. If lockout is required, check with qualified operations personnel before proceeding.
8. Have qualified personnel shut down the equipment or machinery. Install your personal safety lock with tag indicating name, employer, time/date and work location.
9. Any power or product remaining in the equipment or machinery must be discharged or disconnected by qualified personnel; and verified
10. With extreme caution, try to start the equipment or machine manually.
11. Look of any movement or functions.
12. If none observed, try to restart again.
13. Look of any movement or functions.
14. If none observed, confirm that all power sources are at a zero-energy state.
15. Carry out work assignment.
16. When work is complete and area ready to resume operations; remove all locks, tags, and lockout devices. Check that all personnel are clear of the equipment or machinery.
17. Have qualified personnel restart the equipment or machinery.
18. Assignment complete once equipment or machinery is operating satisfactorily.

Note: Each employee shall be responsible of hanging their own lock and tag on the equipment before starting work. No employee or other contractor may remove a lock or tag belonging to another employee.

Each employee involved with lockouts shall have his/her own personal lock & key. No locks with duplicate or master keys shall be used. If more than one employee is required to lockout and tag a circuit or piece of equipment, a multiple padlock device shall be used. Any employee who removes a tag or lock belonging to another employee or person, or overrides a tag or lock in any way, shall be subject to immediate reprimand or termination.

Tagging Out Equipment

Objective

To ensure that all machinery, equipment or powered mobile equipment is identified as non-functional and "tagged out" before workers conduct maintenance or repair activities. It should be noted that the company does not participate in pigging activities as part of its operations, nor do we lock out equipment that has piping attached to it.

Tag out means to identify, with a label or tag, any piece of equipment at the beginning of any inspection, maintenance or repair work.

Responsibilities

Managers

Managers shall:

a) ensure that if work is to be done that may endanger a worker that the work is done by a worker who is competent to do the work.
b) ensure that workers who may be required to use safety equipment are competent in the application, care, use, maintenance, and limitations of that equipment.
c) ensure personal locks are assigned to the worker to perform safe lockout/tag out practices. combination locks must not be used for lockout. each personal lock must be marked or tagged to identify the person applying it.
d) workers who perform maintenance activities on equipment must be provided training on the lockout tag out training program. employees who work in areas where lockout tag out may be performed shall be provided awareness training.

Site Safety Representatives

Site Safety Representative shall:

a) conduct regular informal audits on the tag out procedure

Supervisors

Supervisors shall:

- Ensure if machinery, equipment or powered mobile equipment is to be serviced, repaired, tested, adjusted or inspected, that no worker performs work on the machinery, equipment, or powered mobile equipment until it has come to a complete stop and: (i) all hazardous energy at the location at which the work is to be carried out is isolated by activation of an energy isolating device and the energy isolating device and the energy isolating device is secured, or (ii) the machinery, equipment, or powered mobile equipment is otherwise rendered inoperative in a manner that prevents its accidental activation and provides equal or greater protection. When lockout of energy isolating devices is required, the devices must be secured in the safe position using locks in accordance with procedures that are made available to all workers who are required to work on the machinery or equipment.
- Any key or ignition tool has been removed and given to the mechanic and/or maintenance representative;
- A tag is completed with the repairs or maintenance required written on it, the date, and the operators name that took the equipment out of service.
- That any worker performing work on energized electrical equipment (AC/DC) turn off and/or disconnect energy control points, such as electrical plugs, switches, valves, and circuit breakers. Restrain or dissipate all stored energy. This includes, but is not limited to, the following: (i) Compressed springs- block springs from releasing, (ii) Parts of a machine held up by hydraulic or pneumatic power- block to prevent parts from falling, (iii) Pressurized lines- bleed the pressure from the lines, (iv) Components that are hot- allow sufficient time for cooling before work begins, (v) Capacitors that may store electrical energy- discharge the energy from the capacitor. Electrical equipment that might be fed by more than one source should be tested with a voltage meter to verify the absence of electrical energy.
- That if it is not practicable to shut down machinery or equipment for maintenance, only the parts which are vital to the process may remain energized and the work must be performed by workers who (i) are qualified to do the work, (ii) have been authorized by the supervisor to do the work, and (iii) have been provided with the proper training and follow written safe work procedures.
- Ensure that if more than one worker is working at each location requiring hazardous energy to be controlled, each worker must attach a personal lock to each energy-isolating device.
- If a large number of workers are working on machinery, equipment or powered mobile equipment, or a number of energy isolating devices must be secured; an employer may use a group procedure. The written group lockout procedure must be conspicuously posted at the place where the system is in use.
- Before commencing work each worker working on the locked-out components must apply their own personal lock and tag on each energy control point to secure the system.

- Workers may lock out a secondary key securing system if 2 qualified workers lock out the primary key securing system and place their keys in the secondary system. On completion of his or her work, each worker must remove his or her personal lock from the key securing system.
- Securing devices are not to be removed until each involved worker is accounted for, any personal locks placed by workers are removed and procedures are implemented to verify that no worker is in danger before a worker removes the securing devices and the machinery, equipment, powered mobile equipment, piping, pipeline, or process system is returned to operation.
- Procedures must be implemented for shift or personnel changes, including the orderly transfer of control of locked out energy isolating devices between outgoing and incoming workers.
- If a lock is left on a machine and it appears that it was left there inadvertently, determine who the lock is assigned to. If that worker is unavailable, a supervisor shall determine if it is safe to remove the lock. He/she must clear the area, ensure guards are in place, remove tools and debris, and make sure personnel are out of harm's way. The lock may then be removed.
- The supervisor must: (i) make every reasonable effort to contact the worker who installed the lock, and (ii) ensure that the machinery or equipment can be operated safely before removing the lock.
- Ensure that upon completion of the work that the machinery, equipment, or powered mobile equipment is returned to operation. Personnel are to be out of harm's way, slip, trip, and fall hazards have been cleared from the area, and guards have been replaced. Each worker who affixed a lock to an energy control point must remove his/her own lock(s). Equipment start-up may occur after all of the above is completed.
- State of zero energy must be verified after a lockout device is installed prior to any work.

Workers

Workers shall:

- Be familiar with regulations and manufacturer specifications when locking/tagging out mobile equipment.
- Not perform maintenance or work on machinery, equipment or powered mobile equipment to be serviced, repaired, tested, adjusted, or inspected until the energy sources are isolated, verify that the hazardous energy source has been effectively isolated and the machinery, equipment, or powered mobile equipment is tested to verify that it is inoperative and the worker is satisfied it is inoperative before any work begins.
- Secure each isolating device with a personal lock. Each worker who will be involved in the maintenance activity must place his/her own lock on the energy control point. The key to the lock must be kept under the control of the owner of the lock at all times.
- Mobile equipment can be locked out by removing the key from the ignition and pocketing it and detaching the negative battery cable. Each lock owner must write the particulars of the lockout on a tag and attach it to the energy control point(s).

- Ensure a tag with work to be completed is attached to equipment.
- Not remove a personal lock or other securing device unless the person is the worker who installed it. Securing devices are not to be removed until each involved worker is accounted for, any personal locks placed by workers are removed and procedures are implemented to verify that no worker is in danger before a worker removes the securing devices and the machinery, equipment, powered mobile equipment, piping, pipeline, or process system is returned to operation.
- In an emergency, or if the worker who installed a lock or other securing device is not available, a worker designated by the supervisor may remove the lock or other securing device after conducting a written hazard assessment to verify that no worker will be in danger due to the removal.
- A worker must be notified at the start of his or her next shift if the worker's personal lock(s) have been removed since the worker's previous shift.
- The application of a lock is not required if (i) the energy isolating device is under the exclusive and immediate control of the worker at all times while working on the machinery or equipment, or (ii) a tool, machine or piece of equipment which receives power through a readily disconnected supply, such as an electrical cord or quick release air or hydraulic line, is disconnected.
- From its power supply and its connection point is kept under the immediate control of the worker at all times while work is being done.
- Each worker who affixed a lock to an energy control point must remove his/her own lock(s). Equipment start-up may occur after all of the above is completed.

Controls

Training / Competencies

- New Employee Orientation
- Tag Out Procedure Training

Training

Training in Lockout/Tag out — will be provided to all employees who may be in an area where energy control procedures are used. This training will make sure that the purpose and function of the energy control program are understood and that employees gain the needed knowledge and skills to safely apply, use, and remove energy controls.

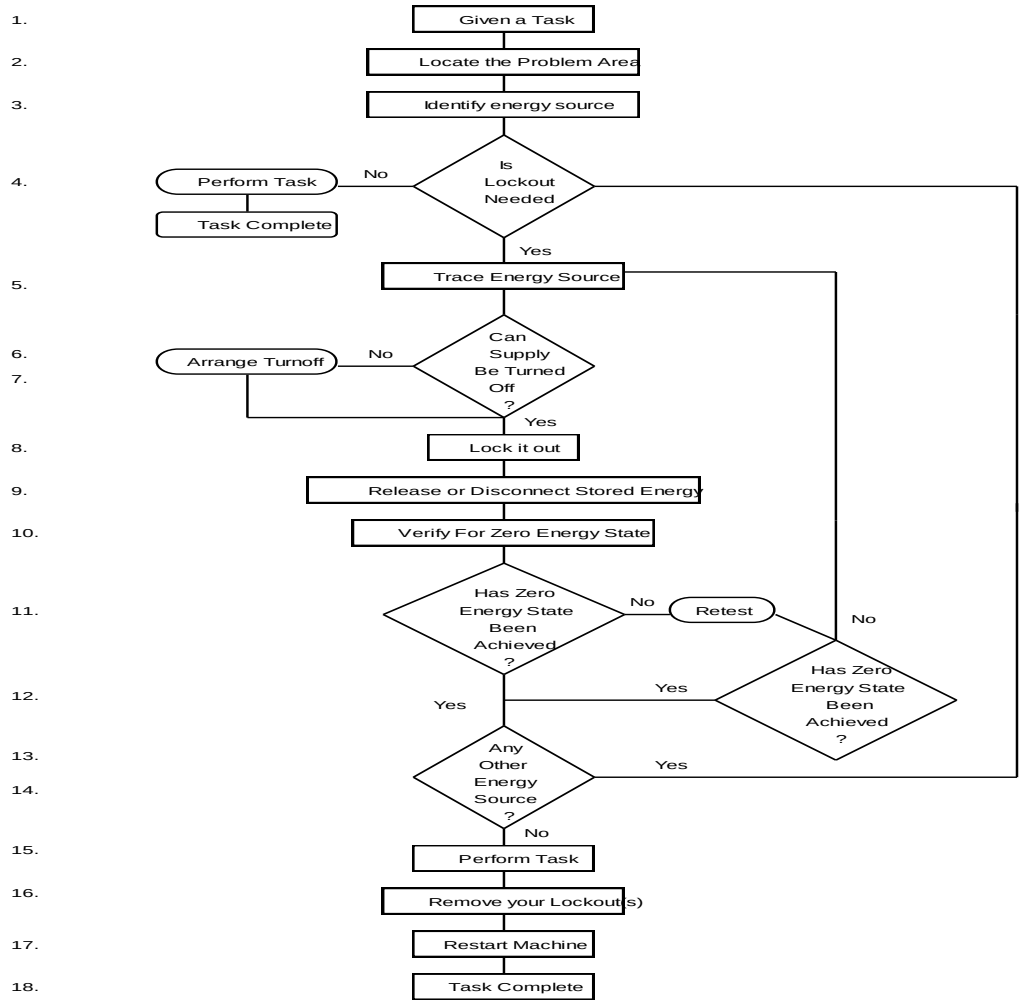
As a minimum, training will include:

- authorized employees will be able to recognize hazardous energy sources, type and magnitude of energy in the workplace, and methods and means necessary to isolate and control the energy.
- affected employees will be able to recognize purpose and use of the energy control procedures.

Retraining — Employees will be retrained at the following times:

- Initial assignment.
- Change in job assignment.
- Change in machinery or equipment.
- Change in operating procedures

Lockout Procedural Flow Grid



Working in Proximity to Live Electrical Installations

NB: AVCON Construction Inc. does not perform any work on energized/or live electrical equipment; any subcontractors hired by AVCON Construction Inc. that will be working live MUST be fully trained and qualified/licenced.

Hazard assessments will be conducted prior to any work being performed near high voltage electricity.

Without adequate protective equipment and procedures, work carried out in proximity to electrical transmission or outdoor distribution lines may endanger workers.

A major cause of accidents of this type is failure to identify the extreme hazards associated with live electrical installations.

Employers and supervisors have a responsibility to identify any hazard that is likely to endanger a worker. They must also ensure that the worker, while working in proximity to electrical transmission or outdoor distribution lines, maintains the minimum distances set out in the table under section 186 of the Regulations for Construction Projects:

Nominal phase-to-phase voltage rating	Minimum distance
750 to 150,000 volts **more than 150,000 to 250,000 volts** **more than 250,000 volts**	**3 metres** **4.5 metres** **6 metres**

The minimum distances apply to all objects, including scaffolds, hand tools, ladders, heavy equipment, etc.

