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# HEALTH & SAFETY PROGRAM

## FOR ALL EMPLOYEES, SUB-CONTRACTORS & SITE VISITORS

Seventh Edition
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# FOREWORD – HEALTH & SAFETY POLICY

It is our policy to execute all of our work in a safe and productive manner in accordance with the Occupational Health and Safety Act and the Regulations made under the Act. Protecting the health and safety of everyone who works on our projects is a constant priority.

**From a practical perspective, our objectives are simple: zero accidents; zero lost time; carefully planned work; well-trained personnel; and a positive and safe working environment.**

To achieve this objective, we will maintain and enforce a thorough and straightforward health and safety program in cooperation with all of our subcontractors. As with most aspects of our projects, our subcontractors' assistance and support are needed and expected.

Our Health & Safety Program is provided herein, and is available on all of our project sites as well as our web site. We encourage all of our fellow contractors, subcontractors, suppliers, consultants and clients to develop and implement their own policies and programs, specific to their respective disciplines, to complement ours, which is intended to address typical general construction activities rather than specialist trade work.

In order to be effective, active participation in site safety is mandatory and applicable to all parties that work on our project sites. We will issue a copy of this Program to all of our subcontractors at the beginning of each project and will require that the Acknowledgement Form in Appendix 1 be completed and returned to our office along with other mandatory contract documents.

We expect all of our subcontractors to ensure that their employees have the training they require and are familiar with our Health & Safety Program and site rules. The Acknowledgement Form in Appendix 1 requires a list of all subcontractors' employees' currently valid training records (trade certificates and training certificates for First Aid, Fall Protection ,WHMIS etc.).

In order to help ensure that all workers on site are familiar with and adhere to our Health & Safety Program, we will review the program with workers directly on site on a continuing, as-needed basis.

**We thank all of our subcontractors in advance for their cooperation and welcome feedback on any aspect of our policy and program.**

Sincerely,

**ROBERT J. BOURGON & ASSOCIATES LTD.**

C. Markell, P.Eng., PMP, GSC, LEED®, AP
President

# HEALTH AND SAFETY PROGRAM

## 1. RESPONSIBILITIES

### 1.1 President/Employer

- Prepare a written company H&S policy and review annually. Make adjustments as health and safety regulations evolve.
- Assign the development of a program to implement the H&S policy and review annually.
- Provide the necessary resources to implement, support, and enforce the company H&S policy and program in accordance with the *Occupational Health and Safety Act* and the regulations made under the Act.
- Meet all legal requirements for investigating and reporting critical injuries, accidents, incidents, occurrences, and other events.
- Ensure all superintendents and supervisors are competent and properly trained in all areas they oversee on site.
- Ensure all superintendents and supervisors are trained in Emergency First Aid and CPR.
- Conduct an annual H&S review with project managers and superintendents.
- Comply with all requirements under sections 25 through 27 of the Occupational Health and Safety Act.

### 1.2 Project Managers /Superintendents

- Implement, support, and enforce the H&S program at the project level.
- Communicate with the President on Ministry of Labour requirements such as Notice of Project and Notices of Accidents and Injuries.
- Review the site H&S program with supervisors and subcontractors before they start work, identifying responsibilities and promoting cooperation.
- Provide orientation for new workers on site.
- Ensure all workers receive, at a minimum, training in fall protection and WHMIS.
- Ensure all workers needing more specific training receive it.
- Make a wide range of health and safety information available to all employees.
- Oversee site planning and approve a site plan that covers access, traffic control, materials handling, storage, and sanitation.
- Prepare fire protection and emergency response plans.

- Review safe work procedures for the site.
- Direct accident investigations on site, prepare reports as required.
- Ensure that site security and public way protection are provided.
- Identify special site hazards and outline appropriate safe work procedures and training.
- Establish an on-site system for maintaining and processing injury reports, Ministry of Labour orders, WHMIS, inspection reports, and other administrative requirements.
- Coordinate H&S functions (for example, safe work procedures and accident investigations) involving owner/client, subcontractors, and direct-hire personnel.
- Perform site inspections at least weekly.
- Comply with all requirements under section 27 of the Occupational Health and Safety Act.

### 1.3 Supervisors / Foremen

- Provide orientation for new workers.
- Implement, support, and enforce the H&S program at crew level.
- Review H&S aspects of each task with crew.
- Support H&S Representative, particularly with any items from weekly inspection reports that require supervisory attention to address.
- Assist in accident investigations.
- Report H&S problems to superintendent and correct hazards immediately where possible.
- Inspect tools and equipment, including H&S equipment, regularly and ensure proper maintenance.
- Ensure that housekeeping is done at least daily.
- Review MSDSs with crew before using hazardous materials.
- Review specific tasks with workers who have never performed the task in question to highlight possible hazards or dangers that may arise.
- Have regular “tailgate” meetings to answer any questions especially from new employees regarding occupational health and safety.
- Comply with all requirements under section 27 of the Occupational Health and Safety Act.

### 1.4 Health and Safety Representative

*A Health and Safety Representative is required when the number of workers*

*exceeds 5 and where no Joint Health and Safety Committee (JHSC) is required.*

- A H&S Representative must be elected by the workers.
- Inspect work areas regularly to identify any hazards; complete weekly inspection checklist and maintain file on site.
- Report hazards or concerns immediately and make written recommendations as required to supervisor or superintendent.
- Follow up reported hazards or concerns within 24 hours to make sure they have been dealt with in a timely fashion.
- Attend and participate in H&S meetings on site.
- Help in reviewing and implementing the H&S program for the project.
- Assist in accident investigation.

### 1.5 Joint Health and Safety Committee

*A JHSC is required when there are 20 or more workers regularly employed on a project and the project is expected to last more than 3 months. On projects employing more than 50 workers and lasting more than three months, at least one management member and one worker member of the JHSC must be certified by the Workplace Safety and Insurance Board (WSIB).*

- Meet once every two weeks or as otherwise agreed.
- Make written recommendations on H&S matters or concerns to the superintendent or supervisor.
- Follow up on recommendations to ensure they are acted upon.
- Assist in reviewing the site H&S program.
- Help to implement and maintain the site H&S program.
- Review inspection and accident reports.
- Review reports from the worker trades committee.
- May assist in arbitrating enforcement issues.
- Periodically review JHSC membership to ensure that it fairly represents the workforce on site.
- Conduct a monthly inspection of the workplace.

### 1.6 Workers

- Work in accordance with the H&S Program, the site rules, 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 own work areas at least daily.
- Inspect personal protective equipment (PPE) before use and report any defects or damage to their supervisor.
- Comply with all requirements under section 28 of the Occupational Health and Safety Act.

### 1.7 Subcontractors

- All subcontractors must have their own "in-house" H&S program specific to their trade.
- Before starting work, ensure that subcontractor's H&S program complies with Bourgon Construction H&S program.
- Make it clear to subcontractors' employees that failure to comply with H&S program can result in termination of contract.
- All subcontractors with more than five employees regularly on site are to elect a H&S representative for their company who will represent their specific company at regular H&S meetings.
- Provide training in the requirements of the H&S program.
- Coordinate all activities through the site superintendent.
- Provide, inspect, and maintain personal protective equipment (PPE) as required for direct-hire employees.
- Monitor site conditions daily.
- Record—and report where required as an employer—all injuries, accidents, and near misses.
- Clean up work areas at least daily. Note: If waste and debris is not cleaned up in a reasonable time, it will be cleaned up by Bourgon Construction at the subcontractor's expense.
- Conduct regular safety talks for employees.
- Provide compensation and time necessary to employees who act as H&S representatives.
- Provide adequate facilities (tool storage, first aid, etc.) for employees.
- Notify site superintendent of any lost-time injuries, medical aid cases, and reportable occurrences on the project.
- Cooperate in accident investigation and reporting.
- Comply with all requirements under sections 25 through 28 of the Occupational Health and Safety Act.

