SAFE WORK PRACTICES & SAFE JOB PROCEDURES

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ASBESTOS - SJP

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Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This procedure serves as a guide for performing the task of entering an environment containing and working around asbestos. All employees who shall perform this task should review and work in accordance with the guidelines set out in this procedure.

PPE	HAZARDS	TRAINING
Depends on Task	• Lung cancer • Mesothelioma • Respirator irritation • Eye Irritation	• Asbestos Awareness (minimum)

ROLES AND RESPONSIBILITIES

Supervisor:

- Ensure workers review the safe job procedure prior to entering work site.
- Provide workers with appropriate PPE and inform them about wearing appropriate PPE while working with asbestos.
- Request a copy of the work site owner's asbestos report, detailing the levels of asbestos contained in the work space.
- Ensure appropriate personnel are assigned to remove the asbestos prior to workers starting operations.
- If asbestos is not removed, ensure workers are informed of where the asbestos is located.
- Ensure eye wash stations are readily available for workers to use.

Worker:

- Be informed of asbestos health hazards.
- Review and understand safe job procedure prior to entering workspace.
- Be alert of where the asbestos is located on the work site to avoid exposure.
- Follow the supervisor's directions on how to proceed when working alongside asbestos.
- Notify supervisor immediately if asbestos is present on the work site.
- Receive proper training.
- Wear appropriate PPE during operations.

SAFE JOB PROCEDURE

There are two main categories of asbestos:

1. Serpentine (long and flexible fibres)
2. Amphibole (brittle and sharp fibres)

Typical locations of asbestos materials in construction:

- 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

Always ensure the material you are working with is free of asbestos before commencing operations.

IDENTIFYING ASBESTOS CONTAINING MATERIAL (ACM)

ACM (asbestos-containing material) is defined as material containing 0.5% or more asbestos. The true method of identifying asbestos is by microscopic analysis of samples, but several rules of thumb indicate whether it's likely that asbestos is present:

- The age of the building or equipment
- The type of construction
- The nature of the equipment
- The appearance of the material

CLASSIFICATION

The Ministry of Labour uses the following five factors to categorize the asbestos-related activity into one of three types:

Type 1 – low risk
Type 2 – medium risk
Type 3 – high risk

1. Nature of material
2. Nature of activity
3. Application of water
4. Size of the project or duration of exposure
5. Risk to bystanders

TRAINING AND CERTIFICATION REQUIREMENTS

Anybody who works in a Type 1, Type 2, or Type 3 asbestos operation must be trained by a competent person on the following:

- the hazards of asbestos exposure;
- the purpose, inspection, maintenance, use, fitting, cleaning, disinfecting, and limitations of respirators;
- personal hygiene and correct procedures for work with asbestos; and
- how to use, clean, and dispose of protective clothing.

This requirement includes workers performing work in the area of a Type 1, Type 2, or Type 3 operation, but not involved in an actual removal operation.

All workers and supervisors who perform Type 3 asbestos operations must be certified to do their work. *Certification is not required for:*

- workers in Type 1 or Type 2 operations; or
- workers entering Type 1, 2, or 3 work areas to perform work not related to the asbestos removal operation.

The workers that *do not require certification*, however, are required to have asbestos awareness training.

Ministry of Labour (MOL) must be notified orally and in writing, before beginning a Type 3 operation, or before beginning a Type 2 operation in which one square metre or more insulation is to be removed using a glove bag.

TYPE 1 ASBESTOS OPERATIONS

Type 1 operations include the following:

1. Installing or removing less than 7.5 square metres of ceiling tile containing asbestos (81 square feet, or ten 4-foot x 2-foot ceiling tiles) without it being broken, cut, drilled, abraded, ground, sanded, or vibrated.
2. Installing or removing non-friable asbestos containing material, other than ceiling tiles, without it being broken, cut, drilled, abraded, ground, sanded, or vibrated.
3. Breaking, cutting, drilling, abrading, grinding, sanding, or vibrating non-friable asbestos-containing material if a) you wet the material, and b) you use only non-powered hand-held tools.
4. Removing less than one square metre of drywall where asbestos joint-filling compound was used.

CONTROLS FOR TYPE 1 OPERATIONS

1. Eating, drinking, smoking, and chewing gum are prohibited.
2. If a worker requests a respirator and protective clothing for Type 1 operations, it will be provided. Once workers request respirators and/or protective clothing, they must wear them. Before beginning work, visible dust must be removed by wiping with a damp cloth or by vacuuming with a special HEPA-filtered vacuum.
3. Never use compressed air to clean asbestos dust off surfaces.
4. To cut, shape, or drill the non-friable materials you must wet the work and use only hand tools such as nibblers, rasps, files, shears, knives, hand drills, or hand saws. Using hand tools may create some dust, but wetting the material will prevent the dust particles from becoming airborne.
5. You must use a dropsheet below the work area to help control dust.
6. All asbestos dust and waste must be cleaned up regularly and frequently (before it dries out) using a HEPA vacuum or by damp-mopping or wet-sweeping.
7. Before leaving the work area, workers must damp-wipe or HEPA-vacuum their protective clothing to remove any surface contamination. Workers must damp-wipe their respirators before taking them off.
8. Asbestos waste and disposable coveralls must be placed in dust-tight containers and labeled with warning signs.
9. You must never reuse dropsheets. After the work is done, dropsheets must be wetted or damp-wiped and then folded so that any residual dust or scrap is contained inside the folds. Dispose of dropsheets as asbestos waste.
10. Barriers and portable enclosures that are rigid and will be reused, must be cleaned by

damp-wiping or HEPA-vacuuming. Barriers and enclosures that are not rigid or cannot be cleaned must not be reused.
11. Containers must be cleaned by damp wiping or HEPA-vacuuming before being removed from the work area.
12. You must dispose of waste at a landfill site that will accept asbestos.
13. A wash-basin, soap, water, and towels— or a similarly-equipped clean-up facility—must be provided for workers so that they can wash their hands and faces upon leaving the work area. Workers must also wash before eating, drinking, smoking, or any such activities.

TYPE 2 ASBESTOS OPERATIONS

Type 2 operations include the following:

1. Removing all or part of a false ceiling in buildings containing sprayed asbestos fireproofing if it is likely that asbestos fibres are resting on top of the ceiling. This is likely when fireproofing is deteriorating or damaged.
2. Removing or disturbing less than 1 square metre of friable asbestos materials—for example, repairing an insulated pipe joint or removing some fireproofing to fasten a new pipe hanger.
3. Enclosing friable asbestos insulation to prevent further damage or deterioration.
4. Applying tape, sealant, or other covering (by means other than spraying) to pipe or boiler insulation.
5. Installing or removing more than 7.5 square metres of ceiling tile containing asbestos, without it being broken, cut, drilled, abraded, ground, sanded, or vibrated.
6. Breaking, cutting, drilling, abrading, grinding, sanding, or vibrating non-friable asbestos-containing material if the material is not wetted and the work is done only with non-powered hand-held tools.
7. Removing one square metre or more of drywall where the joint-filling compound contains asbestos.
8. Working on non-friable asbestos with power tools that are attached to dust collecting devices equipped with HEPA filters. If you need to power-grind or machine the asbestos product and your tools are not equipped with HEPA-filtered dust collectors.
9. Using a glove bag to remove asbestos containing insulation.
10. Cleaning or removing filters used in air handling equipment in a building with sprayed asbestos fireproofing.
11. Any other operation that is not Type 1 or Type 3, but one that may cause exposure to asbestos.