Where the voltage is unknown, contact Ontario Hydro or the local power utility. **If in doubt, assume it is 750 volts or greater.**

Sections 181 through 195 of the Regulations for Construction Projects set out the provisions applying to construction work in proximity to live electrical installations.

GENERAL SAFETY RULES

1. All of our safety rules **must** be obeyed. Failure to do so will result in strict disciplinary action.

2. Keep your mind on your work at all times. No horseplay on the job. Injury or termination or both can be the result.

3. Personal safety equipment must be worn as prescribed for each job, such as: safety glasses for eye protection, hard hats at all times within the confines of the construction area where there is a potential for falling materials or tools, gloves when handling materials, respiratory protection from dusts and fumes and safety shoes are necessary for protection against foot injuries.

4. Precautions are necessary to prevent sunburn.

5. If any part of your body should come in contact with an acid or caustic substance, rush to the nearest water available and flush the affected part. Secure medical aid immediately.

6. Watch where you are walking. Don't run.

7. The use of illegal drugs or alcohol or being under the influence of the same on the project shall be cause for termination. Inform your supervisor if taking strong prescription drugs that warn against driving or using machinery.

8. Do not distract the attention of fellow workers. Do not engage in any act which would endanger another employee.

9. Sanitation facilities have been or will be provided for your use. Defacing or damaging these facilities is forbidden.

10. A good job is a clean job, and a clean job is the start of a safe job. So, keep your working area free from rubbish and debris.

11. Do not use a compressor to blow dust or dirt from your clothes, hair, or hands.

12. Never work alone; if you are subject to dizzy spells, or if you are apt to be nervous or sick.

13. Never move an injured person unless it is absolutely necessary. Further injury may result. Keep the injured as comfortable as possible and utilize job site first-aid equipment until an ambulance arrives.

14. Know where firefighting equipment is located and be trained on how to use it.

15. Lift correctly - with legs, not the back. If the load is too heavy - GET HELP! Stay fit. Control your weight. Do stretching exercises. Approximately twenty percent of all construction related injuries result from lifting materials.

16. Nobody but a qualified operator shall be allowed to ride on equipment

17. Do not use power tools and equipment until you have been properly instructed in the safe work methods and become authorized to use them.

18. Be sure that all guards are in place. Do not remove, displace, damage, or destroy any safety device or safeguard furnished or provided for use on the job, nor interfere with the use thereof.

19. Do not enter an area which has been barricaded.

20. If you must work around power shovels, trucks, and dozers, make sure operators can always see you. Barricades are required for cranes.

21. Never oil, lubricate or fuel equipment while it is running or in motion.

22. Before servicing, repairing or adjusting any powered tool or piece of equipment, disconnect it from the power source

23. Barricade danger areas. Guard rails or perimeter cables may be required.

24. Use the "four and one" rule when using a ladder. One foot of base for every four feet of height.

25. Portable ladders in use shall be equipped with safety feet unless ladder is tied, blocked or otherwise secured. Step ladders shall not be used as a straight ladder.

26. Ladders must extend three feet above landing on roof for proper use.

27. Defective ladders must be properly tagged and removed from service.

28. Keep ladder bases free of debris, hoses, wires, materials, etc.

29. Build scaffolds according to manufacturers' recommendations and the Occupational Health and Safety Act and its Regulations for Construction Projects

30. Scaffold planks shall be properly lapped, cleated or otherwise secured to prevent shifting.

31. Use only extension cords of the three-prong type. Use ground fault circuit interrupters at all times and when using tools in wet atmosphere (e.g. outdoors) or with any temporary power supply. Check the electrical grounding system daily.

32. The use of harnesses with safety lines when working from unprotected high places is mandatory as per the Occupational Health and Safety Act and its Regulations for Construction Projects. Always keep your line as tight as possible.

33. Never throw anything "overboard." Someone passing below may be seriously injured.

34. Open fires are prohibited.

35. Know what emergency procedures have been established for your job site. (location of emergency phone, first aid kit, stretcher location, fire extinguisher locations, evacuation plan, eyewash station etc.)

36. Any lifting device used on our sites is to be operated by a competent person as defined by the OHSA.

37. Operators of any lifting device must follow the load capacity or load chart on the lifting device prior to any operation. This label must be clearly marked/displaced on the equipment.

38. Any work that is being preformed such as demolition, barricades must be in place to ensure the safety of the workers from falling material.

39. Before any work is to proceed, ensure that any harmful substances and all utilities are disconnected before demolition activity begins.

40. Ensure that all exposed moving parts on equipment or machinery are guarded. Guards provided by the manufacturer must not be removed.

41. Workers must no wear loose fitting clothing and/or jewellery that could result in coming into contact or getting caught with the moving parts.

42. Seatbelts must be worn at all times if it is provided by the manufacturer.

43. Ensure that powered mobile equipment is secured against unintentional movement when not in use.

44. No worker shall wear loose fitting clothing and/or jewellery if they could come into contact with any moving parts of machinery or equip

SECURITY PROGRAM

Where constructor or the owner of the project sets out security protocol including reporting arrival on the site on regular basis, wearing of identification badges all AVCON Construction Inc.'s employees and subcontractors must fully cooperate.

Failure to do so may result in disciplinary action not limited to dismissal.

HOUSEKEEPING

Keep your project clean. All scraps and waste must be disposed of in properly marked containers or disposal areas. In some cases, we may be required to separate the waste into wood, cardboard, paper, plastics and metals. Failure to do so may not only make for an unsafe project but may cost the company money due to clean-up charges.

All materials, goods and things shall be stored and placed in such a manner that the maximum safe load-carrying capacity of the floor or other supporting structures is not exceeded.

Keep aisles and walkways clear or tools, equipment, cables and other materials. Remove any nails, rebar, or other protruding objects that may be a tripping hazard to others. Use signs and barricades (including barricade tape) to warn others of any tripping or falling hazards.

Ensure that no loose material is left on the upper levels or levels above ground. All waste materials must be removed to waste containers throughout the day and frequently if windy conditions.

All subcontractors are responsible for cleanup of waste materials generated by their tasks.

SIGNS & TAGS

Signs and Tags

Signs and symbols, when used for safety purposes, shall be visible at all times when work is being performed, or in areas where potential hazards are present, is occupied.

Danger Signs

“Danger Due To” signs shall be used only where an immediate hazard exists such as overhead hazard or fall protection hazard. Hazard shall be placed in sufficient numbers and facing the reader.

Caution Signs

Caution signs shall be used only to warn against potential hazards or to caution against unsafe practices.

Traffic Signs

Construction areas shall be posted with legible traffic signs at the points of hazard.

Accident Prevention Tags

Accident prevention tags shall be used as a temporary means of warning employees of an existing hazard, such as defective tools, equipment, etc. They shall not be used in place of, or as substitute for, accident prevention signs.

Specific warning signs locations

On the occupied structure signs must be placed on any doorway (both sides) that leads to or from construction area/activity. In coordination with building manager where possible occupants shall be prohibited from using access egress in general construction area.

WEATHER CONDITIONS – LIGHTNING

Who should be concerned about lightning?

Lightning kills more Canadians than hail, wind, rain and tornadoes combined, making lightning an important safety consideration. This fact is especially true for people who make a living working outdoors. While the odds of getting struck by lightning are less than one in a million, Environment Canada says lightning kills six to twelve people every year in this country and seriously injures another sixty or seventy people.

Knowing what to do when lightning is close is especially important for people who work outdoors. Employers need to recognize the hazards associated with electrical storms and, where appropriate, have safe procedures and work systems in place, to minimize the risk of injury or harm to employees, and should review these policies seasonally.

Having a preparedness plan and taking some basic safety measures can prevent many lightning deaths and injuries.

What should I know about lightning?

A lightning bolt is a million times more powerful than household current, carrying up to 100 million volts of electricity. When someone is struck by lightning, an electrical shock occurs that can cause burns and even stop the person's breathing.

Although thunder and lightning can occur occasionally during a snowstorm, April to October are the prime thunderstorm months in Canada. Thunderstorms occur most often in late afternoon or evening, and around sunrise.

Knowing how lightning behaves can help you plan for an approaching storm. It tends to strike higher ground and prominent objects, especially materials that are good conductors of electricity, such as metal. Thunder can be a good indicator of lightning – loud crackling means its close, whereas rumbling means the storm is further away.

Because light travels faster than sound, you will see lightning before you hear the thunder. Each second between the flash and the thunderclap represents about 300 metres. As a rule of thumb, if you can count less than 30 seconds between the lightning strike and the thunder, the storm is less than 10 km away. There is an 80% chance that the next strike will happen within that 10 km, and if you can hear thunder, you are within striking distance. Immediately go to the nearest well-constructed building or a fully enclosed, metal-topped vehicle... there is NO safe place to be outside in a thunderstorm.

What steps should people take to protect themselves?

Protection from lightning begins before the storm. Paying attention to weather conditions and forecasts allows time to plan for threatening weather and to react appropriately.

The safest place to be during a thunderstorm is in a well-constructed building. A well-constructed building is one that is fully enclosed with a roof, walls and floor with electrical wiring, plumbing, telephone line, or antennas to ground the lightning should the building be hit directly.

Even when inside the building, there are safety precautions to take.

- keep as many walls as possible between you and the outside. stay away from doors, windows, and fireplaces.
- stay away from anything that will conduct electricity such as radiators, stoves, sinks and metal pipes.
- use battery operated appliances only. avoid handling electrical appliances and regular telephones (cordless phones and cell phones do not increase the risk of a lightning strike).

The next best place for shelter is an enclosed metal car, truck or van but NOT a tractor, golf cart, topless or soft-top vehicle. Make sure the vehicle is not parked near trees or other tall objects that could fall over during a storm. When inside a vehicle during a lightning storm, roll up the windows and sit with your hands in your lap and wait out the storm. Don't touch any part of the metal frame or any wired device in the vehicle (including the steering wheel or plugged-in cell phone). A direct strike to your car will flow through the frame of the vehicle and usually jump over or through the tires to reach ground.

Be aware of downed power lines that may be touching your car. You are safe inside the car, but you may receive a shock if you step outside.

Unsafe shelters are buildings or structures without electricity or plumbing to ground the lightning, as they do not provide any lightning protection. Shelters that are unsafe include covered picnic shelters, carports, tents, baseball dugouts as well as other small non-metal buildings (sheds and greenhouses).

What should you do if you cannot find shelter?

There is no safe place to be outdoors during a thunderstorm. However, there are areas that might be less dangerous – and help reduce the risk of being struck by lightning when outside.

Stay away from things that are tall (trees, flagpoles or posts), water, and other objects that conduct electricity (tractors, metal fences, lawn mowers, golf clubs). You do not want to become a prime target by being the highest object on the landscape. Take shelter in low-lying areas such as valleys or ditches but watch for flooding.

If you are with a group of people in the open, spread out several metres apart from one another.

If you get caught in a level field far from shelter and you feel your hair stand on end, lightning may be about to hit you. Crouch down on the balls of your feet immediately, with feet together, place your arms around your knees and bend forward. Be the smallest target possible, and at the same time, minimize your contact with the ground. Don't lie flat.

What should you do if someone has been hit by lightning?

Lightning victims are safe to touch. Bystanders shouldn't hesitate to save a life by calling for help. If breathing has stopped, administer mouth-to-mouth resuscitation. If the victim is not breathing or they do not have a pulse, a trained rescuer should administer cardio-pulmonary resuscitation (CPR).

What do they mean by the "30-30 Rule"?

Remember...

- when you can count 30 seconds or less between lightning and thunder, head for safe shelter.
- remain sheltered for 30 minutes after the last thunder.

When Environment Canada issues a storm warning, or if you can already hear thunder, remember to take shelter from the storm and protect yourself. There are also commercially available personal lightning detection devices that can be carried on a person to help warn about how close a storm is.

Preparedness for a storm is essential. Listen to your local forecast for the possibility of thunderstorm activity. Keep an eye on the sky. If the sky suddenly darkens, be prepared to take shelter.

EMERGENCY PREPAREDNESS POLICY

Emergency preparedness is at the forefront of all AVCON Construction Inc. activities and we are committed to providing the safest workplace possible for all staff and visitors. Our principal objective of the emergency response is to minimize any risk arising from emergencies.

“Emergencies” are defined as situations or impending situation caused by the forces of nature, accident or an intentional act that constitutes a danger of major proportions to life and property. These emergencies can have the potential to affect people’s physical and emotional health, damage property and interfere with normal business operations, as well as, affect the economic and environmental well-being of AVCON Construction Inc. This emergency preparedness policy is intended to provide direction to all employees, on the procedures to follow in the event that a major emergency or disaster occurs.

To minimize losses, a series of planned activities should be prepared and fully communicated to all workers. This plan will provide for an orderly shutdown, evacuation, first aid requirements. Communications systems that may be utilized include but not limited to: alarms, lights, bells, horns, radio or telephone. All supervisors for worksites, plants and offices shall develop and have posted if possible or make available their emergency plan.