# 2. SITE RULES

## 2.1 General

All work shall be completed in accordance with the Ontario Occupational Health and Safety Act and Regulations for Construction Projects (OHSA) – the "green book". The site superintendent can provide guidance or clarification of the Act and Regulations' requirements as needed.

## 2.2 Site Access

Site access shall be coordinated by the site superintendent on a per-project basis in accordance with the contract documents.

## 2.3 Site Sign-in

All workers shall report to the site superintendent prior to commencing work for the first time. The site superintendent will complete an appropriate orientation with new workers as required to confirm that they have understood the H&S program as it applies to them. Refer to Appendices 2 and 3 of our Health and Safety Program.

## 2.4 Specific Site Hazards

The site superintendent will inform subcontractors of any known specific site hazards prior to commencement of work.

## 2.5 General Site Hazards and Safe Working Procedures

Safe practices for certain activities are detailed under Section 4 of our H&S Program. Issues not addressed under Section 4 can generally be found in the Construction Safety Association of Ontario's Construction Health and Safety Manual and in the OHSA.

Note that in the event of any conflicting requirements the OHSA and Regulations shall govern.

## 2.6 Duty to Report Site Hazards

It is imperative that any and all unsafe situations or practices be reported immediately to the site superintendent.

## 2.7 Mandatory Compliance

All workers shall comply with the Safe Working Procedures, the requirements of the OHSA and Regulations, and the instructions of the site superintendent. Non-compliance by any worker will generally be addressed as follows, at the site superintendent's discretion:

Minor (non-compliance does not have the potential to cause damage or injury):

- 1st occurrence: a verbal warning or instruction will be given to the worker.

- 2nd occurrence: a written notice or instruction will be issued to the worker and his employer.
- 3rd occurrence: worker will be sent off site immediately, without pay.

Major (non-compliance has the potential to cause damage or injury):

- Worker will be sent off site immediately, without pay, and a written notice will be issued to the worker and his employer.

### 2.8 Accidents / Incidents

Any accidents and dangerous occurrences / incidents, including "near misses", shall be reported to the site superintendent immediately.

### 2.9 Required Training

Workers shall be trained in accordance with OHSA requirements for the work they are carrying out. Mandatory training for all workers includes WHMIS and fall protection with additional training requirements varying by worker and by trade.

### 2.10 Fitness for Work

All workers on site shall be fit for the work they are undertaking and will be asked to leave the site immediately if they are unfit for work due to alcohol, drugs, injury, illness, fatigue or any other reason that may affect their performance or the wellbeing of other workers or members of the public.

### 2.11 Dress and Hygiene

All workers shall report to site in clothing suitable for the work being carried out and in accordance with OHSA requirements. Personal protective equipment will be worn where required. All workers shall maintain a high standard of personal hygiene.

### 2.12 Smoking

Smoking is prohibited in company buildings, site offices, vehicles and job sites. Designated areas may be provided by the general contractor or owner at their discretion.

### 2.13 Mobile Communication Devices

All workers are prohibited from using mobile communication devices while driving unless using a hands-free device.

Only company-issued or specifically authorized personal devices are permitted for use on site during working hours. All personal calls or use of personal devices shall be limited to break times or emergencies.

## 2.14 Workplace Violence and Harassment

Bourgon Construction is committed to providing a safe work environment in which all workers are treated with respect. We will take the necessary steps to protect our employees from workplace violence and harassment.

Workplace harassment is defined as a comment or course of action against a worker that is known or should be known to be unwelcome and may include bullying, teasing, intimidating or offensive jokes or innuendos, and displaying or circulating offensive pictures or materials.

Workplace harassment may also relate to a form of discrimination as set out in the Ontario Human Rights Code.

Workplace violence is defined as the exercise of, or attempt to exercise, physical force by a person against a worker that causes or could cause physical injury to the worker; or; a statement or behavior that is reasonable for a worker to interpret as a threat to exercise physical force against the worker.

Harassment or violence as defined above are unacceptable and will not be tolerated.

As such, all of our employees are encouraged to raise any concerns and to report any incidents of workplace violence or harassment they observe or have knowledge of.

Bourgon Construction will investigate and deal with all reported incidents and complaints in a timely and fair manner, respecting the privacy of all parties concerned to the extent possible.

# 3. VEHICLE RULES

## 3.1 Objectives

- To protect driver, passenger and public safety at all times.
- To provide safe, clean, efficient and roadworthy vehicles as needed to meet project needs.
- To establish a safe and accountable driving and vehicle care culture amongst all our designated drivers.
- To minimize fuel consumption, vehicle maintenance and repair costs, and unnecessary travel time for all staff.

## 3.2 General

Operation of a company vehicle is considered an essential responsibility of designated drivers. Drivers are responsible for operating the vehicle in accordance with current legislation and this policy.

In general, all drivers shall:

- Take good care of the vehicles and ensure that the provisions of this policy and Company insurance policies are observed;
- Pay all expenses directly connected with the employee's private use of the vehicle;
- Be responsible for prompt payment of any penalties incurred for traffic or parking offences;
- Notify the company of any accidents involving the vehicle; and
- Immediately inform the company if convicted of a driving offence or disqualified from driving.

The following actions will be considered serious breaches of conduct and may result in dismissal:

- Driving under the influence of drugs or alcohol;
- Driving while disqualified or inadequately licensed;
- Reckless or dangerous driving;
- Failing to stop after an accident; and

- Any single or cumulative actions that warrant the suspension of a licence.

### 3.3 Driver Responsibilities

Every driver of a Company vehicle shall:

- Ensure they hold a current driver's license for the class of vehicle they are driving and have it with them;
- Immediately notify the office if their license has been suspended or had limitations placed upon it;
- Drive safely and courteously at all times, adhering to the rules and regulations of the road;
- Regularly check the oil and coolant levels, tire pressures and ensure that the vehicle they are operating is in proper operational condition;
- Keep vehicle clean and ready for use by any designated driver;
- Avoid distractions when driving;
- Report any near-misses, minor crashes and scrapes to the office;
- Complete and submit a monthly vehicle inspection checklist (see Appendix 9) the first week of every month (except CVOR vehicles, which require inspections before each trip);
- Report vehicle defects to the office immediately;
- Not store tools, materials or equipment in the vehicle overnight as these are not covered for loss by fire or theft;
- Not, at any time, attempt to operate a defective vehicle.
- Never offer rides to anyone other than Bourgon Construction employees or allow passengers to ride in the bed of the pick-up or any other unit that is not equipped with approved seats and restraining devices
- Be responsible for any fines that are levied by law enforcement.

If an employee is driving their own vehicle for the purposes of work, the same policies apply. In addition:

- The employee must seek the employer's agreement before using their vehicle for work;

- The car must be legally registered and insured for the purposes of work – the employee must show evidence of this on request;
- The employee must not carry loads for which the vehicle is not suited;
- The vehicle must not be used in conditions for which it was not designed (such as off-road on site).

### 3.4 Company Responsibilities

The Company will take all steps to ensure company vehicles are as safe as possible and will not require staff to drive under conditions that are unsafe and/or likely to create an unsafe environment, physical distress, fatigue, etc.

The Company will do this by:

- Giving priority to safety features when selecting new vehicles.
- Fitting all vehicles with a first aid kit.
- Ensuring all vehicles are well-maintained and following up on items identified on vehicle inspection checklists (refer to Appendix 9).
- Regularly checking Ministry of Transportation Driver Abstracts for all designated drivers.
- Monitoring and managing work schedules to ensure they do not encourage unsafe driving practices.
- Encouraging safe driving behaviour by not paying fines; providing hands-free communication devices when appropriate; providing food and non-alcoholic drinks at work functions; etc.