CONTROLS FOR TYPE 2 OPERATIONS

1. Workers involved in Type 2 operations must wear a NIOSH-approved respirator. Training on the individual respirators they will be using must be provided.
2. The equipment must be maintained according to the employer's written procedures and must be consistent with the manufacturer's instructions. The manufacturer can provide cleaning and disinfecting products which will not damage the respirators. Any damaged or worn parts must be replaced before a worker uses the equipment. Wherever possible, the respirators should be assigned to individual workers for their exclusive use. Otherwise, the respirators must be properly cleaned and disinfected before being used by someone else.
3. Workers must wear protective clothing impervious to asbestos with tight-fitting cuffs at the wrists, ankles, and neck, as well as a hood or head cover. This usually means one-

piece disposable coveralls— ones which are easy to clean of surface contamination before you throw them away. Torn or damaged clothing must be repaired or replaced. We recommend you use lace-less, pull-on rubber boots. They can be washed off later or disposed of as contaminated waste. Protective clothing is required for two reasons: a) to prevent transfer of dust and waste into clean areas b) to guard unprotected workers, their families, and the public from secondary exposures to asbestos. Members of asbestos workers' families have developed illnesses from the dust brought home in work clothes.

4. Only those workers wearing the required respirators and protective clothing are permitted in the work area.
5. You must never eat, drink, smoke, or chew gum in the work area.
6. Never use compressed air to remove asbestos dust from a surface.
7. You must wet asbestos-containing material before you remove it to lessen the chance of creating dust—unless wetting would cause a hazard or damage.
8. You must add a wetting agent to the water.
9. Any dust on exposed surfaces must be cleaned by damp-wiping or HEPA vacuuming before starting work which may disturb the dust.
10. Warning signs are required for all Type 2 activities.
11. For ceiling removal (to gain access to a work area) and for removal of less than 1 square metre of friable asbestos containing material indoors, an enclosure must be erected around the area to prevent the spread of asbestos dust. If your enclosure is opaque, it must have a transparent window to allow observation of the work. The ventilation system must be disabled and sealed off if the inlets or exhausts are within the enclosed area. For other Type 2 operations, 6-mil polyethylene drop sheets should be adequate.
12. You must put waste asbestos, disposable clothing, the enclosure and barrier materials (such as polyethylene sheeting), and any other contaminated items into dust-tight containers labeled with warning signs. The containers must be damp-wiped or HEPA-vacuumed to remove any surface contamination before you take the containers out of the work area.
13. Any dust or waste must be cleaned up by damp-wiping or HEPA-vacuuming before it can dry out and pose a hazard. You must never reuse drop sheets. Drop sheets and enclosures must be decontaminated and wetted before disposal.
14. After the work is completed, barriers and portable enclosures that are rigid and that will be reused must be cleaned by damp wiping or HEPA-vacuuming. Barriers and portable enclosures must not be reused unless they are rigid and can be cleaned.
15. Before leaving the work area, workers must damp-wipe or HEPA-vacuum their protective clothing to remove any surface contamination. Workers must damp-wipe their respirators before taking them off.
    A washbasin, water, soap, and towels must be provided for workers to wash their hands and faces before leaving the work area. Workers must also wash before eating, drinking, smoking, or any such activities

TYPE 3 ASBESTOS OPERATIONS

Type 3 operations include the following:

1. Removing or disturbing more than 1 square metre of friable asbestos-containing material.
2. Spraying a sealant onto friable asbestos material.
3. Cleaning or removing air-handling equipment in buildings with sprayed asbestos fireproofing.
4. Repair, alteration, or demolition of kilns, metallurgical furnaces, and other installations with asbestos refractory materials.
5. Disturbing non-friable asbestos material in any way with power tools not attached to dust collectors equipped with HEPA vacuums.
6. Repair, alteration, or demolition of buildings which are or were used to manufacture

7. asbestos products unless the asbestos was cleaned up and removed before March 16, 1986.

CONTROLS FOR TYPE 3 OPERATIONS

Type 3 operations require the most precautions because they can release substantial amounts of asbestos dust. Controls for Type 3 operations include requirements for:

- worker protection including protective clothing, respiratory protection, and decontamination facilities;
- site preparation including enclosure and isolation of the work area and negative air units; and
- removal, clean-up, and disposal of waste including dust-suppression techniques.

PRE-OPERATIONAL CHECK

- Wear appropriate PPE prior to entering the facility containing asbestos.
- Ensure eye-wash station is readily available for workers to use.
- Ensure supervisors provide details on where asbestos is present to help put up barriers.
- Containers must be in good condition, and caps must be tightly fitted.

ASBESTOS USE PROCEDURE

1. Place barriers and warning signs to alert workers that the area contains asbestos.
2. Clean work space prior to tasking with a wet wipe or an HEPA approved vacuum cleaner.
3. Ensure workers are not eating, drinking or smoking near an area that contains asbestos.
4. During operations, ensure work space is kept clean by using a wet wipe.
5. After operations, clean surfaces with a damp cloth and HEPA approved vacuum cleaner to decontaminate the work space.
6. Clean tools prior to leaving work space to prevent further exposure of asbestos.
7. Place PPE in waste bag after exiting work space.
8. Remove gloves without touching the outside, place in garbage, and wash hands thoroughly.
9. Wash PPE to decontaminate for future workers and usage.
10. Document stating operations details and keep for future investigations and inspections.

MAINTENANCE

Workers can work safely by monitoring how much they have been exposed to asbestos. Some clinical screening that will help establish that include:

- Chest radiographs
- Lung functions test

With these tests, workers are able to limit their exposure to asbestos and avoid putting themselves in the way of potential hazards.

BIOLOGICAL AGENTS - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This procedure serves as a guide for performing the task of working around biological agents. This includes: exposure to poisonous insects, bird and bat droppings, waste and sharp objects. All employees who perform tasks that include working with or around biological agents must review and work in accordance with the guidelines set out in this procedure.

PPE	HAZARDS	TRAINING
Depends on Task	• Stings • Allergic Reactions • Respiratory irritation and illness • Occupational disease	• Biological Materials • WHMIS

ROLES AND RESPONSIBILITIES

Supervisor:

- Ensure workers have reviewed and understood the safe job procedure prior to working with or around biological agents.
- Provide workers with the appropriate PPE when a biological hazard has been identified.
- Direct workers on how to proceed with eliminating or reducing the risk of the the hazards.
- Contact appropriate personnel to assist in eliminating the hazard, if applicable.
- Maintain worker medical records and follow up with precautionary shots for future purposes, if applicable.

Worker:

- Follow supervisor's directions on how to eliminate or reduce the risk of the biological hazard.
- Wear appropriate PPE according to the agent and nature of the hazard.
- Stay up-to-date with medical precautions (ie. Tetanus shot), as required.
- Review and understand the safe job procedure prior to performing biological agent task.
- Immediately report any biological hazards on a work site to the supervisor.