Construction Site Emergency Plan includes:
1. emergency contact number(s)
2. name of supervisor & first aid personnel on site -
3. route/map to the nearest hospital location
4. location of fire extinguishers and location of first aid kits (supplied and stocked)
5. instructions for obtaining first aid
6. evacuation from site procedures
7. the intended communication system

Emergency Response Procedures

1. the emergency response plan along with an evacuation plan will be kept current and it will be reviewed with all workers at each new jobsite.
2. in the event of an emergency, a designated person will immediately call local emergency services (911)
3. all vehicles and trucks are equipped with fire extinguishers and first aid kits
4. all first aid kits located in the trucks/vehicles shall be stocked at all times.
5. all incidences are to be reported and documented immediately to the supervisor;
6. investigations and police involvement must also include the supervisors on site.
7. always remain calm and rational to help minimize the problem associated with the emergency.
8. workers certified in first aid are readily available to assist injured workers

Accessibility for Ontarians with Disabilities (AODA)

Any workers with a disability will have equal access to emergency preparedness procedures. AVCON Construction Inc. will reference the AODA policy when preparing or reviewing any emergency plans.

Outside Agencies

- Only employees authorized by management are able to speak with media
- If the police, Ministry of Labour or any other government official requests statements, your cooperation is fully advised.

Emergency Preparedness Procedures

The purpose of this document is to provide a step by step procedure for what to do in the event a rescue or evacuation is required at the job site. It outlines the roles and responsibilities of supervisors and workers involved and the requirements outlined in Ontario, OHSA Legislation.

The emergency preparedness and response plan is used for routine and non-routine emergencies as well as changes in operation, products and services which warrant new emergency situations. Site specific emergency response planning, a pre-job hazard analysis and ongoing daily hazard assessment process is to be implemented to identify the potential emergencies.

This practice will be reviewed annually or as often as necessary by senior management in consultation with the joint committee or the worker health and safety representative.

Responsibilities

Managers

1. ensure emergency response personnel are trained in emergency response rescue and/or evacuation.
2. provide all necessary emergency resources.
3. provide the proper personal protective equipment (PPE) and clothing to workers designated for emergency response.
4. ensure adequate first aiders on site as per the occupational health and safety act and its regulation
5. retain first aid records for 3 years from the date the incident is recorded.
6. notify the family of the employee immediately if a serious injury has occurred.

Supervisors

1. develop an emergency response plan based on the hazards identified in the hazard assessment for each job site.
2. communicate directly with the appropriate emergency services and workers.
3. communicate the plan to all workers before work begins on the site.
4. designate emergency response personnel for the work site before work begins and communicate the names of those individuals to workers on the worksite. first aiders at the worksite are to be recorded on the hazard assessment form.
5. provide direction to all workers during an emergency situation.
6. designate a person to take responsibility in his/her absence.
7. complete all required documentation in a timely fashion.
8. inspect, replenish and maintain the first aid facilities, supplies, and services at the work site daily
9. perform head count to ensure all employees are accounted for
10. testing of these procedures/mock evacuations will be conducted every 6 months and will be documented with the findings for the effectiveness.

Planning and preparing in advance for emergencies will protect the health, safety and lives of people at your work site. It will also minimize the business losses related to damage to the environment and property.

Any rescue equipment used such ladders, etc., are to be inspected and maintained as per manufacturer's instructions and recommendations.

Communication of The Procedures

To be effective, an emergency response procedure must be clearly communicated to all site personnel. The following activities should be considered:

- review the procedure with new site workers to ensure that it covers their activities adequately.
- review the procedure with suppliers to ensure that it covers any hazards that the storage or delivery of their materials might create.
- review the procedure with the joint health and safety committee or health and safety representative on a regular basis to address new hazards or significant changes in site conditions.
- post the procedure in a conspicuous location.

The Emergency Response Procedure for a construction project must continually undergo review and revision to meet changing conditions and are site specific.

Emergency Response

An emergency can be reported from any source—a worker on site, an outside agency, or the public. Circumstances may change during the course of an emergency. Any procedures developed must be able to respond to the ongoing situation.

Training will be provided for personnel to conduct emergency response requirements.

The following list covers basic actions to take in an emergency. These steps apply to almost any emergency and should be followed in sequence.

Stay calm

1. Your example can influence others and thereby aid the emergency response.

Assess the situation

1. as soon as the incident is noticed, stop the work.
2. sound alarm - three horn blasts, radio communications or telephone to warn all employees of the emergency
3. determine what happened and what the emergency is.
4. try to identify the cause that must be controlled to eliminate immediate, ongoing, or further danger.

Take command

1. the supervisor on the scene should take charge and call, or delegate someone to call, emergency services—generally 911—and explain the situation.
2. evacuate the building or work site. if it is safe to do so remove injured from danger if necessary and attend to them, otherwise wait for emergency workers. take all possible safety precautions including the use of protective equipment as required.
3. assign tasks for controlling the emergency. this action also helps to maintain order and prevent panic.

Provide protection

1. eliminate further losses and safeguard the area.
2. control the energy source causing the emergency.
3. protect victims, equipment, materials, environment, and accident scene from continuing damage or further hazards (if safe to do so)
4. all employees will assemble in the designated area and will remain there until ordered to move by the superintendent or the emergency services. a worker’s head count will then be conducted and immediately notify appropriate authorities of any missing personnel.
5. divert traffic, suppress fire, prevent objects from falling, shut down equipment or utilities, and take other necessary measures.
6. preserve the accident scene; only disturb what is essential to maintain life or relieve human suffering and prevent immediate or further losses.

First Aid and Manage

1. provide first aid or assist
2. first aid kits are located in site trailers and trucks
3. direct all workers not involved to gather at the muster point as discussed at the toolbox/tailgate meetings or orientation.
4. have other workers assist for both a headcount and emergency assignments.
5. have an assigned worker guide the emergency services to the area once they arrive.

Maintain contact

1. keep emergency services informed of the situation.
2. contact utilities such as gas and hydro where required.
3. alert management and keep them informed.
4. exercise increasing control over the emergency until immediate hazards are controlled or eliminated and causes can be identified.
5. guide emergency services - meet services on site. lead them to emergency scene. explain ongoing and potential hazards and cause(s), if they are known.

Guide Emergency Personnel

1. Meet the emergency services on site
2. Lead them to the emergency scene
3. Explain ongoing and potential hazards and cause(s) if known.

Additional

- contact the Ministry of Labour and JHSC/H&S Rep of any critical injuries.
- if media is present on site, be courteous but restrict access to the rest of the site and refrain from any comments until management arrives.
- no employee shall enter the workplace until it has been authorized by the superintendent and the emergency services.
- perform a thorough incident investigation as soon as possible and document the findings.
- produce incident report and forward to required parties
- review incident findings with workers during next safety meeting

Emergencies are defined as “any situation or occurrence of a serious nature developing suddenly and unexpectedly and demanding immediate attention”.

There are various types of emergencies, including but not limited to, the following:

- first aid/medical
- fire protection
- gas lines/overhead power-line contact
- hazardous spills/environmental incidents
- confined space/restricted access
- inclement weather

First Aid/Medical

1. all workplaces will have sufficient first aid stations or facilities and comply with regulations 1101.
2. there will be qualified first aider(s) available accordingly
3. means of transportation will be readily available to transport the injured worker to hospital or medical facility.
4. all incidences will be documented and communicated

Fire Protection

All workers will assist in the prevention of fires by practicing good housekeeping and limiting the quantity of combustible materials.

- fire extinguishers of the correct size and type, as regulated in the OHSA and its Regulations, and are located in all areas including shops, offices, mobile equipment and heavy machinery and shall be readily available.
- an adequate number of fire extinguishers shall be readily available
- a competent person shall inspect the fire extinguisher on a monthly basis and document it on the tag attached to the extinguisher.
- any worker required to use a fire extinguisher must be trained on its use O. Reg. 213/91 s. 52(1.1).
- any discharged fire extinguisher must be tagged and reported to the supervisor for replacement
- proceed with Emergency Response Plan

When operating a fire extinguisher, use the PASS acronym:

Pull – pull the pin from the handle of the fire extinguisher
Aim – aim the fire extinguisher at the base of the fire
Squeeze – squeeze the handle of the fire extinguisher
Sweep – sweep the extinguisher back and forth, covering the full base of the fire

Emergency Response for Gas/Overhead Power Line Hit

Walk away from the hole/area.

1. turn off all ignition sources.
2. evacuate immediate area and meet at the designated muster point.
3. notify 911, site superintendent and appropriate utility company.
4. turn off / remove all potential ignition sources in next closest areas, building heaters, thermostats, best to hit main breaker for building if applicable.
5. proceed with emergency response plan.

Hazardous Spills/Environmental Incidences

Environmental incident is defined as a release of contaminant of an abnormal quantity into the natural environmental including but not limited to a sanitary and storm sewer, a sump, drinking water well, drinking water reservoir or system, air, aquifer or wet land where the presence of released contaminant may pose a risk to the natural environment and/or to human health and safety.

In case of a product spill

1. assess the situation and ensure the safety of all workers
2. stop the product flow.
3. immediately shut off power from the source
4. evacuate workers from the area if necessary
5. ensure that all ignition sources are turned off e.g. pilot lights, cigarettes, running engines
6. use required personal protective equipment
7. do not allow the spilled product to get into storm or sanitary sewer lines
8. block off all drains
9. contain the spilled product with a proper absorbent; a minimum supply of absorbents must be kept on site at all times
10. all used absorbent must be stored in a metal container until it can be properly disposed of
11. notify fire and police and applicable local environmental authorities
12. notify supervisor immediately from the emergency response plan

Confined Space/Restricted Access Rescue

1. in the event the attendant cannot make contact with entrant or suspects an incident has occurred, the attendant shall immediately notify 911 if injuries are suspected to be life threatening.
2. notify the site supervisor
3. if adequately trained and it is safe to do so, remove injured from danger by using required rescue equipment and attend to them, otherwise wait for emergency workers. take all possible safety precautions including the use of protective equipment as required.
4. proceed with emergency response plan.

Inclement Weather Preparedness

It is important for all workers to be prepared to handle an emergency in the event of inclement weather that involves lightning and severe weather conditions.

Lighting

- absolute protection against lighting is impossible since is cannot be stopped or prevented
- knowledge and preparedness are the best defense against any injury, death or property damage due to lightning
- lightning is the leading cause of weather-related personal injuries
- practice the ‘flash – to – bang ‘measurement of lightning distance. this is the time from seeing the lightning flash to hearing the bank of thunder
    - for each 5 seconds that you count means the lightning is 1.6 km (1 mile away).
    - 25 seconds equals 8 km (5 miles) away
    - 20 seconds equals 6.4 km (4 miles) away
    - 15 seconds equals 4.8 km (3 miles) away; be prepared to seek shelter

Procedures

1. shut down all heavy equipment; lower the boom to the ground
2. if time allows, exit the equipment and proceed to the nearest shelter or muster point designated
3. remain inside of the building until the storm passes.

Debriefing and Post-Traumatic Stress Procedure

The recovery process, or what happens after the emergency response has been completed, is a critical step in the plan.

Many emergency tasks may be handled by people who are not accustomed to dealing with emergencies. People may have seen their work partners and friends badly injured and suffering great pain.

Once the emergency is over, the attitude should not be "Okay, let's get back to work" or "Let's go home." Some of the people involved may need assistance in order to recover. In some cases, professional counselling may be needed. As part of site emergency planning, construction companies should have measures in place to deal with post-traumatic stress. Local hospitals, ambulance services, and medical practitioners may also be able to help.

Debriefing is necessary to review how well the plan worked in the emergency and to correct any deficiencies that were identified. Debriefing is critical to the success of future emergency response planning.

INVESTIGATIONS AND REPORTING POLICY

The purpose of this policy is to have all incidents that result in medical aid, lost time injuries or property damage, or that has the potential for injury or property damage and violence & harassment to be thoroughly investigated and reported through documentations.

The purpose of the investigation is to determine the root causes of the incident and to implement measures and recommendations necessary to prevent a recurrence of this event.

Workers must report all near misses, incidents and injuries immediately after they occur to their supervisor.

Supervisors are responsible for conducting investigations with all involved and must submit an Incident Investigation form to Management; all incidents are to be investigated.

All critical injuries will be handled in accordance with the Occupational Health & Safety Act and thoroughly documented as indicated in the critical injury procedures that are within the investigation section of this manual.

As per the Occupational Health and Safety Act, Section 51, Notice of injury or death and preservation of wreckage will be handled in accordance with the section.

As per the Occupational Health and Safety Act, Section 52, Notice of accident, explosion, fire or violence causing injury or occupational illness will be complied with accordingly.

As per the Occupational Health and Safety Act, Section 53, Notice of accident etc., a project site or mine will be complied with accordingly.

Training will be provided to all supervisors/foremen on proper investigation techniques.