### 3.5 What To Do In The Event of An Accident

Immediately stop your vehicle at the scene or as close to it as possible, making sure you are not obstructing traffic. Ensure your own safety first. Help any injured people and call for assistance if needed.

Try to get the following information:

- Details of the other vehicle(s) and license plate number(s);
- Name(s) and address(es) of the other vehicle owner(s) and driver(s);
- Name(s) and address(es) of any witness(es); and

- Name(s) of insurer(s) and insurance policy number(s).

Give the following information:

- Your name and address and company details;

- If you damage another vehicle that is unattended, leave a note on the vehicle with your contact details;

Contact the police if: there are injuries; there is a disagreement over the cause of the crash; if you damage property other than your own; and if damage to the vehicle looks to be worth more than $2,500.

# 4. EMERGENCY & FIRST AID PROCEDURES

## 4.1 Emergency Phone Numbers

Emergency phone numbers shall be posted in the site office or in other prominent location(s) on site, normally near available telephones. Refer to form in Appendix 4.

## 4.2 Accidents and Injuries

In the event of all medical incidents, accidents and injuries, workers shall follow our **First Aid Emergency Plan:**

- Promptly obtain first aid from first trained person on site of accident;
- First trained person on site will have someone notify the site superintendent immediately;
- This same person will notify the Health and Safety representative;
- Site superintendent and H&S staff will assess severity of injury and ensure that protection has been provided against further hazards;
- In the event that an ambulance is needed a person trained in first aid will stay with the victim until help arrives and will inform medical personnel of first aid treatment given to that point;
- If an ambulance is not available, the site supervisor will provide transportation to the hospital;
- If health care is required, obtain from the site superintendent a completed "treatment memorandum" (WSIB Form 156, see Appendix 6) to take to the doctor or the hospital.

Note on Early and Safe Return to Work Plans

Where feasible, site superintendents will provide reasonable alternative work for people coming back from injury. Returning to work has been proven to help the recovery of injured workers. In order to ensure a safe return to work, the superintendent will develop a return to work plan with the worker and his health care advisors on a case-specific basis.

## 4.3 Accident Reporting and Investigation

All incidents and accidents, regardless of severity, must be reported immediately to the site superintendent. The superintendent, along with health and safety staff, will initiate an investigation of all:

- Critical injuries;
- Lost-time injuries;

- Medical aid incidents;
- Occupational illnesses;
- Major close calls;
- Any workers fall-arrested by a harness or safety belt; and
- Property damage exceeding $5,000.00.

The superintendent will ensure that any accidents or incidents requiring investigation are reported immediately to the President and the H&S Representative.

The superintendent will conduct an accident investigation and prepare a written report for any accidents requiring investigation. This report and its conclusions will be kept on record and will be given to both the President/Employer as well as site supervisors who will relay the findings to the workers in order to avoid such accidents in the future.

All actions taken to rectify the findings of the investigation will be documented and given to the President/Employer of the company.

Employers must report a work-related accident/illness to the Workplace Safety and Insurance Board (WSIB) if they learn that a worker requires health care and/or:

- Is absent from regular work.
- Earns less than regular pay for regular work (e.g. only working partial hours); or
- Requires modified work at less than regular pay.

Reporting is also required if, following the date of the work related accident/illness, the worker does not receive health care but requires modified work at regular pay for more than seven calendar days.

Refer to WSIB reporting forms in Appendix 6.

### 4.4 Critical Injuries

Critical injuries are described in Regulation 834: *Critical Injury – Defined.* A critical injury:

- Places life in jeopardy.
- Produces unconsciousness.
- Results in substantial loss of blood.
- Involves the fracture of a leg or arm but not a finger or toe.
- Involves the amputation of a leg, arm, hand, or foot but not a finger or toe.
- Consists of burns to a major portion of the body, OR
- Causes the loss of sight in an eye.

In the event of a critical injury, the employer must immediately notify:

- A Ministry of Labour inspector.
- The Joint Health and Safety committee.
- The Health and Safety Representative, and
- Trade union, if any.

Notification may be by telephone, email, fax, or any other direct means.

Within 48 hours after the critical injury, the employer must send a written report to the Ministry of Labour. The report must include:

- The name and address of the constructor and the employer, if the person involved is a worker.
- The nature and the circumstances of the occurrence and the bodily injury sustained by the person.
- A description of any machinery or equipment involved.
- The time and place of the critical injury.
- The name and address of the person involved.
- The names and addresses of all witnesses.
- The name and address of any legally qualified medical practitioner by whom the person was or is being attended for the injury, AND
- The steps taken to prevent a recurrence.

### 4.5 First Aid Requirements

Every work site shall have a first aid box maintained in accordance with the WSIB First Aid Requirements (WSIB Regulation 1101, see Appendix 7). The size and contents of the box will vary with the number of workers at the worksite. All subtrades are required to maintain a first aid box of their own.

The main first aid box will be monitored regularly and any deficiencies will be noted in our site inspection checklist. Deficiencies will be addressed promptly and status reports will be communicated to the site superintendent on a monthly basis.

### 4.6 Fire

Fire extinguishing equipment shall be provided at readily accessible and adequately marked locations at a project, in the site office and on every storey of an enclosed building under construction. Refer to fire extinguisher chart in Appendix 8 for types of portable extinguishers and how to use them. Verbal as well as hands-on instruction regarding the use of extinguishers will be given to all employees. All

extinguishers will be checked monthly and a report will be communicated to the site superintendent.

In the event of a fire on site, workers shall:

- Notify the supervisor immediately.
- Supervisor will inform designated people of the situation and they will clear the area immediately.
- If the fire cannot be extinguished within 30 seconds, the supervisor will call the fire department immediately.
- Workers will assemble at a designated exterior assembly point or "muster station" so that the supervisor can do a roll call.

All fires shall be investigated by the site superintendent.

### 4.7 Fall-Arrest Rescue

In the event that a worker falls and is left suspended by his fall-arrest system, a rescue must be undertaken as quickly as possible before he incurs any further possible injuries (such as suspension trauma), before the worker begins to panic or before any other side effects of the fall create additional risks.

<u>If an adequate Elevated Work Platform is available:</u>

- Bring it to the site and use it to reach the suspended worker.
- Ensure that rescue workers are protected against falling.
- Ensure that the EWP has the load capacity for both the rescuer(s) and the victim.
- If the victim is not conscious, 2 rescuers will probably be needed to safely handle the weight of the victim.
- Position the EWP platform below the worker and disconnect his lanyard when it is safe to do so.
- Treat the victim for Suspension Trauma and any other injuries.
- Arrange for transport to nearest hospital.

<u>If no Elevating Work Platform is available:</u>

- Where possible, use ladder(s) to reach the victim.
- Rig separate lifelines for rescuers to use while carrying out the rescue from the ladder(s).
- If worker is not conscious or cannot reliably help with his/her own rescue, at least 2 rescuers may be needed.
- If worker is suspended from a lifeline, where possible, move the suspended victim to an area that can be safely reached by the ladder(s).

- If victim is suspended directly from his/her lanyard or from a lifeline, securely attach a separate lowering line to the victim's harness.
- Other rescuers should lower the victim while he/she is being guided by the rescuer on the ladder.
- Once the victim has been brought to a safe location, administer First Aid and treat the person for Suspension Trauma and any other injuries.
- Arrange for transport to nearest hospital.