SHARP OBJECTS

Potential Hazards:

- Blood borne viruses
- Transmitted infectious diseases
- Punctured or cut by sharp objects

Sharp objects include: protruding nails, newly cut material, metal wires, staples in packaging, discarded needles from trespassers, etc.

How Sharps Injuries Occur

- During or after disposal:
  - In transit to disposal
  - Improper disposal
- After use, before disposal:
  - Sharp left in unusual location
  - During clean up
- During use:
  - Collision with sharp
  - Handling, passing, transfer of equipment

Disposal:

- Sharps should be placed in a marked wide-mouthed, puncture proof container.
- Locate disposal containers specifically where sharps are used to make safe disposal easy and accessible.
- Replace containers frequently. Ensure containers are replaced when they are three quarters full.
- Ensure they are sealed, collected and disposed of in accordance with local regulations for biomedical waste.

In Case of an Injury:

1. Let the wound bleed to help release any foreign objects.
2. Flush the area with water or wash with soap and water. If the skin has been broken, apply a topical antiseptic solution.
3. Do not apply disinfectants to the eye, nose or mouth.
4. Bandage the wound.
5. Seek immediate medical attention.

Control Measures:

- If possible, eliminate or reduce the use of sharps at work.
- Remove or isolate the hazard by using a sharps disposal container or other devices that have an integrated injury prevention feature.
- Wear appropriate gloves when handling sharps.
- Take appropriate vaccination.
- Hold the tip of the sharp away from your person at all times.
- Assume all sharps found are contaminated.
- Do not dispose sharps in the garbage.

POISONOUS INSECTS

Potential Hazards:

- Stung or bitten by an insect.
- Severe allergic reaction.
- Experiencing symptoms such as: shock, hives, swollen eyes and eyelids, tightness of chest and difficulty breathing.

Insects that sting include, but are not limited to:

- honey bees, bumble bees, wasps, hornets, yellow jackets, and ants.

These insects are mainly found in:

- Hollow trees or in walls.
- Nests that hang from branches.
- Shrubs, bushes, hedges or in tree limbs.
- Rubber ties, crates, boxes.
- Holes in the ground.

In Case of a Sting:

1. Remove the stinger immediately.
2. Try not to squeeze the bee venom sac as the action will release more venom.
3. Apply ice wrapped in a towel and anti-itch cream to reduce the effects of the sting.
4. Seek medical attention, if needed.

Control Measures:

- Visually inspect the site to see if there are large amounts of insects present.
- Wear long sleeved shirts, long pants and cover your feet when working around insects.
- Do not swat at the insects or make fast movements. Let them fly away on their own.
- If you have to have disturbed a nest, cover your face (not eyes) and leave the hazardous area immediately.
- Tie back long hair to avoid bees or wasps from getting entangled in your hair.
- Do not wear perfumes, colognes or wash with scented soaps that may attract insects.
- Do not work barefoot.
- Empty and wash all outdoor garbage cans, as needed. Place garbage cans away from food places.
- Screen in food stations where possible.

BIRD AND BAT DROPPINGS

Potential Hazards:

- Severe breathing problems
- Yeast or fungus infections
- Inflammation of the nervous system
- Food poisoning
- Exposure to droppings

Bird and bat droppings are most likely to be contaminated with fungi. Disturbing the droppings or contaminated soil may release tiny particles into the air called “spores” which can be inhaled and infect the worker’s lungs.

Control Measures:

- Always assume all bird and bat droppings are contaminated.
- Wear the following PPE when removing large amounts of droppings: rubber boots, disposable gloves under work gloves, disposable coveralls, and respiratory protection.
- Respirators must be worn while cleaning large amounts of bird and bat droppings.

- Eliminate the nest, if possible.
- Avoid disturbing material that could be contaminated to prevent the generation of dust and inhalation of spores.
- Do not dry-sweep or dry-shovel material. Soak the material with water to keep the dust and spores down.
- Use a HEPA vacuum to clean up the contaminated material.
- Dispose of the waste in a 6ml disposal bag and follow supervisor's directions.

BIOLOGICAL WASTE

Potential Hazards:

Infectious waste can include: human waste, animal waste and materials contaminated with blood and body fluids containing disease-causing micro-organisms or viruses.

Control Measures:

- Ask your supervisor for training and be familiar with the hazards around you.
- Wear puncture-resistant gloves and safety boots.
- Wear respiratory protection if you are instructed to clean up waste, leaves or dust which may contain mouse waste.
- Stay up to date with your immunizations.
- Consider all wastes as infectious.
- Handle all contaminated wastes very carefully to prevent body contact and accidental injury.
- Use pliers or tongs to gently pick up needles or glass.
- Ensure there is a biological hazard symbol on the waste container.
- Ensure the biological hazard container is properly disposed.
- Report injuries or near misses immediately.
- Do not empty or carry container with your fingers on the inside.
- Do not load a container beyond its capacity. Do not compact waste.
- Do not mix infectious waste with regular trash.
- Do not hold the top edge (or lip) of waste containers or garbage cans with your fingers on the inside surface of the container.
- Do not reach into any waste container or receptacle which may contain hazardous waste.

CHEMICAL AND HAZARDOUS MATERIAL HANDLING AND STORAGE - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

The objective of this Safe Job Procedure is to provide workers involved in handling and storing chemicals / hazardous materials the step by step training and hazard awareness to eliminate or minimize the risk.

PPE	HAZARDS	TRAINING
Recommended: • Gloves • Face mask • Safety glasses	• Working near flammable material • Inhalation or ingestion of chemicals/ hazardous material • Poor housekeeping • Lack of awareness	• Manual Material Handling and MSD Prevention • WHMIS • Spill Response

ROLES AND RESPONSIBILITIES

Employer:

- To provide a safe environment in which to perform work.
- To provide safe tools, equipment and materials to facilitate the work being performed.
- To ensure all workers are trained and perform the scope of work safely.
- To ensure that all Supervisors verify and confirm that workers understand all safety aspects of this practice and that the Safe Work Practice is available to all workers.

Supervisor:

- Ensure workers who are involved with working with chemicals / hazardous materials have reviewed and understand all the steps and hazards outlined in this procedure.
- Ensure employees wear appropriate PPE (Personal Protective Equipment) when transporting, handling and storing chemicals / hazardous material.
- Ensure all chemicals / hazardous materials containers have been visually inspected and are in good working condition.
- Ensure there is a SDS (Safety Data Sheet) for all chemicals / hazardous material on site.
- Ensure all SDS are maintained and up to date (at a minimum, annually).
- Ensure all SDS are stored in an area where all workers, contractors and visitors can easily access them.
- Observe all workers, contractors and visitors to ensure they are working in compliance with this procedure; provide disciplinary or corrective action to workers who are not working in compliance with this procedure.

Worker:

- Ensure appropriate PPE is worn when handling and storing chemicals / hazardous material.
- Ensure you are properly trained and can perform the task safely.
- Ensure you have reviewed and understood all steps and potential hazards outlined in this procedure prior to starting work.

- Direct any questions or concerns to your supervisor regarding this procedure.
- Report any incidents, near misses or potential hazards immediately to your supervisor.
- Ensure you are familiar with the location of spill kits and SDS on site.
- Ensure you are familiar with the location of the closest first aid kits, fire extinguishers and eye wash stations on site.