Reporting Procedures

All workers are responsible for reporting all incidents, accidents and near misses immediately to their supervisor. This will help determine the hazard(s)/root causes that caused the event(s) to occur, to prevent similar events from happening in the future, and to fulfill all legal requirements.

All incidents must be investigated by a competent person as defined in the OHSA to complete an investigation of the incident. The investigation should take place as soon as possible after the incident occurs.

Incident investigation forms, pictures, witness statements and any other information shall be completed, documented and submitted to AVCON Construction Inc. which will be recorded. Once contributing factors and root causes are identified; action plans will be developed to mitigate/eliminate contributing factors.

We will ensure that corrective actions are identified and shall be taken to prevent a recurrence of the incident and it will be addressed with the crew involved at the toolbox/tailgate meetings.

Management and JHSC members will review/analyze all incidents/accident reports at the JHSC meetings to identify trends and support necessary measures to prevent a recurrence.

All findings will be communicated to employees through:

- JHSC meeting minutes
- Toolbox talks

These records will be retained for 3 years.

INCIDENT REPORTING PROCEDURES

1. Call 911 if required
2. Notify the supervisor of the incident
3. The supervisor is required to complete the incident/accident investigation form
4. A written statement of evens may be submitted with the investigation form along with pictures, and any other relevant documentation to identify the incident.
5. The supervisor shall notify AVCON Construction Inc.'s head office of the incident
6. The JHSC/H & S Representative will be notified
7. The supervisor shall conduct a formal investigation to identify the root cause and effect
8. Management will follow up with supervisor on corrective actions that will be taken.
9. All incidents involving subcontractors are to be reported to the hiring client and participate in the subcontractor's incident investigation

Forms that will be used for this purpose:

- Incident/Accident Investigation Forms
- Voluntary Witness Statement Forms

Critical Injuries

Critical Injury Defined as per R.R.O. 1990, Regulation 834

For the purposes of the Act and the Regulations, “critically injured” means an injury of a serious nature that,

(a) places life in jeopardy,
(b) produces unconsciousness,
(c) results in substantial loss of blood,
(d) involves the fracture of an arm or a leg but not a finger or toe,
(e) involves the amputation of a leg, arm, hand or foot but not a finger or toe,
(f) consists of burns to a major portion of the body, or
(g) causes the loss of sight in an eye.

Clarification on The Definition of Regulation 834: Critical Injury

Clause 1(d) of Regulation 834 has made amendments that stipulates any fracture would constitute a critical injury if it is of a serious nature. While the fracture of a single finger or single toe does not constitute a critical injury, the ministry takes the position that the fracture of more than one finger or more than one toe **does** constitute a critical injury if it is an injury of a serious nature.

Critical Injury

Notice must be given to the Ministry of Labour **within 48 hours** with all information as outlined in *Section 51(1) OHSA.*

Duties and Responsibilities for Critical Injuries

Supervisors

- Ensures that the appropriate first aid is given.
- Take charge of situation, remain calm.
- Send somebody to call for help (Ambulance, Fire Department, 911).
- Assesses the hazard at the scene of the accident.
- Notify MOL Office nearest to you.
- Secure the accident scene for MOL investigation
- Notify Management of injuries requiring medical aid and or lost time accident immediately. If outside medical aid is required, complete the WSIB Treatment Memorandum Form and send it with the employee (if possible)
- Notify JHSC/ H & S Representative of the incident
- Provides transportation to a medical facility or the employee’s home.
- Investigate the accident; document & determine root causes and takes corrective action where appropriate.

1. Completes Accident Investigation form
    a. take pictures; sketch area of incident
    b. answer questions pertaining to who, what, where, when, why, how.
    c. obtain information from potential witnesses as soon as possible following the incident; request from them that they provide a written detailed report of what happened/what was observed. – information should also contain their names, address and phone numbers.
    d. request that the witness(es) to remain at the scene until further notice.
2. write a detailed report of the steps taken in addressing the critical injury. detail account of time and dates.
3. contacts the employee the day following the accident.
4. maintains contact with the employee for a more efficient return to work.

Management

1. arrive to the scene and begin the critical injury notification process.
2. ensure the following:
    a. members of the injured worker's family are notified of the incident.
    b. ministry of labour is contacted
    c. all the witness statements have been completed and collected.
    d. the formal accident/incident investigation has been completed with the JHSC member/H&S representative in attendance.
    e. communicate and assist with the ministry of labour inspector's investigation
    f. communicate with the staff as required
    g. all documentation collected to be submitted to the health and safety manager
    h. the health and safety manager shall complete and forward the full report and any documentation to the ministry of labour within 48 hours of the incident.

JHSC/H&S Representative

1. arrive to the scene and assist the supervisor with the incident and accident investigation report
2. communicate and assist the ministry of labour inspector with the investigation as required.

Notification and Contact Information for Critical Injuries

The Supervisor or his/her competent replacement will contact the following:

INDIVIDUAL	RESPONSIBLE PARTY TO CONTACT
Injured worker, witnesses or person that will receiving the report of a critical injury	Immediate Supervisor
Supervisor	Management
Supervisor	JHSC Worker Representative/H&S Representative
Management	President
Management	Ministry of Labour

Media Interaction

No comments or interviews are to be made to the media; any inquires must be directed to Management of AVCON Construction Inc.

OHSA PART VII

(Reference to this part is quoted directly from the Occupational Health & Safety Act)

Notice of Death or Critical Injuries

s. 51(1)

When a person is killed or is critically injured from any cause in the workplace, the constructor, if any, and the employer will notify the Ministry of Labour, the JHSC / H & S representative of the occurrence by telephone or other means within 48 hours of the occurrence.

Preservation of Wreckage

s. 51(2)

Where a person is killed or is critically injured at a workplace, no person shall, except for the purpose of,
(a) saving life or relieving human suffering;
(b) maintain an essential public utility service or a public transportation system; or
(c) preventing unnecessary damage to equipment or other property, interfere with, disturb, destroy, alter or carry away any wreckage, article or thing at the scene of or connected with the occurrence until permission to so do has been given by an inspector.

Notice of Accident, Explosion, Fire or Violence Causing Injury

s. 52(1)

If a person is disabled from performing his or her usual work or requires medical attention because of an accident, explosion, fire or incident of workplace violence, but no person dies or is critically injured because of that occurrence, the employer shall, within four days of the occurrence, give written notice of the occurrence containing the prescribed information and particulars to the following:

1. The committee, the health and safety representative and the trade union, if any,
2. The Director, if an inspector requires notification of the Director

Notice of Occupational Illness

s. 51(2)

If an employer is advised by or on behalf of a worker that the worker has an occupational illness or that a claim in respect of an occupational illness has been filed with the Workplace Safety and Insurance Board by or on behalf of the worker, the employer shall give notice in writing, within four days of being so advised, to a Director, to the committee or a health and safety representative and to the trade union, if any, containing such information and particulars as are prescribed.

Accident, Etc., At Project Site or Mine

s. 53

If an accident, premature or unexpected explosion, fire, flood or inrush of water, failure of any equipment, machine, device, article or thing, cave-in, subsidence, rock burst, or other prescribed incident occurs at a project site, mine or mining plant, the constructor of the project or the owner of the mine or mining plant shall, within two days after the occurrence, give notice in writing with the prescribed information and particulars,

(a) To the committee, health and safety representative and trade union, if any; and
(b) To the director, unless a report under section 51 or a notice under section 52 has already been given to a director.

O. Reg. 213/91 s. 11 - Reporting Requirements to the Ministry of Labour

11. (1) The following incidents are prescribed for the purpose of section 53 of the Act:

1. A worker falling a vertical distance of three metres or more.
2. A worker falling and having the fall arrested by a fall arrest system other than a fall restricting system.
3. A worker becoming unconscious for any reason.
4. Accidental contact by a worker or by a worker's tool or equipment with energized electrical equipment, installations or conductors.
5. Accidental contact by a crane, similar hoisting device, backhoe, power shovel or other vehicle or equipment or its load with an energized electrical conductor rated at more than 750 volts.
6. Structural failure of all or part of falsework designed by, or required by this Regulation to be designed by, a professional engineer.
7. Structural failure of a principal supporting member, including a column, beam, wall or truss, of a structure.
8. Failure of all or part of the structural supports of a scaffold.
9. Structural failure of all or part of an earth or water-retaining structure, including a failure of the temporary or permanent supports for a shaft, tunnel, caisson, cofferdam or trench.
10. Failure of a wall of an excavation or of similar earthwork with respect to which a professional engineer has given a written opinion that the stability of the wall is such that no worker will be endangered by it.
11. Overturning or the structural failure of all or part of a crane or similar hoisting device. O. Reg. 213/91,

s. 11 (1); O. Reg. 85/04, s. 3; O. Reg. 627/05, s. 1.

(2) A notice under section 53 of the Act shall set out the circumstances of the occurrence and the steps taken to prevent a recurrence. O. Reg. 213/91, s. 11 (2).

RETURN TO WORK AND RE-EMPLOYMENT

AVCON Construction Inc. will be able to accommodate a worker that is temporarily disabled as a result of an accident that arose in and out of the course of employment. Our objective is to return and rehabilitate the worker to his/her maximum level of ability enabling them to be capable of effectively and efficiently performing the assigned job tasks.

AVCON Construction Inc. will uphold its responsibility for keeping the Workplace Safety and Insurance Board (WSIB) informed of the availability of modified work and of the worker's progress during the return to work and the rehabilitation process.

Return to Work Procedure – Work Related Injuries/Illness

1. Notify your supervisor immediately of injury/illness
2. Obtain first aid or medical treatment
3. Do not move injured person if there is a risk of injury to head, neck and spinal cord damage. Exercise extreme care
4. If injured worker is to be taken to Hospital or Health care provider, worker is not to drive themselves; worker shall be accompanied by supervisor or other person or call 911 for ambulance
5. Supervisor or First Aid Provider notifies Management
6. Injured worker will have Health care provider fill out the applicable Worker's Compensation form (Functional Abilities form) for outlining physical abilities and restrictions for the initial visit. Injured worker to not leave health care facility without having Functional Abilities form filled out
7. Injured Worker to provide Employer with Functional Abilities form, so that modified duties can be determined
8. Arrangements made to transport the injured worker to work the next day if the worker is unable to drive

The worker is responsible for fully co-operating with the return to work process and for ensuring that the employer is provided with such medical information and /or functional abilities information that will assist in a successful and safe return to work.

This modified plan may include:

- altered or reduced work hours
- changes to the worker's shift
- modifications to the regular job duties
- alterations to rest period(s) or exercise break(s)
- temporary re-assignment to a different job
- matching the worker's functional abilities to a totally different job.

Procedures to Implement an Early and Safe Return-To-Work (ESRTW) Plan

1. When medically supported information comes forward that the employee is able to commence with an ESRTW plan, a personalized plan shall be developed.
2. Management will maintain contact with the injured employee throughout recovery.
3. A suitable modified position will be identified by the employer to ensure that the position is within the worker's functional abilities so as to prevent re-injury or aggravation to the worker's condition.
4. The worker must provide the employer with a "Health Professional/Health Care Practioner's" letter of clearance to return to modified work, by providing an up to date "Functional Abilities Form: (FA) on a timely basis, as prescribed in the Workplace Safety and Insurance Act, 1997. Employees may be required to attend an independent medical review to determine their physical capabilities in order to perform the required duties.
5. When medical clarification is required, various specialists may be consulted to ensure that the worker is able to perform the assigned task(s).
6. Employees may be required to return to work on a graduated basis, (for example, commencing at four hours per day until eventually reaching the regular work hours per day, on a gradual basis). Overtime hours are not available to workers on a modified work plan.
7. An ESRTW plan shall be closely monitored to ensure no further disability is developing and to ensure that the worker's physical restrictions are being fully respected.
8. Supervisory personnel may provide modified work for a duration agreed to by management. The company physician may be consulted for advice regarding modification of restrictions and duration of the ESRTW plan.

Modified Work & Vocational Rehabilitation

The Workplace Safety & Insurance Board has long supported the belief of early rehabilitation via an Early and Safe Return to Work Program. Such a program may include g*raduated work* and/or *modified duties*, which will help the worker, recuperate more quickly. Failure to fully participate in our Early and Safe Return to Work Program can effectively cancel a claim by WSIB.

Modified Work

Modified work is any job or combination of tasks that an employee, who suffers from a partial disability, may perform on a temporary basis without risk of re-injury to them or others. This work may consist of regular tasks that have been changed or redesigned for an employee participating in a modified work program. There may be a reduction in time or volume of work performed, however, the work must be productive, and the results must have value.

Modified Duties

General modified duties can include but are not limited to:

- work in the office, shop, site office,
- housekeeping activities,
- inventory control,
- supervisory assistance or work helper,
- work at normal job with a helper,

Modified duties will be cleared with the worker the treating physician and the WSIB case worker to ensure that appropriate measures are in place to help the worker to a speedy recovery.