If the injured person is suspended near the work area and can be safely reached from the floor below or the area they fell from:

- Ensure that rescuers are protected against falling.
- If possible, securely attach a second line to the workers' harnesses to assist in pulling them to a safe area. (Note: at least 2 strong workers will be needed to pull someone up.)
- Ensure that any slack in the retrieving lines is taken up to avoid slippage.
- Once the victim has been brought to a safe location, administer First Aid and treat the person for Suspension Trauma and any other injuries and arrange for transport to the nearest hospital.

If a person has fallen and is suspended in an inaccessible area (e.g. a tower, against a building or structure that has no openings):

- Call 9-1-1 due to the inherent risk to the rescuers and/or the victim.

# 5. SAFE WORK PROCEDURES

The following safe work procedures address common activities on site and are not intended to form an exhaustive list.

Workers are referred to the CSAO's Construction Health and Safety Manual and the Ontario Occupational Health and Safety Act and Regulations (green book) for more details – copies shall be kept on site for easy reference.

In the event of any conflicting requirements the OHSA and Regulations shall govern.

## 5.1 Access and Egress

Areas of access and egress must be adequately lit.

If material may fall on a worker, overhead protection shall be provided.

Access to and egress from a work area located above or below ground level shall be by stairs, runway, ramp or ladder.

Areas of access and egress shall be kept clear of obstructions.

Areas of access and egress shall be kept clear of snow, ice, or other slippery material.

Areas of access and egress shall be treated with sand or similar material when necessary to ensure a firm footing.

Every shaft shall have a means of access and egress by stairway, ladder, or ladder way for its full depth during construction and when it is completed.

## 5.2 Aerial Lift Devices

Vehicle-mounted devices must be used only in accordance with the requirements outlined in Sections 143-149 of the current Regulations for Construction Projects.

Workers must not climb from an aerial device to another position at any time.

Workers must wear a full body harness with the lanyard and shock absorber properly tied.

An aerial lift device must not be moved closer than 6 meters away from a live power line unless:

- A signal person is provided to advise the operator of his or her proximity to the live line conductor, and/or

- The device being used is an approved insulated aerial device with a dielectric rating adequate for the live line voltage.

Workers on the ground must keep clear of the vehicle when the aerial device is close to live conductors.

Mechanically operated aerial ladders must not be raised or lowered, extended or retracted while a worker is on the ladder.

Only one worker at a time must be aloft on an aerial ladder at a time.

In case of emergency, a hand line long enough to reach the ground when the aerial device is fully extended to its maximum height must be carried in the device.

### 5.3 Air Tools

Compressed air must not be used to blow debris or to clear dirt from any worker's clothes.

Ensure that the air pressure has been turned off and the line pressure relieved before disconnecting the hose or changing tools.

All hose connectors must be of the quick disconnect pressure release type with a "safety chain/cable".

Wear personal protective equipment such as eye protection and face shields. Restrict access to the area or ensure other workers in the area are aware of hazards.

A proper pressure regulator and relief device must be in the system to ensure that correct pressures are maintained.

The proper air supply hoses must be used for the tool/equipment being used. Hoses must be checked on a regular basis for cuts, bulges, or other damage. Ensure that defective hoses are repaired or replaced.

Compressors, hoses and tools must be properly maintained according to the manufacturer's requirements.

### 5.4 Asbestos

Asbestos is a naturally occurring material once used widely in the construction industry. Its strength, ability to withstand high temperatures, and resistance to many chemicals made it useful in hundreds of applications. However, when asbestos is inhaled, it can be harmful and cause lung diseases and cancer.

It is the supervisor's duty, prior to work on the job site, to obtain a copy of the site owner's Asbestos Report, where applicable.

Should any asbestos be present on site and need to be removed, work cannot proceed until the supervisor has obtained written notice from the owner that the site is clear of asbestos and safe to work. Should the contamination NOT impact the work, the supervisor must inform workers of the location of the contamination and what not to disturb.

It is the worker's duty to contact the supervisor should there be any doubt as to the existence of asbestos in the work site and to be certain that any and all materials on site are asbestos-free, particularly in older facilities.

The following are places where one might encounter asbestos:

- Sprayed-On Fireproofing
- Pipe and Boiler Insulation
- Loose Fill Insulation
- Asbestos Cement Products
- Acoustical Plaster
- Acoustical Tiles
- Vinyl Asbestos
- Gaskets
- Roofing Felts
- Asphalt/Asbestos Limpet Spray
- Drywall Joint-Filling Compound
- Coatings and Mastics

### 5.5 Barricades and Guardrails

Hazardous areas must be cordoned off with barricades or danger tape to warn workers.

When barricades, guardrails or opening covers must be removed for work to proceed, permission to remove them must be obtained from the site superintendent. When guardrails or opening covers are temporarily removed, workers in the area must be protected by a fall restraint system suitable for the intended application.

Barricades, guardrails and covers must be replaced immediately after work is completed.

## 5.6 Buried Utilities

Buried utilities may be present on site (refer to 4.34 Trenches and Excavations). Supervisors must await the completion of all locates before beginning an excavation.

Furthermore, supervisors should be on the lookout for signs of unmarked utilities such as maintenance holes, catch basins, pedestals, junction boxes, water and gas meters, valve chambers, conduit affixed to wood poles, test posts and sunken ground.

## 5.7 Carbon Monoxide (CO) in Enclosed Spaces

Carbon monoxide (CO) is an odourless, toxic gas that is produced by the incomplete combustion of fossil fuels. Two common sources of CO on construction sites are direct-fired heaters and equipment powered by internal combustion engines.

If work involving construction heaters and/or combustion engine powered equipment (such as cut-off saws, power trowels, scissor lifts, excavation machinery) is planned in an enclosed area, the site superintendent shall:

- Identify size, type and condition of CO-producing equipment that will be used.
- Ensure that provisions for adequate (preferably mechanical) ventilation are installed in the enclosed area.
- Install a CO monitor and alarm in the space.
- Prepare a CO and oxygen ($O_2$) monitoring plan and communicate it to the workers, and ensure testing and analysis is done by a competent worker in accordance with the plan.
- Stop work and implement confined space entry procedures if the air quality monitoring indicates that the 8-hour time-weighted average exposure value (TWAEV) to CO exceeds 25 parts per million or that the short-term exposure value (STEV) to CO exceeds 100 parts per million.

## 5.8 Chainsaws

A worker must have a valid certificate to operate and provide maintenance for the piece of equipment being used.

The worker must wear the appropriate personal protective equipment (PPE) while operating a chainsaw, including, but not limited to:

- Hardhat

- Gloves
- Face shield
- Protective footwear
- Other PPE deemed appropriate to the work

The chainsaw should be inspected before each and every use, while any defective equipment should be tagged "out of service".

The chainsaw must be used as per the manufacturer's directions and must comply with CSA Standards Z62.1-03.

Maintain a safe distance between operator and coworkers while the chainsaw is in use.

### 5.9 Confined Space Entry

Before work begins, the site superintendent shall:

- Notify local utility or Hydro One for work on electrical vaults.
- Identify confined space locations and work areas and develop a written hazard assessment and confined space work plan.
- Provide confined space training for direct-hire employees.
- Conduct or arrange for gas testing and monitoring of confined space atmosphere.
- Obtain copy of from client confined space program (if applicable) and follow the confined space work procedures appropriate for the worksite.
- Provide necessary ventilation, breathing apparatus, safety staff and rescue equipment.

All workers shall:

- Test respiratory and rescue equipment before use.

All subcontractors shall:

- Take responsibility for any confined space equipment and training for their employees.

Before work begins, the air must be tested by a person properly trained to use the appropriate gas detection equipment. Where proper test competently performed indicate a hazardous level of fumes, gases or oxygen deficiency in any confined spaced, entry must not be allowed until the space has been adequately ventilated and subsequent tests indicate a safe atmosphere.