SAFE JOB PROCEDURE

1. All workers who enter onto a project site must have been instructed in and demonstrate knowledge of the requirements of WHMIS.
2. An inventory and applicable SDS for products used on the jobsite must be in place and maintained at each jobsite.
3. Workers who are exposed to, or likely to be exposed to hazardous products on the job site must be trained in the safe use and handling of the products.
4. A current set of SDS sheets must be maintained at the jobsite and be readily available to all workers on all shifts at the jobsite.
5. All workers on the project are to be instructed in and made familiar with the workplace labelling system.
6. A method of work place labelling for products transferred to containers other than the original, must be developed and implemented prior to the start of the project.
7. Prior to using any hazardous product, workers shall review the product label and as required, the SDS for the product to ensure knowledge of the safe use of the product.
8. Workers should only use a product for its original purpose and shall use products only according got the Manufacturer's directions provided on the label and the SDS.
9. Workers shall wear and use personal protection equipment (PPE) as determined by a review of the label and product SDS.
10. If a product is removed from its original container and placed in another container, workers shall be responsible for obtaining and placing the appropriate workplace label on the new container.
11. Should there be a spill or leak involving a hazardous product, workers involved shall immediately notify the Foreman or Superintendent.
12. Cleanup shall be done by knowledgeable people and shall be in accordance to the product label and SDS.
13. Empty hazardous materials containers shall be disposed of according to the product label or SDS.
14. All products must be stored according to the requirements of the product label or SDS. Special care should be taken not to store incompatible products in proximity to each other.

Handling Chemicals and Hazardous Materials:

1. Do not use a chemical / hazardous material that is not labelled.
2. Visually inspect your work area for spills or tripping hazards.
3. Always read the SDS and labels prior to using any chemicals / hazardous materials that you are not familiar working with.
4. Use appropriate PPE (e.g. gloves, face mask) when applicable, according to SDS of the chemical / hazardous material being used.
5. Use chemical / hazardous material as directed, for its intended purpose (e.g. window cleaning). Do not use a chemical / hazardous material for a purpose it is not intended for.
6. Do not eat, drink or smoke while handling chemicals / hazardous materials, this may cause injury or illness through inhalation or ingestion.
7. Place your chemical / hazardous material in the correct storage location after use.
8. Remove PPE and wash your hands after handling chemicals / hazardous materials.

Storing Chemicals and Hazardous Materials:

1. All chemicals / hazardous materials must be stored in well ventilated rooms or cabinets.
2. Chemicals / hazardous material cabinets, if applicable, must be free from holes, dents, mold and excessive wear and tear.
3. Chemical / hazardous material cabinets and rooms must have warning signs that are easy to read and in a visible location to warn workers, contractors and visitors.
4. Chemical / hazardous material cabinets and rooms must have applicable SDS available.
5. Storage areas must accommodate the temperature requirements of the chemicals / hazardous material being stored.
6. Place chemicals / hazardous material in an upright and secure position to prevent tipping over.
7. Place chemicals / hazardous materials in their intended area. Do not place chemicals / hazardous materials with other chemicals / hazardous materials that they are not compatible with. Check SDS or labels if you are unfamiliar with the product.
8. Ensure storage rooms or cabinets are clear of any obstructions surrounding door or pathways.

MAINTENANCE

- Ensure spill kits are maintained by replacing any used or expired materials.
- Ensure eye wash stations are in good condition.
- Ensure containers are replaced when worn out.
- Ensure ventilation is inspected frequently to avoid potential incidents.
- Ensure empty containers are removed from storage rooms as much as possible.

COMPRESSED GAS USE, HANDLING & STORAGE - SWP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

The objective of this safe work practice is to protect employees from any incidents or potential hazards associated with handling and storing compressed gas cylinders. This work safe practice will guide the employee on how to adequately transport gas cylinders safely and what safe measures to take while storing them.

PPE	HAZARDS	TRAINING
Mandatory: • Safety Boots • Safety Glasses • Overalls	• Fire/explosion • Slips, trips and falls • Eye Irritation • Respiratory Irritation • Struck by hose	• Instruction by competent worker

SAFE WORK PRACTICE

1. Ensure employees are wearing appropriate PPE prior to handling compressed gases.
2. Determine pathways compressed gases are being transported prior to moving them.
3. Ensure the appropriate vehicles and equipment are readily available.
4. Establish where SDS and eye wash stations are in the building for easy access.

The use of compressed gas is common in many types of construction. Please adhere to the following steps when performing duties in which compressed gases are involved:

- The acetylene hose is RED.
- Acetylene fittings are always LEFT HAND thread.
- Acetylene fittings have a cut mark in the center of the nuts (left hand thread).
- The oxygen hose is GREEN.
- Oxygen hose has RIGHT HAND threads.
- Acetylene is always “FIRST ON, FIRST OFF”.
- Keep oil away from an oxygen acetylene station.
- Never leave a cylinder free standing; it is to be secured by a safety chain or bar at all times.
- Cylinders not in use should always have the safety caps on them.
- When transporting pressure vessels, the regulators should always be removed, the safety caps installed and the cylinders secured.
- Acetylene cylinders must always be stored in the vertical position. This prevents the acetone contents from destabilizing the Acetylene and entering the regulator hose and torch.

Oxyacetylene Station Start Up and Shut down Procedure

Before you begin:

- Always refer to oxygen as oxygen
- Always refer to acetylene as acetylene
- Remember and memorize acetylene is always “First on, First off’

To start up:

1. Open acetylene bottle valve one half turn (¾ turn maximum).
2. Open torch needle valve ½ turn.
3. Adjust acetylene regulator to desired pressure (14 lb. Maximum). Allow 1lb for gauge discrepancy (this will allow for a measure of safety).
4. Turn off acetylene torch valve.
5. Open oxygen cylinder valve to the full open position.
6. Open oxygen torch needle valve ½ turn.
7. Adjust oxygen regulator to the desired pressure.
8. Shut off oxygen torch valve.
9. Open acetylene torch valve and use a striker start the flame (do not use a lighter, and or stag or another torch to light torch).
10. Adjust acetylene flame.
11. Slowly open torch oxygen valve and begin introducing oxygen to the flame until you have the desired flame required.

To Shut Down:

1. Close acetylene torch valve then oxygen torch valve (remember, acetylene is “First On, First Off’).
2. Shut off acetylene cylinder valve.
3. Open acetylene torch needle valve and drain the acetylene from the hose and regulator.
4. Close acetylene regulator.
5. Close acetylene torch needle valve.
6. Shut off oxygen cylinder valve.
7. Open oxygen torch needle valve and drain the oxygen from the hose and regulator.
8. When oxygen is drained completely, close the regulator valve.
9. Close the oxygen torch needle valve.
10. Wind up the hose. If the torch-cutting tip is hot, do not let it rest on the oxygen acetylene hose. Make sure the torch-cutting tip is at room temperature.