Definitions

No Time Loss

- If a worker's employment is modified beyond the day of the accident to accommodate a compensable work-related injury, the accident must be reported to the WSIB, even if there is no time loss or loss of earnings.
- The WSIB will be satisfied with the worker accepting a modified work program immediately, provided the attending physician, employer and worker agree on suitable modified employment. The WSIB will review the suitability of the program when the accident reports are received.
- Non-Occupational Illness/Injury (illness/injury that happens while at home or away from the work site) will not be considered lost time and is not required to be reported to WSIB.

Time Loss

- All occupational (work related) injuries with time loss for more than the day of the accident must be reported to WSIB in accordance with the Act.
- Usually, the WSIB will review proposed modified work plans before the injured worker returns to modified employment. If however:
    - The worker misses only a short period beyond the day of the accident and is declared medically fit to return to modified employment before a WSIB claim has been established
    - The attending physician, employer, and worker agree on suitable modified employment.
- Then the worker may begin the modified work program. The WSIB will review the suitability of the program when the accident reports are received.

Responsibilities

Both the Worker and the Employer have a responsibility to co-operate in an ESRTW (Early and Safe Return to Work) Plan.

These responsibilities are:

The Worker shall:

(a) Contact the accident employer during the recovery period. Contact must occur weekly or as soon as the worker is fit to return to work.
(b) Assist in the collection of job descriptions, task analysis, etc.
(c) Provide such medical information, as the employer requires, for an early and safe return to work.
(d) Participate in the ESRTW Plan and immediately report any task difficulties.
(e) Ensure that ongoing treatment does not interfere with the ESRTW Plan.
(f) Work within the established company rules, procedures and the ESRTW Plan.

The Supervisor shall:

(a) Promote and participate in the objectives of the program and discuss objectives with the employee(s).
(b) Provide ESRTW Plans to workers in their assigned areas.
(c) Assist in the collection of medical information, job description(s) for job task analysis, and the development and implementation of workplace modifications.
(d) Monitor the progress of all workers participating in an ESRTW plan and maintain records of the worker's progress and up -to-date restrictions.

Management shall:

(a) Promote and implement an ESRTW Plan and ensure the policy is up-dated, as required.
(b) Discuss the plan with the worker's supervisor(s) and ensure that the objective of the ESRTW plan is understood.
(c) Determine the frequency of conducting evaluations of the ESRTW and the worker's progress in the Plan.
(d) Ensure the worker signs all formal ESRTW plan(s).

Worker's Dispute Resolution to RTW Plan

1. Employer and worker will document attempt to resolve issues
2. If process successful inform Workers Compensation, by means of documentation the exchange and agreement
3. If process unsuccessful;
    I. WSIB, employer and employee will receive copies of documentation and the recommendations to move forward
    II. WSIB will be contacted to mediate the outstanding issues
    III. WSIB will communicate (in person or telephone) with employer and employee
    IV. WSIB will make a decision that everyone will abide by
    V. If Employer or Employee is not pleased with outcome, then an appeal process can be started by Employer or Employee

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (GHS "WHMIS 2015")

To ensure that all containers are labelled, a current inventory list of all hazardous chemicals/material is maintained, and current Safety Data Sheets are available. AVCON Construction Inc. is responsible for updating and maintaining this program and for compiling a current inventory of all chemical/material and updating SDS's as needed. All employees have free access to SDS's, stored in/at the office or at the site office.

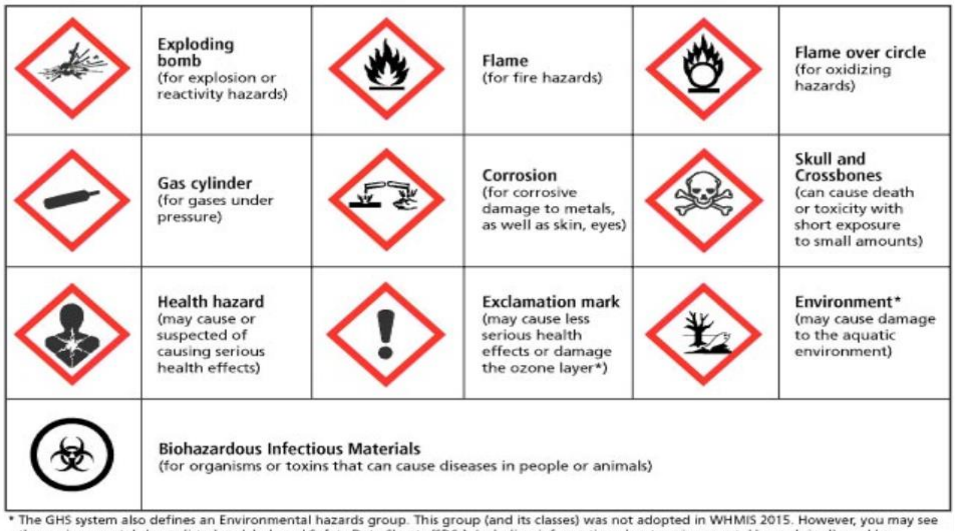
Definition

GHS (Globally Harmonized System "GHS "WHMIS 2015") is a Canada wide system for identifying and labelling hazardous materials to help provide workers with information on workplace hazardous materials called hazardous products.

GHS "WHMIS 2015" Classifications and Exemptions

The hazardous materials to which Globally Harmonized System "GHS "WHMIS 2015" Classification applies are called 'hazardous products'. They meet the criteria for one or more of six hazardous classes, A, B, C, D, E, and F (note: class D has three sub-divisions), according to their hazard properties. Hazardous products may fall into one or more of these categories.

New GHS 'WHMIS 2015' Pictogram



* The GHS system also defines an Environmental hazards group. This group (and its classes) was not adopted in WHMIS 2015. However, you may see the environmental classes listed on labels and Safety Data Sheets (SDSs). Including information about environmental hazards is allowed by WHMIS 2015.

Each class (and sub-division for class D) has its own hazard symbol.

Class A: COMPRESSED GAS

The contained gas product is under high pressure and may be liquefied or refrigerated. Heating, dropping or damaging the compressed gas cylinders can result in explosive decompression and/or spillage of the product. Examples of compressed gases are propane, oxygen, and carbon dioxide.

Class B: FLAMMABLE AND COMBUSTIBLE MATERIAL

At room temperature, flammable materials burn readily. Combustible materials may catch fire or burst into flames if heated or exposed to a spark or flame. These substances may release toxic fumes when burned. Materials included are flammable gases, liquids, solids, aerosols, reactive materials, and combustible liquids. Some examples of common products are methane (flammable gas), gasoline (flammable liquid), and diesel fuel (combustible liquid).

Class C: OXIDIZING MATERIAL

These materials may or may not burn themselves but will release oxygen causing or contributing to the combustion or explosion of woods, fuels, or other combustible materials that they are in contact with. They may also increase the flammability of gases or vapours in the air. Examples of oxidizing products include oxygen, chlorates, and peroxides.

Class D: POISONOUS AND INFECTIOUS MATERIAL

Division 1: Material Causing Immediate and Serious Toxic Effects

These products are very toxic causing immediate and extreme harm to life and health. The dangerous effects are acute, and include nerve damage, respiratory difficulties or death. Exposure is possible by inhalation, ingestion, or absorption through the skin. Examples of such products are hydrogen sulphide, chlorine gas and carbon monoxide.

Division 2: Material Causing Other Toxic Effects

These products may be irritants or cause chronic toxic effects. They may be a carcinogen, teratogen, mutagen, reproduction toxin, and/or sensitizer of the skin or respiratory tract. Examples of such health hazards include mercury, asbestos, and formaldehyde.

Division 3: Biohazardous Infectious Material

These products may cause serious disease or illness in humans and animals. This includes organisms such as viruses, bacteria, and fungi, and the toxins they may produce, both of which may be transmitted through urine, feces, body fluids, etc. This class of products consists of examples as blood containing Hepatitis B or HIV.

Class E: CORROSIVE MATERIAL

This class of materials corrodes metal and causes severe burns and possibly permanent damage to human tissues such as skin or eyes upon contact, or the respiratory tract upon inhalation. Examples include sulphuric acid (battery acid) and caustic soda.

Class F: DANGEROUSLY REACTIVE MATERIAL

Materials that may become unstable or react vigorously when exposed to light, heat, vibration, extreme temperatures, or other materials. The violent reactions may cause fire, explosions, or may produce a very toxic gas. Products include picric acid, vinyl chloride, and benzyl peroxide.

Responsibilities

Managers

Managers Shall:

- If hazardous products are used in the workplace, management, in consultation with the JHSC/H&S representative, shall establish and maintain an effective GHS “WHMIS 2015” program, as part of the overall workplace health and safety program, which addresses applicable GHS “WHMIS 2015” requirements including education and training, and is reviewed **at least annually**, (OHSA s. 42(3)) or no more frequently if required by a change in work conditions or available hazard information.
- Ensure that SDS’s are obtained for all hazardous products that are at the workplace.

- Ensure that the training of all employees on information on hazardous products they use to include identity, hazards and safety precautions is done by competent personnel. If a worker is or may be exposed to a chemical or biological substance which could cause an adverse health effect, management must ensure that the supervisor and the worker are trained in and follow the established procedures for safely handling, using, storing and disposing of the substance, including emergency and spill clean-up procedures as per the SDS for the specific hazardous product. Training is also to include major hazards of the hazardous products in use in the workplace, rights and responsibilities of AVCON Construction Inc. and workers and content required on labels and SDS's and the significance of this information.
- Ensure the employees that handle or work around flammable or combustible substances are trained in the safe handling, use, storage, and disposal of the substance. They must be provided with adequate information concerning the identity, nature, and potential hazards of the substance.
- Obtain a supplier SDS for that hazardous product if the supplier is required to prepare an SDS. Ensure SDS's are available and current for all products used.
- Ensure that a worker who works with or in proximity to a hazardous product received from a supplier has access to all hazard information received from the supplier concerning that hazardous product as well as any further hazard information of which AVCON Construction Inc. is aware or ought to be aware concerning the use, storage and handling of that product.
- Must ensure that the identity of the substance, its possible effects on worker health and safety and any precautions required for the health and safety of the worker are clearly indicated by labels, SDS's, placards, signs, tags or other similar means.
- Review the GHS "WHMIS 2015" program annually to ensure compliance with provincial legislation requirement.
- When a supplier SDS obtained for a hazardous product is 3 years old, management must, if possible, obtain from the supplier an up-to-date supplier SDS for the hazardous product if any of the product remains in the workplace.
- Must ensure that no worker is exposed to a substance that exceeds the ceiling limit, short-term exposure limit, or 8-hour TWA limit prescribed by ACGIH.
- Ensure that all supplier labels are affixed to all hazardous products on their original containers and ensure that all decanted hazardous products have workplace labels affixed to them if they are not in the original containers given by the suppliers.

Safety Representatives

Safety Representatives shall:

- Ensure SDS's are readily available to all workers (readily available means the SDS is located near workers and accessible to workers on each shift).
- Establish a process to provide and maintain an inventory of hazardous substance inventories.

Supervisors

Supervisors shall:

- Involve all workers where reasonably practicable in the hazard identification process. Ensure workers co-operate and participate in the completion of the hazard assessment and in the control or elimination of the hazard identified where reasonably practicable.
- Ensure that an assessment is conducted of the risks posed by hazardous substances from accidental release, fire or other such emergency. If a worker is or may be exposed to a hazardous substance, the supervisor must ensure that:
    - A walkthrough survey is conducted to assess the potential for overexposure taking into account all routes of exposure, including inhalation, ingestion, and skin contact, and
    - Reassessment is conducted when there is a change in work conditions which may increase the exposure, such as a change in production rate, process, or equipment. If the walkthrough survey reveals that a worker may be at risk of overexposure to an airborne contaminant, the supervisor must ensure that air sampling is conducted to assess the potential for overexposure.
- If a worker is or may be exposed to a chemical or biological substance, which could cause an adverse health effect, the supervisor must ensure that the content and meaning of the information is clearly communicated to the worker prior to handling the hazardous product and has the SDS readily available for worker to review.
- If a worker is or may be exposed to a chemical or biological substance which could cause an adverse health effect, supervisors must ensure that effective written procedures are prepared and implemented to prevent exposure by any route that could cause an adverse health effect, and to address emergency and clean-up procedures in the event of a spill or release of the substance.
- The hazard assessment is to be used to identify the hazardous product with the necessary control measures to be implemented as per the SDS for each chemical or biological substance the worker may be exposed to.
- Ensure that a hazardous product or its container at a work site has a supplier label or a work site label on it in accordance with legislative requirements.
- If a hazardous product is decanted at a work site into a container other that the container in which it was received from a supplier, the supervisor must ensure that a work site label is applied to the container.
- Communicate location of SDS on site.
- Emergency eyewash equipment is available in site trailer as prescribed

Contractors/Workers

Contractors/Workers shall:

- Ensure workers have valid GHS “WHMIS 2015” training.
- Handle hazardous products in a safe and efficient manner.
- Ensure all GHS “WHMIS 2015” hazardous products are labelled properly. Ensure that a hazardous product or its container at a work site has a supplier label or a work site label on it in accordance with legislative requirements.
- If a hazardous product is decanted at a work site into a container other that the container in which it was received from a supplier, the worker must ensure that a work site label is applied to the container.
- Metallic or conductive containers used to transfer flammable liquids must be electrically bonded to each other or electrically grounded while their contents are being transferred from one container to the other.
- Notify their Supervisor if an updated SDS is missing or a new chemical has been received.
- Refer to SDSs before handling an unfamiliar product.
- Understand the purpose/significance of the SDS and be able to apply the information provided in the SDS.
- Consult their Supervisor if the SDS information is not understood.
- Use PPE to handle hazardous products appropriately.
- Dispose of hazardous substances in the designated areas.