Where possible, mechanical venting should be continued in any confined space found to contain high levels of fumes, gases or oxygen deficiencies. The confined space must also be continuously monitored while people are working there. Where there are high levels of gases, fumes or oxygen deficiency the workers must wear rescue harnesses attached to individual lifelines.

### 5.10 Electrical Safety

(For proper use of power tools and extension cables, see section 4.31 Tool Maintenance)

Any and all electrical repair work should be performed only by an authorized electrician.

It is the worker's duty to make sure he is in a dry environment when operating any kind of power tool.

If an authorized/ licensed worker must ever work in a high-voltage situation, he should ensure that he has the appropriate protective gear, including but not limited to mats, gloves, shields, boots and flame resistant clothing.

### 5.11 Elevating Work Platforms

In accordance with section 147 of the current Regulations for Construction Projects, a worker who operates an elevating platform (EWP) must, before using it for the first time, be given oral and written instructions as well as completing the EWP training course. Therefore an EWP shall only be operated by a worker who has been instructed in:

- Operating the machine.
- The daily inspection and maintenance required by the manufacturer.
- The types of working surfaces on which the machine is designed to be used.
- The maximum rated working load.
- Special conditions or limitations of the machine.
- The significance of alarms.
- The location of emergency controls.

An EWP device which is not working properly or which has sustained damage to critical components must not be used until repaired by a qualified mechanic.

In the raised position an EWP shall only be used on surfaces specified by the manufacturer.

An EWP must not be driven in the raised position close to holes, depressions, trenches or other hazards.

An EWP must not bear more than its rated working load and when possible, loads shall be distributed evenly over the platform.

When EWPs are used to lift materials, care must be taken to ensure that materials are firmly secured to the platform.

Do not place makeshift platforms (boxes, ladders, etc) on EWP to gain access to areas above.

Overhanging loads must not be lifted by EWPs.

EWPs must not be moved closer than 6 meters (20 feet) to overhead power lines, unless the device is equipped for live electrical line work and the workers on the platform are qualified for such work.

An EWP must not be used for pulling, pushing or dragging materials.

Planks or similar materials must not be used to bridge a gap between an EWP and other work areas.

Workers must always maintain 3 point contact when getting on or off the platform.

The terrain under which the platform travels must be solid enough to support the device and its rated workload.

An EWP must not be used under high wind conditions.

When not being used, turn off the power system to prevent exhaust fumes from accumulating in an enclosed work area.

EWPs used on ramps or on sloping or uneven surfaces must be designed for such use and properly secured against horizontal and vertical movement.

### 5.12 Equipment and machinery

Before starting any equipment or machinery, the worker must ensure that it is in proper working condition and that the worker has the proper knowledge of its function.

The site superintendent should ensure that all machinery on site is mechanically sound and ready for use.

When the equipment or machinery is running, the worker shall ensure that any and all emergency stop mechanisms are working properly before any use of the

machine can be made.

Any non-functional equipment must be tagged with the appropriate notification.

### 5.13 Explosive-Actuated Fastening Tools

Explosive-actuated fastening tools must be used only by workers who carry proof they have been properly trained to operate the tools safely.

Impact-resistant cover goggles and hearing protection must be worn by workers using explosive-actuated tools.

### 5.14 Fall Protection

Working from scaffolds:

- Scaffold platforms must be fully planked if it is 2.4 meters above surface.
- Guardrails consisting of a top rail, mid-rail, and toe board are required whenever the working platform is 2.4 meters (8 feet) or more above floor level.
- Wheels and casters must be locked when personnel are working on the scaffold.
- If the scaffold is more than 2.4 meters high, it must not be moved with personnel on it unless they wear full body harness with lanyard and shock absorber tied off to independent fixed support and the floor is firm and level.

Working from ladders:

- A worker must wear a full body harness with lanyard and shock absorber tied off to either an independent fixed support or a lifeline whenever the worker is:
- 3 meters (10 feet) or more off the floor, or
- Above operating machinery, or
- Above hazardous substances or objects.

Working from swing stages:

- A worker must wear a full body harness with lanyard and shock absorber tied off to an independent lifeline, if the swing stage has only two independent suspension lines, or the swing stage, if it has four independent suspension lines (two at each end).

Working beside unprotected openings and edges:

- A worker must wear a full body harness with lanyard and shock absorber tied off to an independent fixed support whenever the work is more than 3 meters (10

feet) above the next level or whenever the worker is above operating machinery, hazardous substances or objects regardless of the possible fall height.

Working on roofs:

- All persons working on sloped roofs will be tied off.
- If proper guardrails are erected around the perimeter of the roof, it is not necessary to be tied off. However the workers who are erecting the guardrails must be tied off while they secure the rails.
- Roofers must wear steel toe boots with a steel shank as well as a hard hat at all times on the construction site.

Installing roof trusses:

- Framers who are installing roof trusses must tie themselves off to a secure object (secured truss, crane…) as frequently as possible.
- When being tied off is not an option, extreme caution and awareness of the work conditions and possible fall hazards is necessary at all times.

Full Body Harnesses, Lanyards, and Shock Absorbers:

- All full body harnesses, lanyards, and shock absorbers must be CSA-certified.
- Full body harnesses must be snug-fitting and worn with all hardware and straps intact and properly fastened.
- Lanyards must be 16 millimetre (5/8”) diameter nylon or equivalent.
- Lanyards must be equipped with a shock absorber.
- All equipment must be inspected prior to use.

Lifelines:

All lifelines must be:

- 16 millimetre diameter polypropylene or equivalent.
- Used only by one worker at a time.
- Free from any danger of chafing.
- Free of cuts, abrasions and other defects.
- Long enough to reach the ground or knotted at the end to prevent the lanyard from running off the lifeline.
- Secured to a solid object.

Rope-Grabbing Devices:

To attach the lanyard of a full body harness to a lifeline, use a mechanical rope grab that has been CSA-certified.

### 5.15 Fire and Explosion Prevention

The site superintendent shall:

- From the start of the project, ensure compliance with local fire protection and prevention regulations, the company H&S program, the Occupational Health and Safety Act, and the construction regulations made under the Act.
- Workers must obtain a hot work permit and maintain fire watch until work is complete.
- Ensure that fire-fighting stations are in place and that fire extinguishers are inspected monthly.
- Ensure that fire routes are kept clear and in good repair.
- Regularly review the requirements for work with flame- or spark-producing tools and equipment. Ensure that such work is isolated from flammable or combustible material wherever possible.
- Ensure safe storage of flammable and combustible material and compressed gases.
- For service, repair, or other work in an existing plant, ensure that all workers comply with the owner/client's requirements for fire safety.
- Post warning signs for all fire and explosion hazards.
- For all materials on site, including process materials, review MSDSs for any special firefighting precautions and provide necessary equipment and training.

### 5.16 Hazard Analysis

To avoid any and all possible accidents in the work area, workers, supervisors and foremen alike must remain vigilant and aware of their surroundings.

Obtaining a good general knowledge of one's surroundings allows one to easily spot potentially hazardous situations.

Any and all hazardous situations or areas should be reported immediately to the supervisor in order to minimize risks and damage.

It is then the supervisor's duty to assess the situation and take the necessary steps to correct the problem, whether or not third party intervention is required.

All workers on site should be instructed by the supervisor on how to handle any job specific hazard that may be present on the work site (examples include fall protection, rigging and asbestos).

Elimination of hazards may include changing procedures, using different procedures all together, use different or modified tools or components, or as simple as adding ventilation to the work area.
Communication and common sense are key factors in hazard analysis.