Removing and replacing a cylinder:

1. Oxygen acetylene station must be shut down as mentioned above.
2. Using an adjustable open end wrench or open end combination wrench; break loose the regulator cylinder nut and remove it from the cylinder.
3. Remove securing chain and cylinder from cart and re-install cylinder and re-install secure chain.
4. “Slightly crack” the cylinder away from you and co-workers before installing the regulator.
5. Cracking the cylinder means you momentarily open and close the cylinder valve to blow out any impurities that may have accumulated in the valve threads.
6. After installing the regulator always check for leaks.
7. Use a water or soap solution to check for leaks. Do not use a petroleum-based product.

Working in Hydrogen Sulphide (H2S) Areas Standards:

1. All employees required to work in potential H2S areas (identified by customers, signage or in the site information sheets), must complete the H2S Alive program and carry a valid certificate.
2. Employees temporarily visiting a site (i.e. audits and inspections) or summer students will not be required to have the H2S Alive training as long as they are under direct supervision of a qualified person during visit/work and will not be permitted into the H2S work areas.

Effects of H_2S	
1 ppm	Can be smelled.
10 ppm	Occupational Exposure Limit (OEL). Allowable for 8 hours exposure. **Alarm level of H_2S detectors.**
15 ppm	Ceiling for 15-minute OEL. Must wear appropriate breathing apparatus.
100 ppm	Loss of sense of smell in 2-15 minutes. May burn throat, cause headache and nausea.
200 ppm	Sense of smell loss rapidly. Burns eyes and throat.
500 ppm	Loss of reasoning and balance. Respiratory disturbances in 2-15 minutes. Prompt resuscitation required.
700 ppm	Immediate unconsciousness. Seizures, loss of bowel and bladder control. Breathing will stop followed by death if not rescued promptly. Immediate resuscitation required.
1000 ppm	Immediate unconsciousness. Death or permanent brain damage will result unless rescued promptly.

Employees must complete the approved H2S Alive course (every 3 years) and use an approved gas monitor as per manufacturer's directions.

Preparing for Work In H2S Areas Standards:

1. The potential for H2S exposure and appropriate controls must be identified in the job planning process.
2. Gas monitors must be used while working or visiting potential H2S sites.
3. Employees are not-under any conditions-allowed to work in H2S areas where selfcontained breathing apparatus (SCBA) is required.
4. In event of alarm employees are to evacuate to safe location. Do not re-enter until areas is cleared by Emergency Responders (Facility or Local services).
5. Diesel vehicles operating in an H2S area or other potentially explosive atmosphere must be equipped with a positive air shut-off.

Applying the Standard:

1. Gas Monitors must be bump tested before the start of each work day to ensure all sensors are working properly.
2. Turn gas monitors on and fresh air zero before accessing sites to ensure areas are free of H2S hazards. Do not continue if alarm goes off, turn around and return to a safe location and notify your supervisor immediately.
3. A gas monitor must be carried for a group of employees (with direct communication) or an individual who is working alone (isolated from a group) at all times while in the H2S area.
4. Identify a pre-planned exit route in the job safety plan based on wind direction and current conditions.

To enter a “Customer Owned” site with H2S, employees must:

- Receive prior approval from the customer or be accompanied by the customer’s representative;
- Comply with the safe work standards and work permit requirements of the customer.

In the event of an alarm on the gas monitors, evacuate to safe area and notify you supervisor immediately and local authorities if necessary and wait for clearance to return.

Handling:

- A WHMIS label must be clearly visible for employees to see, and have an accompanying SDS that is easily accessible.
- Cylinders must not be damaged or dented, and caps must be tightly fitted.
- Compressed gases must be transported in an upright position.
- Gauges should be removed and protective caps in place when not in use and during transportation.
- Cylinders must be hoisted with an approved device. Cylinders shall not be hoisted using slings choked around the body or with unapproved devices or attachments.
- Keep cylinder valves and gauges clean and free from oil, grease and other hydrocarbons.
- Employee must always have a fire extinguisher at all times in case of a fire.
- Compressed gases must be transported at a consistent speed to avoid abrupt movement and spills.
- Compressed gases must only be transported with other compressed gases that are compatible.
- Do not use compressed gases to blow dust to clean.

Storing:

- Pathways and doorways must be clear of any obstructions.
- Store compressed gases outside and ensure there are barriers around the cylinders.
- Oxygen cylinders shall be separated from fuel gas cylinders, hydrocarbons or other combustible material by a minimum of 6 metres.
- Store compressed gases in a secure and upright position.
- Compressed gases should be placed by compatibility of the compressed gases.
- Ensure empty cylinders are separated from the full cylinders.
- Check valves for leaks using a soapy liquid around the valve connection.
- “No Smoking” signs shall be posted in the area.

Regulators and Hoses:

- Flashback devices shall be installed at both the regulator and torch end of oxygen/fuel gas systems used for cutting or torch cutting.
- Before connecting gauges to compressed gas cylinders, the valve shall be opened slowly to clean any debris from the valve nozzle, then closed immediately. The employee shall ensure there are no sources of ignition in the area, and be positioned to one side to avoid any debris.

- When disconnecting regulators and hose, close the valve and bleed down the hose, before removing the regulators and storing.
- Torch, hose and regulators must be completely contained within any box for storage. Any storage of torches or hose with one end out of the box is strictly prohibited, regardless of the regulators being connected to a compressed gas cylinder.
- Cylinders must be replaced when worn out. Empty cylinders are removed from storage room and placed outdoors in a designated area as much as possible to avoid accidents.

CONFINED SPACE - RESCUE PLAN - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This procedure serves as a guide for rescuing workers from any accidents or potential hazards associated with performing tasks or working in confined spaces. This safe job procedure will specify what precautions must be taken in order to rescue workers who are in danger in a confined space safely.

PPE	HAZARDS	TRAINING
Mandatory: • Safety Boots • Safety Glasses • Fall Protection • Hard Hat • High Visibility Vest • Respirator	• Electrocution • Falls/crushing/drowning • Fire/Explosion • Oxygen Deficiency/ Toxic Air • Personal Injury	• Confined Space

ROLES AND RESPONSIBILITIES

Supervisor:

- Contact the police and ambulance to ensure services are provided for fallen employees.
- Review the emergency procedure with employees prior to entering confined spaces.
- Ensure good condition fall protection equipment is provided for employees.
- Ensure employees that are rescuing are working at heights certified.

Employee:

- Complete confined space training provided by employer.
- Understand how to wear fall protection equipment prior to performing task.
- Stay in compliance with provided procedure.
- Ensure appropriate PPE is worn prior to performing task.
- Follow supervisors directions on rescue plan to ensure rescue is done successfully.

PRE-OPERATIONAL RESCUE

1. Identify the supervisor in charge of entire rescue plan.
2. When a fall has occurred, the supervisor must sound the alarm to alert employees that there is an emergency.
3. Call 911 to ensure authorities and ambulance is present to assist the fallen employee.
4. Isolate the danger zone to prevent other employees from intruding and causing more danger.
5. Move employees who are not in danger to a safe zone.
6. Form an emergency rescue team to execute the rescue.

CONFINED SPACE RESCUE PLAN

Non-Entry Rescure

1. Sound the alarm when a rescue is required.
2. Watch attendant to inform supervisor that a confined space rescue is required.
3. Ensure two way communication is maintained with the worker in the confined space.
4. Lower a ladder into the confined space slowly, with assistance if required.
5. Allow the worker to climb up the ladder.