Controls

Training / Competencies

New Employee Orientation/General Requirements

All workers must have GHS “WHMIS 2015” training certification. The worker will be trained by AVCON Construction Inc. or an approved training facility. The training is valid for **ONE** year. O.H.S.A s. 42(3) Frequency of Training

GHS “WHMIS 2015” Training Is Required

Upon employment and then annually updated or more often if required

Training Records

A copy of the GHS “WHMIS 2015” training certificate of each worker will be kept on file for reference for a minimum of three years.

Precautionary Measures

- personal, protective equipment required
- storage requirements
- spill/leak response procedures
- engineering controls required
- handling procedures and equipment
- waste disposal
- special shipping information

First Aid / Fire Response Measures

- product-specific first aid covering all possible routes of entry: inhalation, ingestion, eye contact, skin contact, or skin absorption
- appropriate emergency washing facilities are to be provided within a work area where a worker's eyes or skin may be exposed to harmful or corrosive materials or other materials which may burn or irritate.
- eye wash stations and shower facilities are available at the AVCON Construction Inc. sites and worksite sea containers for flushing and decontamination efforts.
- A Class B (or ABC) fire extinguisher must be readily available when working with or near flammable and combustible liquids.

SDS Preparation Information

- date of SDS preparation
- name and contact number of person or group responsible for SDS preparation

Many SDSs will be available in a sixteen-category international format rather than the nine-category format given in the legislation. This is acceptable as long as it includes all the required information, as well under the Regulatory Information heading a statement to the effect that the product has been classified in accordance with the Hazardous Product Regulation and it contains all the information required under that regulation.

Storage and Handling of Hazardous Substances

All hazardous substances should be stored and handled in accordance with the instructions included on the SDS and the supplier label. Any source of ignition is prohibited in areas where flammable and combustible sources are stored. This includes cigarette smoking, sparks from welding or grinding, open flames, etc. Flammable and combustible substances must be stored in areas away from substances that may cause a reaction, such as an oxygen tank.

Further conditions of flammable or combustible substances stored or used at the work area are:

- They will not be in sufficient quantity to produce an explosive atmosphere if inadvertently released.
- Are not stored within 30 metres of an underground shaft.
- Are not stored in the immediate vicinity of the air intake of:
- a ventilation supply system,
- an internal combustion engine, or
- the fire box of a fired heater or furnace, and
- are stored only in containers approved to CSA Standard B376-M1980 (R2008), Portable Containers for Gasoline and Other Petroleum Fuels.
- Any engineering controls that should be used when handling the products (i.e. should it be used under local exhaust ventilation, is general room ventilation sufficient, etc.)
- Personnel protective equipment required, including specific types of gloves, eye, face and/or body protection.
- When a flammable gas or a flammable liquid is handled, used or stored, all sources of ignition must be eliminated or adequately hazardous including open flame, spark-producing mechanical equipment, welding and cutting processes, smoking, static discharge and any electrical equipment or installation that is not approved for hazardous locations, as specified by the Electrical Safety Act.
- An internal combustion engine in a hazardous location that has a combustion air intake and exhaust discharge must be equipped with a flame arresting device or located outside the hazardous location. All the surfaces of an internal combustion engine that are exposed to the atmosphere in a hazardous location are to be at a temperature lower than the temperature that would ignite a flammable substance present in the hazardous location, or shielded or blanketed in such a way as to prevent any flammable substance present in the hazardous location from contacting the surface.
- Except for packaging used to contain flammable or combustible liquids, combustible shelves, racks and other materials are not permitted inside
- Flammable or combustible liquids storage room or storage cabinet unless required as part of a fire separation. Flammable and combustible substances must be stored in approved containers. Flammable and combustible chemicals must be stored in fire resistant cabinets or a designated storage room or building. Flammable liquids must be stored in a flammable storage cabinet with adequate ventilation.
- Waste material contaminated with solvent, oil, grease, paint, or other flammable substance shall be placed in covered metal containers before disposal and shall not be stored in work areas.
- Any other specific handling instructions.

Compressed Gas

We will ensure the following in regard to storage and handling of compressed gases:

- Compressed gas containers are to be used, handled, stored, and transported in accordance with the manufacturer's specifications.
- A cylinder of compressed flammable gas is not to be stored in the same room as a cylinder of compressed oxygen, unless the storage arrangements are in accordance with the Ontario Fire Code (2016).
- Compressed gas cylinders, piping, and fittings are to be protected from damage during handling, filling, transportation, and storage.
- Compressed gas cylinders are equipped with a valve protection cap if manufactured with a means of attachment, and
- Oxygen cylinders or valves, regulators, or other fittings of the oxygen using apparatus or oxygen distributing system are kept free of oil and grease.

Hazardous substances should also be stored following the instructions on the SDS. It is particularly important to note whether there are any products with which it may not be stored as they may be incompatible.

Where work or manufacturing processes involve the use of a flammable liquid, vapour, or gas, the concentration of the liquid, vapour, or gas in the work area shall be maintained a minimum of 10% below the lower explosive limit (LEL) of the substance involved.

If it is not practicable to maintain the airborne concentration of a flammable gas or vapour below the applicable exposure limit, for example, in a temporary situation or an emergency, (a) only the minimum number of workers necessary for the work may be exposed, (b) every worker exposed must be adequately trained and equipped to safely perform the required duties, (c) the concentration of the flammable gas or vapour must not exceed 20% of the lower explosive limit (LEL), and (d) in a life-threatening emergency only, exposure of emergency response workers is permitted above 20% of the LEL, provided that only those qualified and properly trained and equipped workers necessary to correct the unsafe condition are exposed to the hazard and every possible effort is made to control the hazard while this is being done.

Summary

Disposal of GHS "WHMIS 2015" Hazardous Products

All hazardous products must be disposed of in accordance with the site-specific procedures developed for the work site you are working on.

Location of SDS's

SDSs will be readily available to workers at all times. The location will be clearly identified and communicated to all workers at the work site. SDSs are listed alphabetically on the index page and are filed alphabetically in the binder.

Document Administration

It is the responsibility of the Health and Safety department to ensure there is an up to date SDS available for all hazardous products. If an SDS is not available at the work site or an updated version is required, contact your immediate Supervisor.

- If a hazardous substance is received and it is accompanied by an SDS not currently in the SDS binder, update the product inventory and add the SDS to the binder. Then forward a copy to your Supervisor.
- If a new hazardous substance is received and an up to date SDS is not available, it is not to be used until an SDS is obtained. Products without a valid SDS may be stored but not used for up to 120 days while efforts are made to obtain an up to date SDS.
- All workers have the responsibility to inform their Supervisor if any concerns or issues arise with any product or chemical used, and/or with any SDS.

We will review this procedure and the inventory of current SDSs to ensure up to date information is provided to the workers. This review will be conducted on an annual basis.

References

- Occupational Health and Safety Act and its Regulations for Construction Projects (O. Reg. 213/91)
- Transportation of Dangerous Goods Act and Regulations

HAZARDOUS NON-ROUTINE TASKS

On occasion, employees are required to do work in hazardous areas. Prior to starting work in such areas, each employee will be given information about the hazards involved in these areas.

This information will include:

- specific chemical hazards.
- protection/safety measures the employee is required to take to lessen risks.
- measures the company has taken to lessen the hazards, including ventilation, respirators, the presence of another employee, and emergency procedures.
- workers must not be exposed to a concentration of harmful substances that exceeds its occupational exposure limits.

It is the policy of AVCON Construction Inc. that no employee will begin work in any non-routine task, without first receiving a safety training on the chemical and/or biological hazards they are exposed to.

Informing Subcontractors

It is the responsibility of AVCON Construction Inc. to provide subcontractor employees exposed to our chemicals with the following information:

- hazardous chemicals with which they may come in contact.
- measures the employees should take to lessen the risks by wearing appropriate PPE for their protection as required by the SDS sheet of that product.
- where to get SDS's for all hazardous chemicals.

It is the responsibility of AVCON Construction Inc. to obtain chemical information from subcontractors and the responsibility of subcontractors to provide chemical information when they will expose our employees to hazardous chemicals which they may bring into our workplace.

SMOKING POLICY

The purpose of this policy is to restrict smoking in the workplace. The “Smoking in the Workplace Act “(R.S.O. 1990, cS.13) sets out clear restrictions on smoking in the workplace. “**Smoking**” – includes carrying a lighted cigar, cigarette or pipe and “smoke” has a corresponding meaning. “**Enclosed Workplace**” – means an enclosed building or structure in which an employee works and includes a shaft, tunnel, caisson or similar enclosed spaces.

Although smoking will not be totally prohibited, it will be restricted to certain areas as outlined below.

Smoking MAY BE permitted only in the areas designated by the constructor.

BILL – 168 WORKPLACE VIOLENCE & HARASSMENT PREVENTION PROGRAM

AVCON Construction Inc. is concerned about minimizing the danger of violence in the workplace. Violence in a workplace can result in injury, emotional upset, lower productivity and morale, and lost work time. Although there may be a perception that workplace violence occurs mainly outside the office environment, this is not the case.

Therefore, this is a relevant issue for all workplaces. To combat workplace violence, AVCON Construction Inc. will legally be required to address workplace violence by implementing training, policies and procedures. These requirements come under the *Occupational Health and Safety Act* and has come into effect June, 2010.

Workplace Violence is specifically addressed in Part III.0.1 – Violence and Harassment of the *OH&S Act.* The requirements include an assessment of the workplace for potential violence, training on workplace violence, and a response plan for workplace violence.

Assessing the Workplace

AVCON Construction Inc. is required to assess our workplace for existing or potential violence. We must prepare a report with the results of the assessment and a plan to address potential areas of concern. In carrying out the assessment, we should consider the nature of our work, the types of employees and clients that we work with, our work processes, and our physical environment. AVCON Construction Inc. will involve workers in this process. The report and plan will be in writing and available to workers.

AVCON Construction Inc. will cover the following points:

- a right to assistance for any person subjected to violence
- steps prior to formal reporting
- formal reporting
- no prejudicial treatment for making a complaint
- investigation
- disposition of a complaint
- confidentiality
- evaluation of the procedures
- complaint resolution alternatives

Workplace Training

AVCON Construction Inc. is responsible for ensuring that our policies and procedures concerning workplace violence are understood.

Training will include the following components:

- an explanation of the policy and procedures;
- a definition of workplace violence;
- how workplace violence can be prevented or minimized;
- our expectations for behavior in the workplace;
- how to respond to incidents of violence;
- how to obtain assistance; and
- how the reporting, investigating and documenting of workplace incidents will be done.

Response Plan

If there is an occurrence of workplace violence, including an incident that has the *potential* of causing serious injury to a worker, AVCON Construction Inc. will respond by carrying out a number of steps.

These steps include:

- conducting an investigation,
- preparing a report that includes actions to prevent a recurrence,
- keeping the report on file for two years,
- ensuring the report is available for inspection by an occupational health and safety officer and workers affected by the incident.

Victims of workplace violence often require support and reassurance. If a worker is exposed to or experiences an incident of workplace violence, they should be debriefed. One of the purposes of the debriefing should be to ensure the worker understands they are not to blame for the aggressive behaviours directed at them.

AVCON Construction Inc. will ensure that workers are advised to consult a health professional of the worker's choice for treatment or referral.

We believe in the prevention of violence and promotes a violence-free workplace in which all people respect one another and work together to achieve common goals. Any act of violence committed by or against any member of our workplace or member of the public, is unacceptable conduct that will not be tolerated.

This policy applies to all activities that occur while on firm premises or while engaging in firm business, activities, or social events. Acts of violence can take the form of physical contact. Acts of violence may occur as a single event or may involve a continuing series of incidents.

Abuse in any form erodes the mutual trust and confidence that are essential to AVCON Construction Inc.'s operational effectiveness. Acts of violence destroy individual dignity, lower morale, engender fear, and break down work unit cohesiveness.

Prohibited Conduct

No employee or any other individual affiliated with this organization shall subject any other person to workplace violence or allow or create conditions that support workplace violence. A member of the firm that subjects another firm member, client, or business associate of the firm to workplace violence may be subject to disciplinary action commensurate to the incident, up to and including dismissal.