### 5.17 Hazardous Materials

Transporting flammable liquids:

- Flammable liquids must not be carried in the passenger compartment of a vehicle.
- Flammable liquids must be transported and stored in approved containers bearing the CSA or ULC label.
- Ensure that containers are not damaged and that caps or fittings are properly secured after filling.
- Flammable liquids must be transported in an upright position, braced or otherwise secured to prevent overturning.
- When transporting flammable liquids in a van, place the containers in the rear of the van with adequate ventilation. Remove the containers from the van immediately upon arrival at the destination.
- Provide a type BC fire extinguisher in the driver's compartment when flammable liquids are transported in a van.
- Do not use gasoline as a cleaner.
- Gasoline engines should be shut off and allowed to cool before refuelling.

Propane:

- Unless designed for horizontal use, propane cylinders must be kept in an upright position at least 3 meters from source of ignition or fire in a secured area not less than 7.5 meters (25 feet) from the property line.
- Cylinders must be stored in a well-ventilated area away from heat sources, outdoors and above grade.
- When not in use, propane cylinders and hose-connected devices must not be left in trenches or other lower-lying areas. Propane is heavier than air and can settle in dangerous concentrations at the bottom of trenches, manholes, vaults, basements, sumps and other below-grade areas.
- Only approved hoses and fitting must be used to connect a cylinder to tools and equipment.

- Never look for leaks in a propane cylinder or hose with a flame. Use soapy water.

Oxygen & acetylene (dangerously reactive material):

- Leather gauntlet gloves and goggles with No. 5 or 6 lens shade must be worn by workers using an oxyacetylene cutting torch. No. 5 or 6 lenses do not remove arc-welding rays.
- Oxygen and acetylene cylinders must be secured in an upright position at all times during storage, use and transportation.
- Cylinders should be stored in a well-ventilated area, outside with overhead protection from the weather.
- Protective caps must be in place when the cylinders are not in use or when they are being moved.
- Type BC fire extinguishers must be available whenever oxyacetylene cutting is being done.
- Cylinders must not be placed where they may become part of an electric circuit or be inadvertently struck by a welding rod.
- Cylinders must be hoisted in properly rigged racks to keep them secure and upright.
- Workers using oxyacetylene must not carry butane lighters.
- Oxygen or acetylene torches must not be used to blow dust from work surfaces, clothing or skin.
- Close valves before moving cylinders.
- Make sure that hoses, torches and regulators are working properly.
- Use only a spark lighter to ignite torches.
- Supply hoses must be protected from traffic.
- A leaking gas cylinder must be shut off and removed to an outdoor location away from ignition sources and marked to be readily identifiable. The supplier should be notified about the defective cylinder.
- Keep acetylene cylinders away from heat sources. The surrounding temperature must be kept below 54°C (130°F).
- Empty cylinders must be stored separately from full cylinders. Store acetylene cylinders separately from oxygen cylinders.
- Acetylene and oxygen cylinders must be kept at a distance of no less than 100 metres from an open flame at all times, where practicable.
- Acetylene and oxygen cylinders must be kept well clear of any point of egress from a building at all times.

- If more than a day's supply of gas is being stored, it must be kept in a controlled access area or room that has sufficient window area to allow explosion relief to the outside and that is located well away from any egress point of the building.

### 5.18 Heat and Cold Stress

When working in extreme conditions (either hot or cold), there are preventative measures to take in order to avoid severe medical conditions.

Heat Stress:

Symptoms of heat stress include, but are not limited to, red and itchy skin, muscle cramps, high body temperature, weakness or feeling faint; headache, confusion or irrational behaviour, nausea or vomiting.

Preventative measures for heat stress include:

- Increase the frequency and length of rest breaks
- Provide cool drinking water near workers and remind them to drink a cup every 1/2 hour
- Caution workers about working in direct sunlight
- Train workers to recognize the signs and symptoms of heat stress; start a "buddy system" because it's unlikely people will notice their own symptoms
- Tell workers to wear light summer clothing to allow air to move freely and sweat to evaporate

Cold Stress:

Cold stress is caused by exposure to the cold and high winds.

Workers should cover up with multiple layers and endeavour to stay dry when working in temperatures lower than 2 $^{o}$C.

Should the worker get too warm, he should partially open his jacket or coat rather than remove gloves, mitts or toques.

### 5.19 Housekeeping

Waste material and debris must be removed from work and access areas on a regular basis and at least once a day.

Waste material and debris must not be thrown from one level to another but must be carried down, lowered in containers or deposited in a disposal chute.

Each sub-trade is responsible for their own waste materials and for their own housekeeping.

Materials identifiable to a specific sub-trade which are not picked up in a timely fashion will be picked up by Bourgon Construction at the expense of the sub-trade in question.

### 5.20 Hygiene Facilities

Drinking Water:

A reasonable supply of potable drinking water shall be kept readily accessible at a project for the use of workers.

Toilet Facilities:

Toilet facilities shall be provided in sufficient quantities and in the locations as outlined in regulation *213/91, Regulations for Construction Projects*. The facilities shall be in place before the start of the project. The facilities shall be reasonably accessible to all workers on the project.

The facilities shall be serviced, cleaned and sanitized as frequently as necessary to maintain them in a clean and sanitary condition.

For work of shorter duration, facilities that are not under the constructor's control may be used only if you have received permission from the facilities' owner for workers to use the facilities.

Clean-Up Facilities:

If it is not reasonably possible to have a wash basin with running water at a clean-up facility, hand cleanser that can be used without water shall be provided instead.

Workers who handle or use corrosive, poisonous or other substances likely to endanger their health shall be provided with washing facilities with clean water, soap and individual towels.

### 5.21 Ladders

All portable ladders must be equipped with non-slip bases.

Ladders must be set up on firm level surfaces. If the base is to rest on soft un-compacted or rough soil, a mud sill shall be used.

Straight ladders will be tied off or otherwise secured to prevent movement. If this is not possible, one worker will hold the base of the ladder while it is being used.

When a task must be done while standing on an extension ladder, the length of the ladder must be such that the worker stands on a rung no higher than the fourth from the top.

When climbing up or down, workers must always face the ladder.
Ladders must not be set up in passageways, doorways, driveways or other locations where they can be struck by traffic unless proper barricades are erected.

Ladders must not be erected on boxes, carts, tables, scaffold platforms, elevating work platforms or on vehicles.

Straight ladders must be set up at an angle such that the horizontal distance between the top support and the base is not less than one-quarter or greater than one third the vertical distance between these points.

Metal ladders or ladders with wire reinforcing must not be used in the proximity of energized electrical conductors.

Wooden ladders must be unpainted or finished with a clear non-conductive wood preservative.

All ladders erected between levels must be securely fastened, extend 90 centimetres (3 feet) above the top landing and afford a clear access at top and bottom.

Ladders with any defective, broken or damaged parts must be removed from the job site until they are properly fixed or replaced.

Ladders must 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 must not straddle the space between the ladder and another object.
Three points of contact must always be maintained when climbing up or down a ladder.

### 5.22 Lifting and Hoisting

Any employee tasked with using a lifting or hoisting device must ensure that the equipment is in good operational use and shows no sign of excessive wear and damage prior to use.

The employee must also be sure that the load to be lifted does not exceed the recommended limits of the equipment being used.

Any employee using a lifting device such as a hoist or forklift must ensure that he has a good visibility of the surrounding area to avoid unwanted accidents or injury.

### 5.23 Manual Lifting

To avoid back injury, the worker should follow these steps when attempting to lift and carry a heavy load:

- Size up the load. If you think you need help, ask for it.
- Get a good footing.
- Bend your knees and get a good grip on the object to be lifted.
- Keep your back straight, lift with your legs, and keep the object being lifted close to your body.
- Keep your balance and do not twist or turn as you lift.