Entry Rescue

1. Sound the alarm when a rescue is required.
2. Watch attendant to inform supervisor that a confined space rescue is required.
3. Supervisor to notify appropriate authorities regarding rescue.
4. Area of confined space is to be clear of any obstructions prior to rescuer entering the confined space.
5. The rescuer shall wear a full body harness with a Y-lanyard and spreader bar.
6. Lower the rescuer into the confined space with a retrieval system, also known as a mechanical pulley system.
7. Send supplied air system if required.
8. Secure the injured worker in the pulley system and lift the worker.
9. Lift the rescuer after the injured worker exits the confined space.

Once the fallen worker reaches safe grounds, the supervisor must ensure the fallen worker has received first aid and medical attention.

MAINTENANCE

- Ensure records of Confined Space training are kept for future inspections and investigations.
- Ensure fall protection equipment is in good working condition and replaced when worn out.
- Conduct emergency rescue plan drills to assess if plan is thorough and establish room for improvements.

CONFINED SPACE - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This procedure serves as a guide for Protecting workers from any accidents or potential hazards associated with performing tasks or working in confined spaces. This safe job procedure will specify what precautions must be taken in order to work in a confined space safely.

PPE	HAZARDS	TRAINING
Dependant on task	**Physical Hazards** • Noise and vibration • Temperature extremes • Cramped work spaces • Poor access or exit • Rotating or moving equipment • Electrical hazards • Engulfment due to uncontrolled movement of liquids and solids • Slick or wet surfaces • Poor visibility **Atmospheric Hazards** • Flammable, combustible, or explosive atmosphere • Oxygen-enriched or oxygen-deficient atmosphere • Atmospheric contaminants	• Confined Space

ROLES AND RESPONSIBILITIES

Supervisor:

- Ensure all workers are properly trained on working in confined spaces and have certification readily available.
- Provide appropriate PPE to workers prior to working in confined spaces.
- Obtain a “Safe Work Permit” prior to starting operations.
- Ensure Gas Detection Monitor is in good working condition.
- Provide proper ventilation to workers that are working in the confined space.
- Ensure a rescue plan, rescue team and rescue equipment are readily available for workers to use in case of an emergency.
- Ensure workers are in compliance with the confined space plan.
- Ensure safety watch attendant is competent to fulfill his/her role and is first aid certified.

Worker:

- Be aware and informed of all hazards in the confined space.
- Do not proceed with any confined space task unless you are trained.
- Wear appropriate PPE when performing task in the confined space.

- Have respiratory masks and equipment tested to ensure they are in good condition.
- Comply with supervisor's instructions and directions when working in confined spaces.

Safety Watch Attendant:

- Must be First Aid certified.
- Understands the hazards and potential accidents that could occur while worker performing task.
- Be alert of any changes outside the confined space during operations.
- Maintain a two-way communication with the worker inside the confined space.
- Reside outside the confined space to ensure they are immediately available for any emergency.
- Be prepared with emergency evacuation procedure and equipment.
- Do not enter the confined space, unless you are replaced by another attendant in accordance with the plan.

JHSC/Health and Safety Representative:

The JHSC or health and safety representative has a right to the following documents relating to confined spaces:

- a copy of coordination document
- a copy of the program
- a copy of assessment, when requested

The JHSC or health and safety representative also has the following consultation rights:

- To be consulted by the employer with regard to the development and maintenance of the confined space program
- To be consulted in regard to the development of general worker training
- To be consulted by the employer, with regard to reviewing the confined space general training regularly, on an annual basis, as well as whenever there is a change in circumstances.

RECOGNIZING A CONFINED SPACE

A confined space is defined as a place:

a) that is partially or fully enclosed;
b) that is not both designed and constructed for continuous human occupancy; and
c) where atmospheric hazards may occur because of its construction, location, contents, or because of work that is done in it.

All three of the above criteria have to be met before a space is defined as a confined space.

Atmospheric hazards

A hazardous atmosphere is one that contains any of the following:

- the accumulation of flammable, combustible or explosive agents;
- an oxygen content in the atmosphere that is less than 19.5 per cent or more than 23 per cent by volume; or
- the accumulation of atmospheric contaminants, including gases, vapours, fumes, dusts or mists, that could:

- result in acute health effects that pose an immediate threat to life, or
- interfere with a person's ability to escape unaided from a confined space.

HAZARD ASSESSMENT

Before each time that a worker enters a confined space, a supervisor with adequate knowledge, training and experience will perform a written hazard assessment.

The hazard assessment will take these into account:

- the hazards that may exist in the confined space;
- the hazards that may develop while work is performed inside the confined space;
- general safety hazards in the confined space.

Hazard Assessment will be available at the project site for the Worker Health and Safety Representative, JHSC and the workers involved in the task.

ATMOSPHERIC TESTING

If the hazard assessment determines that there is an atmospheric hazard in the confined space, an atmospheric testing must be performed. Gas detection instruments such as personal monitors and/or area monitors will be used.

CONFINED SPACE ENTRY RULES

As entering confined spaces can pose hazards, particularly in regards to air quality, the following rules are to be read and understood by all workers involved in this activity:

- Any on-site confined space work activity must be approved in advance by the Platinum Construction Corporation Project Superintendent.
- Before any confined space work begins in a maintenance hole, vault or other location, the air must be tested by a competent person who has been trained how to use the appropriate hazard detection equipment.
- The competent person who tested the air must certify in writing whether or not the confined space could possibly be hazardous to an entering Worker (the space contains hazardous levels of fumes / gases or there is a deficiency of oxygen).
- Workers may only enter a confined space certified to be hazard-free by the competent person who tested the air.
- Workers must not enter a confined space certified to be hazardous until the space has been adequately ventilated and subsequent tests prove the space to be hazard-free.
- If a confined space was initially found to be hazardous, the mechanical ventilation should continue wherever possible, even if the first corrective ventilation worked and the confined space passed subsequent tests.
- If a confined space was initially found to be hazardous and mechanical ventilation could not for some reason continue, then entering workers must wear rescue harnesses

attached to individual lifelines, the entrance must be guarded by a worker and that guard must be equipped to rescue those inside if there is an emergency.

- All respiratory and rescue equipment must be tested before use.
- All confined spaces must be frequently monitored and tested to ensure the air is still safe while personnel are working inside.
- The permanent written records of the confined space tests must be kept on-site for a minimum of one year.

CRUSHING CONCRETE - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This safe work practice provides guidelines for crushing concrete. All employees who are involved in the process must review and work in accordance with the guidelines set out in this practice.

PPE	HAZARDS	TRAINING
Mandatory: • Hard Hat • Safety Boots • Safety Glasses • High Visibility Vest • Protective Clothing • Face guard **Recommended:** • Gloves	• Blocked vision • Exposure to dust • Poor maintenance of crusher and/or excavator • Projectile particulates • Lack of training • Poor housekeeping around the work area • Sensitizer	• Trained by a competent person

ROLES AND RESPONSIBILITIES

Supervisor:

- Ensure all equipment, protective devices and clothing are used/worn by workers.
- Advise workers of any known potential or actual health or safety dangers.
- Ensure workers are competent for operations.
- Ensure workers have completed the appropriate training and were provided written instructions.
- Schedule maintenance according to manufacturer's instructions.
- Identify locations prior to beginning crushing operations.