Responsibilities

Management

For the purposes of this policy, as a supervisor or manager, you are responsible to:

- act respectfully towards other individuals while at work and participating in any work-related activity;
- develop workplace arrangements that minimize the risk of workplace violence;
- promote a non-violent workplace;
- ensure that this policy is explained to all employees that you supervise or manage;
- identify training needs for employees;
- ensure that employees understand who to contact regarding concerns about the policy or when reporting an incident;
- ensure your own immediate physical safety if an incident of workplace violence occurs, then report criminal behavior to the appropriate law enforcement agency and
- ensure the security and safety of all parties involved during an investigation of an incident of workplace violence.

Employees/Workers

For the purposes of this policy, employee/worker, you are responsible:

- to act respectfully towards other individuals while at work and participating in any work-related activity;
- to ensure your own immediate physical safety in the event of workplace violence, then to report the incident to the police or a supervisor or manager as the situation warrants; and
- to co-operate with any efforts to investigate and resolve matters arising under this policy

Complaint Procedure

1. Prior to filing a formal report of the incident, a person subjected to workplace violence (the Complainant) should let their objections to the behaviour be known to the alleged offender (the Respondent), directly or with the assistance of a third party.

2. A Complainant may ask for support from their immediate supervisor or manager to communicate their objections to the incident and/or to prepare and submit a formal complaint if they choose.

3. The Complainant should carefully record details of the incident including the date and time of the incident, the nature of the violence, and names of people who may have witnessed the incident. This document is the Complainant's personal record and property.

4. The Complainant may choose to file a formal complaint that documents their concerns to upper management of AVCON Construction Inc.

Confidentiality

Strict confidentiality is required to properly investigate an incident and to offer appropriate support to all parties involved. Any individual who becomes aware of an incident of violence should not disclose the details of the incident to any third party without prior consultation with the Complainant. Gossiping about an incident seriously undermines the privacy of all parties involved and will not be tolerated.

Those with questions or concerns about an incident should speak to their immediate supervisor or manager.

Non-Retaliation

All persons involved in the processing of a complaint will ensure that the Complainant is neither penalized nor subjected to any prejudicial treatment as a result of making the complaint. Disciplinary action will be taken against any person who takes any reprisal against a person who reports workplace violence.

Investigation

Upon receipt of a formal complaint of workplace violence, the immediate supervisor or manager will determine whether an investigation will be pursued, and will:

- advise the Respondent in writing of the investigation and nature and specifics of the complaint;
- advise the Complainant of the investigation; and
- assign the investigation to an internal or external person to investigate.

The investigator will:

- advise all parties to the investigation that they may have representation
- conduct the investigation in accordance with the principles of natural justice; and
- explore all allegations by interviewing the Complainant, the Respondent, and others who may have knowledge of the incident(s) or circumstances that led to the complaint or are responsible for the workplace.

The investigator may make a finding of:

- sufficient evidence to support a finding of violation of this policy,
- insufficient evidence to support a finding of violation of this policy, or
- no violation of this policy.

The investigator must prepare a written report of the investigation's finding and forward that report to Management within thirty (30) working days from the Respondent being advised of the complaint.

Management should make a decision whether to dismiss or act upon the report from the investigator within thirty (30) working days of receiving the report and advise the Complainant and Respondent in writing of the outcome.

Corrective Action and Discipline

If Management decides to act on the report from the investigator the following conditions will be considered when determining corrective action:

- the impact of the incident on the Complainant;
- the nature of the incident;
- the degree of aggressiveness and physical contact;
- the period of time and frequency of the incidents;
- the vulnerability of the Complainant.

The following corrective actions may be considered depending on the particular incident and the factors in the previous paragraph:

- apology;
- training;
- referral to an assistance program;
- reassignment or relocation;
- report to a professional body;
- suspension;
- discharge; and / or
- legal action.

Record Keeping

The documents corresponding to the investigation will be kept on file in a secured location, separate from the Complainant and Respondent's personal files, for two years from the date of the incident to be readily available for inspection by anyone directly affected by the incident, or Ministry of Labour.

The investigation report should be kept in a secured location for longer than two years when it is reasonable to do so in the circumstances. Examples of reasonable circumstances include: to wait for the expiration of a limitation period, for the program manager to evaluate the workplace violence policy, and to monitor persons of ongoing concern.

False Accusations

A person who submits a complaint in good faith, even where the complaint cannot be proven, has not violated the policy.

If an investigation results in a finding that the Complainant falsely accused the Respondent of workplace violence knowingly or in a malicious manner, the Complainant will be subject to appropriate sanctions, including the possibility of termination. Such action is considered a violation of the policy, and the investigation results and any sanctions will be recorded in AVCON Construction Inc. personnel records relating to the Complainant.

Complaint Resolution Alternatives

An individual affected by workplace violence has the right to pursue their concern through alternative forums such as mediation, or other forms of dispute resolution.

Nothing in this policy prevents an individual from pursuing other remedies to an incident of workplace violence such as a criminal or civil action, a complaint to the Ontario Human Rights Commission, or a complaint to the Upper Law Society in Ontario.

Assistance

An employee or worker with questions, concerns or a complaint regarding workplace violence may contact their supervisor/manager for help and advice. This information will be kept confidential except in the case of an imminent physical threat in the workplace.

Evaluation

This policy will be reviewed on an annual basis to ensure that it conforms with any changes to the Occupational Health and Safety Act and its Regulations and that it continues to address the needs of AVCON Construction Inc. regarding workplace violence.

Sample Risk Assessment Questionnaire

1a) Have you ever experienced **verbal abuse** while a member of this organization?
___ Yes ___ No
b) If yes, did you report the incident(s)? ___ Yes ___ No
c) If yes, did you report the incident(s)? ___Verbally ___ In Writing
_____ Other (please specify)

d) If no, why?
_____

e) What was your relationship with the person involved in the incident?
___ Co-worker ___ Client ___ Member of the public ___ Supervisor
_____ Other (please specify)

f) Where did the incident occur?
_____
_____
g) When did the incident occur?
_____
_____

2. a) Have you experienced a threat of physical violence while an employee of this organization? ___ Yes ___ No
b) If yes, did you report the incident(s)? ___ Yes ___ No
c) If yes, did you report the incident(s)? ___Verbally ___ In Writing
_____ Other (please specify)

d) If no, why?
_____

e) What was your relationship with the person involved in the incident?
___ Co-worker ___ Client ___ Member of the public
___ Supervisor _____ Other (please specify)

f) Where did the incident occur?
_____
_____

g) When did the incident occur?
_____
_____

3. a) Have you experienced a **physical assault or attack** while a member of this organization? ___ Yes ___ No
b) If yes, did you report the incident(s)? ___ Yes ___ No
c) If yes, did you report the incident(s)? ___Verbally ___ In Writing
_____ Other (please specify)
d) If no, why?
_____

e) What was your relationship with the person involved in the incident?
___ Co-worker ___ Client ___ Member of the public ___ Supervisor
_____ _____ Other (please specify)

f) Where did the incident occur?
_____
_____

g) When did the incident occur?
_____
_____

4. Did you miss any time from work as a result of the incident? ___ Yes ___ No
If yes, please indicate the length of absence from work.
_____ days/weeks/months

5. Do you:
a) Work alone or with a small number of co-workers? ___ Yes ___ No
b) Work late at night or early in the morning? ___ Yes ___ No

6. Are you concerned about your safety while at work? ___ Yes ___ No

If yes, what is the source of your concern?
_____
_____
_____
_____

7. Do you believe that such a possibility is: ___ High Risk ___ Medium Risk ___ Low Risk

The completion of this section is **voluntary**. Information gathered from this section will only be used for statistical analysis and to identify trends in workplace violence. Complete individual confidentially will be maintained.

___ Male ___Female

Length of service ___ 1 year
___ 1 – 3 years
___ 3 –5 years
___ 5 – 10 years
___ more than 10 years

Sample Incident Report Form

Give a thorough description of the incident (what happened, where it occurred, what led up to the incident, who else was present, what action was taken at the time, what impact the incident had on you).

_____
_____
_____

Complainant Information

_____ _____ _____
Last Name First Name Phone Number

Date/Month/Year of Incident _____

Time of Day: _____

Respondent Information:

Name, if known: _____

Relationship: ___ Co-worker ___ Client ___ Supervisor ___ Member of the Public
_____ Other (Please specify)

Names of Witnesses and/or those providing assistance.

Name: _____
___ Co-worker ___ Client ___ Supervisor ___ Member of the Public
_____ _____ Other (Please specify)

Name: _____
___ Co-worker ___ Client ___ Supervisor ___ Member of the Public
_____ Other (Please specify

Description

Give a thorough description of the incident (what happened, where it occurred, what led up to the incident, who else was present, what action was taken at the time, what impact the incident had on you).

_____
_____
_____
_____
_____
_____
_____

Medical Attention Required ___ Yes ___ No

The purpose of this form is to document your claim to assist in a thorough investigation of the complaint.

_____
Name of person reporting incident

_____
Signature of person reporting incident

_____
Today's Date

Upon completion, please forward to: _____
(Name & Position)

Preventing and Managing Incidents of Violence or Harassment

Although no incident of workplace violence is deserved, there are steps that will be taken to reduce such incidents in our workplace.

Dealing with a potentially violent person

For verbal communication

- focus your attention on the other person to let them know you are interested in what they have to say.
- do not glare or stare, which may be perceived as a challenge.
- remain calm and try to calm the other person. do not allow the other person's anger to become your anger.
- remain conscious of how you are delivering your words.
- speak slowly, quietly and confidently.
- speak simply.
- avoid communicating a lot of technical and complicated information when emotions are high.
- listen carefully. do not interrupt or offer unsolicited advice or criticism.
- encourage the person to talk. do not tell the person to relax or calm down.
- remain open-minded and objective.
- use silence as a calming tool.
- acknowledge the person's feelings. indicate that you can see he or she is upset.

Tips for non-verbal behaviour and communication

- use calm body language – relaxed posture with hands unclenched, attentive expression.
- arrange yourself so that your exit is not blocked.
- position yourself at a right angle rather than directly in front of the other person.
- give the person enough physical space… this varies by culture, but normally 1 –2 metres is considered an adequate distance.
- get on the other person's physical level. if they are seated, try kneeling or bending over rather than standing over them.

Do not pose a challenging stance such as

- standing directly opposite someone
- putting your hands on your hips
- pointing your finger
- waving your arms
- crossing your arms
- do not make sudden movements which can be seen as threatening.
- do not fight. walk or run away. get assistance from security or police.

Responding to A Physical Attack

If you are attacked

- make a scene, yell or scream as loudly as possible. Try shouting words like STOP, FIRE, or HELP.
- if you are being pulled along or dragged, fall to the ground and roll.
- blow a whistle, activate your personal security alarm or push the security alarm.
- give bystanders specific instructions to help you. single someone out and send them for help. for example, “you in the yellow shirt, call the police.”
- if someone grabs your purse, briefcase or other belongings, do not resist. throw the item to the ground several feet away from the thief and run in the opposite direction, yelling “help” or “fire’.
- do not chase a thief.
- run to the nearest safe place, a safe office or an open store.
- call security or the police immediately after the incident.
- if the attack does not warrant calling the police, inform your supervisors or the authorities at your workplace.
- file an incident report.

Be Prepared

• take a self-defence course.
• try to imagine yourself responding successfully to different types of attacks.

Practice your responses.

Working Off-Site

If you work away from a traditional office setting you must exercise extra caution. In many cases you have less or no ability to control your work environment. You may require special training to avoid violence by using conflict resolution and mediation tactics. Nevertheless, the following specific preventative tactics or procedures will minimize or prevent risks associated with working off-site:

- have access to a cellular telephone or similar means of communication.
- use an established check-in procedure that allows you to manage typical situations you may encounter off-site.
- prepare a daily work plan so that you and others know where and when you are expected somewhere.
- arrange to meet in a safe environment.
- be alert and make mental notes of your surroundings when you arrive at a new or different setting.
- use the “buddy system”, especially when you feel your personal safety may be threatened.

- determine under which circumstances unaccompanied visiting would involve unacceptable risk.
- exercise your right to refuse to work in clearly hazardous situations.
- disclose any feelings of discomfort or apprehension about an impending appointment to your supervisor.
- do not enter any situation or location where you feel threatened or unsafe.
- carry hand-held alarms, noise devices or other effective alarm devices.

When you are in unfamiliar premises

- check for escape routes and position yourself near an escape route.
- mentally rehearse what you will do if an individual becomes aggressive or hostile. decide what your best preventive tactic will be.
- take control of the seating arrangements. if possible, seat yourself near the door.
- maintain a “reactionary gap” between you and the person – out of reach of the average person’s kicking distance. increase the gap by sitting at a table. be aware of the person’s proximity at all times.
- be well prepared for an appointment. review the available information about the individual(s) you are meeting.

Terminate the appointment in a non-confrontational manner if the individual appears to be:

- intoxicated
- under the influence of drugs
- emotionally disturbed and threatening or out of control
- do not allow yourself to be backed into a corner. leave a clear path to the exit.
- do not venture too far into the premises e.g. remain near an exit.
- do not turn your back on the person or enter a room first.