To put the object down again, do not bend from the waist. Keep your back straight and bend your knees, keeping the object close to your body until it is placed in a secure position.

### 5.24 Material Storage

Materials must be piled, stacked or otherwise stored to prevent tipping and collapsing.

Materials to be lifted by crane or other hoisting device must not be stored under overhead power lines.

Whenever possible, sub-trades will bring a storage container to the job site where they will have storage space for themselves at all times.

### 5.25 Personal Conduct

Riding on equipment:

Under no circumstances is a worker to ride on any piece of equipment unless the worker is properly occupying a place seat designated for such a purpose. This is especially important around forklifts, aerial devices, hoists, cranes and earth-moving equipment.

Horseplay:

Employees must not engage in any prank, contest, feat of strength, unnecessary running or rough boisterous conduct on the job site.

Alcohol and drugs:

No person under the influence of, or carrying, drugs or alcoholic beverages is permitted on site.

The use of over-the-counter or prescription drugs during working hours, is not permitted unless the site superintendent has been notified. The site superintendent may require a doctor's note stating that the drug will not impair the employee's ability to work safely.

### 5.26 Personal Protective Equipment

Clothing:

For personal protection on the worksite, do not wear loose clothing or cuffs, greasy or oily clothing, gloves, or boots, torn or ragged clothing or tank tops.

Shirts and long pants must be worn at all times on the job site.

Neck chains are hazardous and must be worn under clothing so they do not hang out.

Long hair must be tied back or otherwise confined.

Head protection:

Workers must obtain and wear protective headwear at all times on the worksite. Safety hats must not be painted. The shells and suspension of safety hats must be inspected regularly and replaced if cracks, deep scratches or other defects are detected.

Foot protection:

At all times on site, workers must wear CSA-certified Grade 1 footwear. Electrical workers must wear electric shock resistant footwear identified by a white rectangular label bearing the CSA trademark and the Greek letter omega in orange.

Eye protection:

Workers must wear protective eyewear:

- When drilling into concrete, masonry, steel, wood, etc.
- When using any type of power tool.
- When pouring concrete or grout.

Hearing protection:

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

Listed below is the proper hearing protection based on noise:

Less than 85 dbA: No protection required
Up to 89 dBA: Class C
Up to 95 dBA: Class B
Up to 105 dBA: Class A
Up to 110 dBA: Class A plug + Class A or Class B muff
More than 110 dBA: Class A plug + Class A or Class B muff and limited exposure

Hearing protection for each worker must be available in the site office.

See the table below for possible noise levels found on site:

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

* Generally, newer equipment is quieter than older equipment. (For noise levels of specific equipment, contact the Construction Safety Association of Ontario.)
**Pile drivers and explosive-actuated tools generate intermittent or "impulse" sound.

Respiratory protection:

Work areas must be ventilated to reduce hazards from dust, fumes, gases or vapours.

Ventilation may be provided by a fan, proper ventilation system, or even natural ventilation provided by an open window or light breeze.

When ventilation is not practical, workers must be provided with respirators appropriate to the hazards and be trained to use and maintain the respirators properly.

Respiratory protection ranges from simple dust masks to complex SCBA (self contained breathing apparatus). To determine what type of protection is necessary when working with hazardous products, check the MSDS (material safety data sheets) for recommended equipment.

Respiratory protection equipment should be individual to the worker, but in the event of shared equipment, be sure to sanitize and disinfect the apparatus after each use, and to check for possible wear and damage.

### 5.27 Preventative Maintenance

It is the duty of the supervisor to ensure that all tools, equipment and vehicles on site receive the adequate maintenance to ensure safe working order.

It is the responsibility of the worker to alert the supervisor of any defective equipment.

Any tool that does not meet the expected standards of operation shall be tagged "out of service" placed aside to avoid accidental use.

Tools, vehicles or equipment that is deemed unfit to use shall either be repaired or replaced.

### 5.28 Scaffolding

The erection and dismantling of scaffolding must be carried out under the supervision of a competent worker knowledgeable and experienced in such operations.

Workers erecting and dismantling a scaffold more than 2.4 meters (8 feet) high must be tied off with a full body harness and lanyard equipped with a shock absorber.

Scaffolds must be erected with all braces, pins, screw jacks, base plates, and other fittings installed, as required by the manufacturer.
Scaffolds must be adequately braced horizontally and vertically.

Scaffolds must be equipped with guardrails consisting of a top rail, mid-rail and toe board.

Scaffold platforms must be at least 46 centimetres (18 inches) wide and if they are over 2.4 meters (8 feet) high they must be planked across their full width.

Scaffolds must be tied off to a building at vertical intervals not exceeding three times the least lateral dimension, including the dimension of any outrigger stabilizing devices.

Where scaffolds cannot be tied in to a building, guy lines adequately secured should be used to provide stability.

Scaffold frames must be properly pinned together where scaffolds are two frames or more in height or where they are used as rolling scaffold towers.

Scaffold planks must be securely fastened to prevent them from sliding.

Scaffold planks must be of good quality, free of defects such as loose knots, splits or rot, measuring 48mm (1-7/8" X 9-3/4") in cross section, and No. 1 spruce or better.

Scaffolds must be erected, used and maintained in a reasonably plumb condition. Scaffold planks must be installed so that they overhang by at least 15 centimetres (6 inches) but no more than 30 centimetres (12 inches).

Scaffolds must be equipped with proper ladder for access. Vertical ladders must be equipped with 15 centimetres (6 inch) stand-off brackets and a ladder climbing fall protection device or safety cage when they are more than 3 meters (10 feet) high.

Frame scaffolds over 15 meters (50 feet) high and tube-and–clamp scaffolds over 10 meters (30 feet) high must be designed by a professional engineer and constructed in accordance with the design.

Remove ice, snow, oil, grease and other slippery material from the platform, and apply sand to the surface.

Wheels or casters on rolling scaffolds must be equipped with braking devices and securely pinned to the scaffold frame.

### 5.29 Site Information

The site superintendent shall post the following information in the site office:

- Occupational Health and Safety Act and Regulations for Construction Projects (the "green book").
- A signed and up to date company health and safety policy and program.

- Ministry of Labour (MOL) inspector's orders and reports as well as contact information and nearest office.
- Emergency response plan.
- In Case of Injury poster issued by the Workplace Safety and Insurance Board (P085 available from CSAO).
- MOL notification form if the project is valued at more than $50,000 or falls under one of the other conditions in Section 6 of the Construction Regulation (Ontario Reg. 213/91).
- DANGER signs in hazardous areas.
- Site plan with evacuation routes, fire routes, main shut off valves, washrooms and muster station.
- Valid certificate of first aider on duty.
- Name, trade, and employer of health and safety rep, if applicable.

### 5.30 Tagging and Lockout Procedures

The site superintendent shall develop and execute an appropriate tagging and lockout procedure with suitably qualified professionals and subcontractors when required.

### 5.31 Tool Maintenance

It is the employer's responsibility to supply and maintain shop tools and other power equipment in good repair and to ensure that they are properly insulated, grounded and CSA approved.

It is the worker's responsibility to use such tools properly and to report any defect to the supervisor. Only authorized electricians should be allowed to repair damaged electrical tools and equipment.

Damaged or out of service tools should be marked or tagged "Out of service" to avoid accidental use.

Before making any modifications to a power tool, the worker should unplug the tool from its power source.

Portable Extension Cords:

All portable extension cords must be of the outdoor type, rated 300 volts, and have an insulated grounding conductor.

Defective cords must not be used. They must either be destroyed or be tagged and removed from the worksite until repaired.

Extension cords must be protected during use to prevent damage from sharp edges, movement of materials, and flame cutting.