Worker:

- Complete appropriate training.
- Operate the equipment according to the manufacturer's instructions.
- Report any potential hazards to the supervisor.
- Conduct and document pre-use inspections on equipment.
- Ensure locates have been identified prior to beginning work.

SAFE JOB PROCEDURE

1. Locate all gas, electrical and other services to ensure they are marked and shut down.
2. Warn workers within work area before starting concrete cutting/ grinding operations.
3. Determine a proper access/egress method prior to entering excavated area.
4. Conduct a pre-use inspection on the excavator and crusher to ensure it is in good condition.
5. Ensure pathways and work area are clear from workers, material and equipment prior to operations.

6. Ensure all gas, electrical and other services have been identified, marked and shut down. If locates cannot be shut down, the site supervisor must supervise work being done.
7. If surrounding structures and buildings will be affected by crushing operations, a precautionary procedure must be developed by an engineer to avoid disturbing the structure.
8. Secure seatbelt prior to starting crushing operations.
9. Start the excavator and approach excavation area.
10. Pick up the soil with the excavator bucket.
11. Move excavated soil to the appropriate crusher.
12. If needed, assign a competent worker to guide the operator during crushing operation. If path of travel is blocked, follow the competent worker's directions and signals to excavate safely.
13. When excavating, consider the following:
    - Maintain a slow and consistent speed when operating the excavator to prevent abrupt movement.
    - Maintain communication with the competent worker to ensure excavation is safely being done.
    - Maintain three-point contact on the excavator at all times when entering and exiting the excavator.
    - Stay clear of overhead power lines. Avoid extremely steep slopes when excavating or moving the excavator.
    - Maintain a clear path of vision during operations; if there is a blind spot or blocked vision, communicate with the competent worker.
14. When crushing, consider the following:
    - Ensure the use of the correct grinding disc or toll before staring work.
    - Never overload crusher or run crusher over safe maximum operating speed marked on the blade, wheel or disk.
    - Where possible, use a "wet" grinder.
    - Never stand in front of the operating tool.
    - Never leave the grinder unattended while the wheels are turning.
    - Maintain communication with the competent worker to ensure crushing is safely being done.
    - Maintain and service grinders, according to manufacturer's specification.
15. Do not leave the excavator and/or grinder on and unattended.
16. Do not work under suspended or raised loads and materials.
17. After grinding operation, unplug or lockout grinder. Only maintain grinders, which are properly unplugged, and locked out.

Follow excavation operations to lifting concrete. The main factors affecting ground stability are:

1. Soil Type

The type of soil determines the strength and stability of the trench walls. Even if the soil appears hard, it still has the potential to have faults to make it unstable. It is the supervisor's responsibility to be aware of the different soils available on site. Soil types may change within 50 metres of the work area. There are four types of soil that can be identified on site:

Type 1

- Often described as "hard ground to dig".
- During excavation, it appears as smooth and shiny on the side.
- If exposed to sunlight for a few days, sides lose its shininess and remains intact without cracking and crumbling.
- If exposed to rain or wet weather, it may break down along the edges.

- Include “hardpan”, consolidated clay, and some glacial tilts.

Type 2

- Can be easily excavated by a backhoe or hand excavated with some difficulty.
- Trenches will remain vertical for a short period of time with no apparent tension cracks.
- If soil is left to be exposed to air or sunlight, tension cracks will form and soil will begin to dry. Soil will then begin to crack and splay into the trench.

Type 3

- Can be excavated easily with a backhoe.
- When dry, type 3 soil with very flaky and will form a conical pile on the ground.
- Dry type 3 soil will not stand vertically and the sides of the excavations will cave in to a natural slope.
- When wet, the soil will stand vertically for a short period of time.
- Can lose chunks of soil to the trench when there is vibration during excavation.

Type 4

- Can be excavated easily with a backhoe.
- Can flow very easily and must be supported and contained to be excavated to any significant depth.
- With high moisture content, it is sensitive to vibration and other disturbances that cause the soil to flow.
- Examples of type 4 soil are: quicksand, muskeg or other organic deposits, silty clays, etc.

2. Moisture Content

The level of moisture of soil can affect the trench’s stability. Once a trench has been excavated, it is exposed to air, which is then absorbed by the soil. Changes are almost immediate at times, which can affect the strength of the walls. The longer the trench is open, the greater risk for a cave-in.

3. Vibration

There are many sources of vibration that can affect a trench. Some examples of vibration is: use of mobile equipment, traffic, compaction equipment in close proximity and ground chipping/blasting.

4. Surcharge

A surcharge is an excessive load or weight that can affect trench stability. Soil that has been excavated and piled next to the trench can affect the stability of the trench. Excavated soil must be kept at least one metre away from the edge of the trench. Mobile equipment must also be considered and kept at a safe distance away from the trench.

5. Previous Excavation

Old trenches parallel to the new trench can affect the stability of the trench. If soil has been disturbed, it is likely to turn into type 3 or 4 soil, which is difficult to keep up.

6. Existing Foundations

There are usually failure zones with surcharges, changes in soil condition or other disruptions that can cause collapse. If a foundation extends into the failure zone, it can cause cave-ins.

7. Weather

Weather conditions such as: rain, melting snow, thawing earth and airflow from adjacent streams, storm drains and sewers can produce changes in the soil conditions.

DEFENSIVE DRIVING - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This practice provides guidelines for performing the task of defensive driving. All employees who drive vehicles must review and work in accordance to the guidelines set out in this practice.

PPE	HAZARDS	TRAINING
N/A	• Distracted driving • Poor maintenance of vehicle • Fatigue • Impaired driving • Collisions with vehicles or pedestrians • Weather i.e. snow, ice, sun etc.	• Valid driver's licence • Defensive Driving

ROLES AND RESPONSIBILIIES

Supervisor:

- Ensure the driver has a valid driver's license.
- Ensure drivers are in compliance with the safe job procedure.
- Conduct inspections to ensure all company vehicles are in good working condition.
- Handle maintenance issues and vehicle repairs in a timely manner.

Employee:

- Must have valid driver's license.
- Report any potential hazards to prevent workplace injuries.
- Conduct daily inspections prior to driving a company vehicle.

SAFE WORK PRACTICE

1. Conduct a vehicle circle check prior to driving to ensure the vehicle is in good working condition.
2. Ensure there is enough windshield washer fluid.
3. Ensure there is enough gas in the tank.

When driving, consider the following:

DO:

- Ensure familiarity with the vehicle before you start.
- Stow belongings properly prior to starting the vehicle.
- Adjust seats, steering wheels and mirrors for comfortability.
- Ensure you have a pair of sunglasses in the vehicle.
- Establish a route to your destination.
- Have a plan B in case of road closure.
- Maintain two-point contact on the steering wheel while driving.

- Check and signal before changing lanes.
- Abide by all traffic signs, lights and rules when driving.
- Be attentive to nearby emergency vehicles and pull over as safely as possible.
- Stay alert. Check and pull over safely if feeling tired.
- Be aware of changing driving conditions such as volume of traffic, weather, etc.
- Be aware of impaired or distracted driving around you.
- Pull over to a safe location to make or take a phone call.
- Use hands free devices when using a phone or have a passenger to answer the phone call.
- Maintain a safe distance between vehicles.
- Take breaks on long drives to stretch.