Terminating a Potentially Violent Interaction

- interrupt the conversation firmly but politely.
- tell the person that you:
    - do not like the tone of the conversation
    - will not accept such treatment
    - will end the conversation if necessary.
- tell the person that you will ask them to leave the building, or that you will leave (if working off-site).
- if the behavior persists, end the conversation.
- ask the person to leave the building or leave the building yourself.
- if the person does not agree to leave, remove yourself from the scene and inform your manager or supervisor immediately.
- do not return to the person if you believe they pose a physical threat.
- advise other staff and have them leave the immediate area.
- call security or your local police.

- file an incident report.

In addition, specific instructions shall be provided when deemed necessary to all employees regarding workplace security hazards unique to their job assignment and workplace.

PERSONAL USE OF COMPANY VEHICLES, TOOLS OR EQUIPMENT

Tools and Equipment are not be used outside of a company construction project or premise without written approval by upper management.

PERSONAL DEVICES

Personal devices may appear to cause no form of a safety hazard on a project. However, the sound levels these devices produce can exceed 85 dBa's, given the levels of background noise the sound levels (volume) may be increased to dangerously high levels resulting in hearing loss. Furthermore, the earphones don't provide any form of hearing protection from background noise, thus only adding to the risk of noise induced hearing loss. Perhaps the most significant hazard is the masking of warning sounds from fellow workers. Thus, these types of personal devices are not permitted in the construction area.

Use of cell phones during work hours is limited to the following circumstances:

- emergency calls (911, Head Office, MOL, Supervisor etc.)
- calls of any other nature outgoing or incoming must be handled during breaks or lunch time in designated areas where the caller/recipient is not distracted or distracting others causing unsafe circumstances to arise.

Exception to the rule is only possible upon permission of immediate supervisor or management.

HEAT STRESS/COLD STRESS

Heat stress is caused by a combination of factors (affected by environmental, work and clothing factors) and tends to increase body temperature, heart rate and sweating. These physiological adaptations are collectively known as heat strain. Heat stress in the workplace can be recognized my noting workplace risk factors and by the effects it has on workers. If conditions of climate and work are such that there is any possibility of heat stroke, then medical opinion should obviously be sought immediately.

It is critical to replace water lost through sweating. Amounts ranging from 1 cup every half-hour to 1 liter per hour are recommended. Thirst is not a good indicator of dehydration.

The salt content of a well-balanced diet is usually adequate to prevent dehydration through excessive sweating providing that frequent fluid is consumed.

Clothing should be lightweight and loose fitting preferable a breathable fabric such as cotton.

Eat light, preferably cold meals. Fatty foods are harder to digest in hot weather.

Cold stress is a different kind of problem than heat stress. The adaptations to cold stress have less dramatic effects. The first response to cold stress is to conserve body heat by reducing blood circulation through the skin. The second response is shivering, which increases the rate of metabolism. Shivering is a good sign that cold stress is significant, and that hypothermia may be present.

Insulation is a critical characteristic of clothing worn during cold stress exposures. Clothing materials used for their insulation include cotton, wool, and silk, nylon, down and polyester. Generally, better insulation is achieved by layering clothes rather than having one garment. The further advantage of layers is that a person can add or remove layers to adjust for differing insulation needs during the work period.

Personal protection included the following:

- properly selected insulated clothing
- wind barriers
- special attention to feet fingers, ears, nose and face
- gloves when air temperature is less than 61° F (16° C) for light work, 39° F (4° C) for moderate work and 19° F (-7° C) for heavy work
- appropriate active warming systems such as circulating air or liquids, or electric heaters
- appropriate eye protection for snow – or ice-covered terrain

Recommended administrative controls

- set up work-rest cycles
- schedule work at warmest times
- move work to warmer areas
- assign additional workers
- encourage self-pacing and extra breaks if required
- establish a buddy system, emphasizing mutual observation
- avoid long periods of sedentary effort
- allow for productivity reductions and extra effort required when wearing protective clothing
- provide an adjustment or conditioning period for new employees
- monitor weight changes for dehydration

SUMMARY OF PERSONAL CONDUCT

Personal Protective Equipment
Always wear personal protective equipment required for the task.

Non –Prescription Drugs & Alcohol
Non-prescription drugs or alcohol will not be allowed on the job and any employee found to be in possession of, or under the influence of, drugs or alcohol, will be refused from working and is liable to be severely disciplined or terminated from employment.

Reporting Injuries &Accidents/Incidents
All injuries and accidents/incidents, no matter how minor, must be reported immediately to your supervisor. The supervisor will conduct his investigation and report to management.

Reporting Unsafe Practices & Conditions
If you should notice any unsafe practice or condition on the job, you are obligated by law and by this company to report the situation immediately to your supervisor, so corrective action can be taken.

No Jumping
No person shall jump from one level to another and anyone discovered jumping will be reprimanded and subject to immediate termination from employment. Use proper means of egress and access.

Tools & Materials
Never place tools or materials near edges to openings or levels, as these items may fall on to someone below. Keep all tools and materials at least six feet back from edges and openings.

Seek Assistance When Lifting Heavy Items
Always seek assistance or use mechanical lifting devices when attempting to lift heavy material. Avoid awkward positions and always lift with the legs, not your back. Your back is very susceptible to injury in a bent position.

No Horseplay
Do not engage in any prank, contest, and feat of strength, unnecessary running or boisterous conduct.

Do Not Remove Guardrails, Coverings, and Protective Guard/Shields Etc.
Do not remove or make ineffective, any protective device, equipment or thing, required by your employer or the Occupational Health and Safety Act and it's regulations, If your work requires the removal of such a protective device as a guardrail or covering, use the appropriate safety measures to protect yourself and other workers and when your work is finished or you leave the area, replace the protective device immediately. Report any the presence of any missing or defective, protection device, immediately to your supervisor.

Obey "No Smoking" Rules
Smoking is strictly prohibited near flammable or combustible gases and materials, and all indoor construction areas. Obey all signage in areas forbidding smoking.

Know your Limitations
Never work at heights if you are afraid to do so or if you are ill or subject to dizzy spells. Tell your foreman. He will respect you of being honest and assign you to other suitable work. Always work within your limitations.

Violence/Harassment
Any form of violence and harassment is strongly prohibited and subject to immediate dismissal. No worker shall engage in inappropriate conversations or make inappropriate comments to our client female staff or building occupants. All correspondence is to be carried out through project superintendent. Violators will be permanently terminated.

Work in Well – Lit Conditions
Always work in adequately lighted conditions. Use task lighting stations in un-serviced areas. No one is allowed to work in the dark.

Avoid Working Alone
Always use the "buddy system" to avoid working alone. If it is necessary to do so, arrangements should be made to check on the worker at fifteen-minute intervals, by the worker's foreman. Confined space work, however, requires constant tendering of the isolated worker(s) and there are strictly regulated procedures to follow in this kind of situation. Check with your foreman for instructions before entering any confined space.

Equipment – Machinery
Only operate equipment/machinery in which you are trained and approved by supervisor to do so.

PUBLIC WAY PROTECTION

- It is the responsibility of all parties contracted to perform work on AVCON Construction Inc. site to provide protection to public, visitors and AVCON Construction Inc. staff/employees.
- Where practical or mandatory by provincial health and safety regulations, physical separation shall be placed/installed between public ways, visitors, AVCON Construction Inc. staff/employees. Shall be sturdy fencing at least 1.8 m high.
- Separation shall be achieved by installation of sturdy fencing, barriers, barricades, delineators or combination of two or more devices.
- Where hazard from overhead work exists, covered way capable of resisting forces applied shall be installed.
- Where not practical to install permanent or temporary physical separation and overhead protection spotter or spotters shall be present in location as long as hazard exists to prevent anyone who is not directly engaged with a task from entering the area.
- In addition to physical barriers or spotters, warning signs must be posted in sufficient numbers and facing the reader to warn of a specific hazard
- All visitors, public or AVCON Construction Inc. staff/employees must be safely escorted by competent person assigned by constructor or supervisor in charge of that area of the project whenever construction activities obstruct designated route ways, sidewalks, crosswalks etc.
- All construction operations must be conducted in the manner that is not obstructing or delaying activities of the public way, public traffic or AVCON Construction Inc. activities and those persons associated with AVCON Construction Inc. activities.

ACCESS TO AND EGRESS FROM WORK AREAS

O. Reg. 213/91 s. 70 - 72

70. (1) Access to and egress from a work area located above or below ground level shall be by stairs, runway, ramp or ladder. O. Reg. 213/91, s. 70 (1).
(2) Subsection (1) does not apply to a work area that is a suspended scaffold able to be moved to give access to a floor, roof or platform or to ground level. O. Reg. 213/91, s. 70 (2).
71. Adequate means of egress shall be provided from a work area to permit the evacuation of workers during an emergency. O. Reg. 213/91, s. 71.
72. A work area, a route to and from a work area and a scaffold platform on which work is being performed shall be maintained at all times in a condition that does not endanger workers and, without limiting the generality of the foregoing,
(a) shall be kept clear of obstructions;
(b) shall be kept clear of snow, ice or other slippery material; and
(c)shall be treated with sand or similar material when necessary to ensure a firm footing. O. Reg. 213/91, s. 72.
Specific requirements for access/egress:

It is responsibility of the building owner/manager.

Superintendent to ensure that:

- all occupants are notified of construction activity
- warning signs are posted in sufficient numbers and locations identifying specific hazard and control such as prohibiting access to balconies under construction. Where balcony railing and floor are under repair physical means of preventing occupants' access must be established in addition to signage.
- discuss and determine hours of operations

TRAFFIC CONTROL PLAN

AVCON Construction Inc. shall develop in writing and implement a traffic protection plan for the workers at a project if any of them or public may be exposed to a hazard from vehicular traffic.

The traffic protection plan,

- shall specify the vehicular traffic hazards and the control measures
- shall be kept at the project and made available to an inspector or a worker on request.

Traffic control workers must be given adequate oral and written instructions and wear required PPE such as fluorescent traffic vests and be equipped with traffic stop/slow signs.

NEW OR CURRENT EMPLOYEE SAFETY CHECKLIST

Employee Name: _____Date Employed:_____
Date Checklist Completed: _____Checklist completed by: _____

Type of Work: _____
Summary of Work Experience: _____
Supervisor: _____

Ask Employee: *Do you have any physical conditions (past or present) or handicaps which might limit your ability to perform this job? If so, what reasonable accommodation can be made by us?*_____

Did the employee have a pre-employment drug test? o Yes o No Physical? o Yes o No
Any work restrictions indicated from the physical? _____

The Supervisor and the employee should review the following safety concerns. Check & discuss all that apply.

- o Provide the employee with a copy of the Safety Manual _____
- o Company safety policies & programs _____
- o Safety rules (general & specific to job) _____
- o Safety rule enforcement _____
- o Use of tools & equipment _____
- o Proper guarding of equipment _____
- o Proper clothing & personal protective equipment _____
- o Materials handling _____
- o Accident & Hazard Reporting Procedures _____
- o Housekeeping _____
- o Special hazards of the job _____
- o Emergency Procedures _____
- o Employee Responsibilities/Accountability _____
- o Overview of workers' compensation _____
- o Hazardous materials _____
- o Location of First Aid Kits_____
- o Vehicle Safety _____
- o Where to go for medical treatment _____
- o Other: Drug-Free Workplace, Return-to-Work, Teams, Incentives, Lock-Out/Tag-Out, etc.

Employee shall receive additional training from: _____
Probationary period is from (if applicable) _____ to _____
Performance (including safety) will be reviewed formally on _____

Employee agrees to cooperate fully with the safety efforts of the employer, follow all safety rules, and use good judgment concerning safe work behaviour. **o Yes o No**

Comments: _____

Signed: _____ Signed: _____
Employee Trainer/Supervisor

WORKER/SUPERVISOR/SUB-CONTRACTOR ACKNOWLEDGMENT

I state that I have attended the safety orientation and have read and received a copy of the AVCON Construction Inc. safety rules and regulations. I also understand that this rules and procedures are not a definitive guide addressing every situation and circumstances, there for it is my responsibility to ask for instructions and guidance if not sure how to proceed safely.

I also acknowledge that I have read and understand the Anti-Harassment and Violence Policy of AVCON Construction Inc. **as well as the Zero Tolerance of Drugs and Alcohol** at all of our workplaces. I agree to adhere to this policy and will ensure that employees working under my direction adhere to this policy. I understand that if I violate the rules of this policy, I may face legal, punitive, or corrective action, up to and including termination of employment and/or criminal prosecution.

I further state that I understand these rules and requirements and acknowledge that compliance with the safety rules and regulations is a condition of employment. If I violate the safety rules or fail to report an injury to my supervisor or project superintendent immediately, I understand that I am subject to termination, in accordance with company policy.

_____
Recipient Signature

_____
Date

_____
Supervisor's Signature

_____
Date