### 5.32 Toxic Spills

Anticipate chemical spills by having appropriate cleanup and safety equipment on hand. Kits should be kept where spills may occur.

Paper towels and sponges may be used as absorbents, but this should be done cautiously. Appropriate gloves must be worn when cleaning up with towels. Sponges should be chemical-resistant. Commercial clean-up kits are available with instructions, absorbents, neutralizers, and protective equipment.

In the event of a spill:

- Attend to contaminated personnel.
- Alert workers in adjacent areas.
- Confine the spill and evacuate non-essential personnel.
- If spilled material is flammable, extinguish any sources of ignition.
- Secure appropriate cleanup supplies.
- During cleanup, wear appropriate personal protection.
- If the spill constitutes a more serious hazard or involves the release of gas or fumes, contact emergency services and advise appropriate environmental agencies.

### 5.33 Traffic Protection

Right of Way:

The supervisor must be sure that the necessary excavation permit have been obtained from the jurisdictional authority as well as ensure that the traffic plan is in place.

It is important to understand the nature of the traffic in the area to be interrupted, as well as the time restriction for closing or diverting traffic.

The supervisor must take into account any adverse weather conditions or work hours in order to place the appropriate signs, cones, flashers and barricades.

The supervisor must also ensure pedestrian traffic safety as well as vehicular, as well as assign the appropriate amount of flag persons to their respective duties.

For any and all information pertaining to the procedures involved in flagging, refer to the flag person handbook.

Mobile Equipment:

Field workers must be aware of any active mobile equipment in the vicinity and must be properly visible to the operators of said mobile equipment at all times (for example, wear a fluorescent traffic vest or jacket).

Workers must avoid walking beside, in front of, or behind active mobile equipment and must avoid positioning themselves in the swing radius of articulated machinery and other stationary equipment.

It is important that the worker not assume that an operator has a constant view of him at all times.

Moving Vehicles and Equipment:

In accordance with the *Regulations for Construction Projects,* the site superintendant shall ensure that all workers, contractors and sub-contractors will be informed of this procedure before moving or using vehicles, machines and equipment.

All workers, contractors, and sub-contractors will use this procedure when moving or using vehicles, machines and equipment.

Operators of vehicles, machines and equipment shall be assisted by signallers if the operator's view of the intended path of travel is obstructed and/or a person could be endangered by the vehicle, machine or equipment and its load.

A competent worker shall be designated as a signaller. Both the operator and signaller shall jointly establish the procedures by which the signaller assists the operator and both will follow those procedures. A loud signalling device, such as a whistle should be used to indicate either "STOP" or "GO".

The signaller should be walking with the vehicle, machine, or equipment in a manner that gives the signaller an unobstructed view of the intended path of travel and in full view of the operator.

When using vehicles, machines or equipment near energized overhead electrical conductors, no part shall be brought closer than minimum distance listed in Table 1.

**TABLE 1**

| Nominal phase-to-phase voltage rating | Minimum distance |
|---|---|
| 750 or more volts, but no more than 150,000 volts | 3 meters |
| more than 150,000 volts, but no more than 250,000 volts | 4.5 meters |
| more than 250,000 volts | 6 meters |

### 5.34 Trenches and Excavation

All earth trenches more than 1.2 meters (4 feet) deep that a worker is required to enter, must be shored with timbers or a pre-fabricated trench box or supported by an approved support system in accordance with Section 236 of the current Regulations for Construction Projects, or be cut with embankment slopes of 1 to 1 (45 degrees).

Ladders must be used for getting into or out of a shored trench and be placed so that a worker is protected at all times when using the ladder.

Work must not be performed in a trench unless another worker is working above ground in close proximity to the trench or to the means of access to it.

Buried services such as gas lines, water lines, sewers, and electrical services must be located and marked before excavation starts.

When timber shoring is used, it must be installed progressively as the trench is being excavated.

Excavation which workers are required to enter must be kept reasonably free of water.

Tools, equipment and excavated soil must be kept at least 1 meter (3 feet) from the edge of the excavation trench.

### 5.35 Welding and Cutting

Welding is a process which uses heat and/or pressure to join metals.

Arc welding is by far the most commonly used in construction. Molten metal from the workpiece and a filler metal from an electrode form a common puddle which cools to form a weld.

Flame cutting is an allied process that requires the use of a torch, fuel gas, and oxygen to cut metals – primarily steel.

Fires/Explosions

There is always a threat of fire with welding. Fires may result from chemicals reacting with one another to explosive or flammable mixtures. Many chemicals by themselves have low ignition points and are subject to burning or exploding if exposed to the heat, sparks, slag, or flame common in welding. Even sparks from cutting and grinding may be hot enough to cause a fire.

Fire Prevention

Sparks and slag from cutting, grinding, and welding can travel great distances and disappear through cracks in walls and floors or into ducts. They may contact flammable materials or electrical equipment. Fires have started in smoldering materials that have gone undetected for several hours after work was done.

Take the following steps to prevent fires and explosions.

- Obtain a hot work permit through the site supervisor and welding foreman. See form in Appendix 10.
- Keep welding area free of flammable and explosive material.
- Use a flammable gas and oxygen detector to determine whether a hazardous atmosphere exists.
- Provide fire barriers such as metal sheets or fire blankets and fill cracks or crevices in floors to prevent sparks and slag from passing through.
- Provide fire extinguishers suitable for potential types of fire. Know where the extinguishers are and how to use them.
- Provide a firewatch where necessary – a worker to watch for fires as the welder works and for at least thirty minutes afterward. The person must be fully trained in the location of fire alarms and the use of fire-fighting equipment. Some situations may require more than one firewatch, such as on both sides of a wall or on more than one floor.

### 5.36 **Vehicle Safety** (Refer also to Section 3)

All employees who operate company vehicles must hold a valid driver's license applicable to the type of vehicle being operated as a condition of employment.

All employees must ensure that the vehicle they are operating is in proper operational condition and must adhere to the rules and regulations of the road.

Serious violations of the Highway Traffic Act, such as careless driving, may result in termination. Operators are responsible for any fines that are levied by law enforcement.

An employee should not, at any time, attempt to operate a defective vehicle. Also, an employee should never offer rides to anyone other than Bourgon Construction employees or allow passengers to ride in the bed of the pick-up or any other unit that is not equipped with approved seats and restraining devices.

### 5.37 Working Alone

In the event that a worker must perform solitary work, the supervisor must ensure that the worker is aware of any possible hazards in the work area and that he is able to recognize and assess possible hazards that may arise.

The supervisor should ensure that any potential hazards that the worker may come into direct contact with are removed prior to work.

It is also the duty of the supervisor to ensure that the worker has a fully functioning method of communication (such as a site phone, cell phone or two-way) with the supervisor or other person with whom the worker can check in at regular intervals. The time between check-ins should reflect the level of hazard with which the worker is faced.

If a worker must work alone, it will only be during regular working hours while the site is active. Under no circumstances will a worker work alone during non-regular working hours.

### 5.38 Workplace Hazardous Materials Information Systems (WHMIS)

Labels:

The site superintendent will ensure that materials delivered to the worksite have WHMIS supplier or workplace labels, and shall keep blank workplace labels in a WHMIS supplies file with the MSDS binder.

A worker education and training program shall ensure that workers understand the essentials of WHMIS and its relevance to a particular job site.

Material Safety Data Sheets (MSDS):

The site superintendent shall obtain and review MSDSs for materials to be used on the job site. MSDSs will be kept in a readily accessible binder in the site office.

Subcontractors must provide MSDSs for their materials before they arrive at the job site.

Training:

Subcontractors shall ensure that workers and supervisors have identification indicating WHMIS training.

For workers without WHMIS training, the supervisor will provide instruction in specific hazards prior to work with or near hazardous materials.