DON'T:

- Use phones or other electronics when driving.
- Drive under the influence of drugs, alcohol, medication or other substances.
- Drive while fatigued.
- Reach for items that have fallen or shifted while driving.

WINTER DRIVING

- Maintain your vehicle according to the weather; ensure the vehicle is prepared for driving in winter conditions.
- Driving at reduced speeds is the best precautionary measure against any accidents or incidents.
- Do not use cruise control.
- Reduce your speed while approaching intersections covered with ice or snow.
- Allow for extra travelling time or delay trips if weather is inclement.
- Drive with low-beam headlights on.
- Lengthen your following distance behind the vehicle ahead of you. Stopping distance on an icy road is double that of stopping on a dry one.
- Steer with smooth and precise movements. Changing lanes too quickly and jerky steering while braking or accelerating can cause skidding.
- Be aware and slow down when you see a sign warning that you are approaching a bridge.
- Never pass a snow plow due to the whiteout conditions and ridge of snow created by the plow. Keep a safe distance from them at all times.
- In the event your vehicle starts to skid:
    - Do not panic.
    - Look where you want the vehicle to go and steer in that direction.
    - Do not brake. Take your foot off the brake if your vehicle starts to skid while braking.
    - Do not accelerate.

STOPPING ON FREEWAY

- When possible, avoid stopping on the shoulder of a freeway. If possible, take the next exit ramp and pull into a parking lot or another area where you are safely off the road.
- Exercise extreme caution when stopping your vehicle on the shoulder. Signal your intention to pull over well in advance and begin to adjust your vehicle's speed to merge with any traffic to the side you are pulling to. Vehicular hazard warning signal flashes should be activated while vehicle is stopped, until you have placed warning device on traffic side of the road.

- If gasoline or any other liquid seeps from the fuel container, do not use emergency warning glares except at a distance where it will assure the prevention of a fire or explosion.
- Do not operate large vehicle if you have taken any medicine, alcohol or are experiencing fatigue. Take appropriate breaks at designated rest stops when needed; driving is an attention-based activity.
- Avoid parking on the shoulder for prolonged periods. Do not park where there is an incline or close to the travel lane.
- Place warning devices starting in the direction toward approaching traffic. Clear warning signs should be placed far from stopped vehicle to afford ample warning to other users of the highway.
- Avoid working on your vehicle at all on the freeway. Have your vehicle towed to a safer location.
- Ensure roadside is clear of fixed objects and terrain which may cause your vehicle to rollover.
- Alert other vehicles of your presence by turning on your flashers. Stay in your vehicle to call for assistance or wait for a police officer to arrive to assist you.
- If you see a vehicle stopped on the side of the freeway, move into a lane away from the vehicle if possible.

DEMOLITION - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This practice provides guidelines for performing the task of demolition. All employees who are involved with demolition must review and work in accordance to the guidelines set out in this practice.

PPE	HAZARDS	TRAINING
Mandatory: • Hard Hat • High Visibility Vest • Safety Boots • Safety Glasses • Gloves • Mask	• Structure collapse • Falls from a height/falling objects • Exposure to hazardous chemicals • Elevated noise levels • Poor housekeeping in work area • Lack of training or improper use of equipment	• WHMIS 2015 • Personal Protective Equipment • Noise Safety

ROLES AND RESPONSIBILITIES

Supervisor:

- Ensure all equipment, protective devices and clothing are used/worn by workers.
- Advise workers of any known potential or actual health or safety dangers.
- Ensure workers are competent for operations.
- Ensure employees are in compliance with the safe job procedure.
- Ensure workers have completed the appropriate training and were provided written instructions.
- Schedule maintenance according to manufacturer's instructions.
- Identify locates prior to beginning demolition operations.
- Handle maintenance issues and machine repairs in a timely manner.

Worker:

- Complete appropriate training.
- Operate the equipment according to the manufacturer's instructions.
- Report any potential hazards to the supervisor.
- Understand and be in compliance with the demolition safe job procedure prior to and during operations.
- Conduct and document pre-use inspections on equipment.
- Ensure locates have been identified prior to beginning work.

SAFE JOB PROCEDURE

1. Before the beginning of any demolition work, a professional engineer must complete an Engineering survey report to carry out a general review of the demolition and a safety report.
2. Determine what method of demolition will be used including its sequencing. Workers are to be familiar with the demolition plan.

3. In the case of an asbestos is identified during demolition, report hazard immediately to supervisor and discontinue demolition activities. Refer to **Asbestos Safe Job Procedure** for more information.
4. Ensure a permit has been issued for the demolition, before commencing operations.
5. If hazardous materials are found, responsibilities should be assigned to the appropriate contractors for removal & disposal of materials.
6. Conduct a pre-use inspection on the excavator to ensure it is in good condition.
7. Ensure pathways and the work area are clear from workers, material and equipment prior to operations.
8. Ensure all electric, gas, water, sewer & communication lines have been identified, marked and shut down. If locates cannot be shut down, the site supervisor must supervise the work being done.
9. Set up barriers and signs to alert workers of nearby demolition operations. Protect employee entrances with sidewalk sheds, canopies or a combination.
10. Refer to **Excavation, Trenching, Shoring and Backfilling Safe Job Procedure** for more information. Secure seatbelt prior to starting the excavator.
11. Start the excavator and approach demolition area.
12. Using the appropriate attachment, commence the demolition according to the agreed plan. If needed, assign a competent worker to guide the operator during excavation. If path of travel is blocked, follow the competent worker's directions and signals to demolish safely.
13. When demolishing structures, it is important to consider the following:
    - Smoking, opens flames and spark producing operations are restricted near the demolition.
    - Do not work in areas where hazards exist until they have been corrected
    - Do not walk on top of a wall when weather constitutes a hazard
    - Stay clear of overhead power lines. Avoid extremely steep slopes when excavating or moving the excavator.
    - Dust control measures should be implemented during demolition to prevent spread of contamination as well as maintaining the occupational exposure limit of the particulates as prescribed by the legislation.
    - Maintain a clear path of vision during operations; if there is a blind spot or blocked vision, communicate with the competent worker.
    - Do not leave the excavator on and unattended.
    - Do not work under suspended or raised loads and materials.
    - Only those workers who are directly involved in the demolition process are to be in the immediate area.
    - Structural members are to be removed only after the load forces have been relieved and temporary supports are in place as required.
    - Any basements or excavations left by the demolition should be back-filled to grade level or have fencing installed along all open sides with the appropriate signage.
    - Masonry units must be removed in a manner that does not endanger the worker or other persons.
    - Ensure sorting and segration of masonry and non-metallic debris will occur simultaneously as demolition activities.
    - Avoid stockpiling debris where possible by live loading into trucks or roll off containers.
14. Remove debris according to demolition. Temporary facilities, controls and structures will be dismantled and/or disposed of.

15. Ensure proper housekeeping and maintain equipment and machines according to the manufacturer's instructions.

ELECTRICAL SAFETY - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

The objective of this safe job procedure is to provide workers involved energizing/de-energizing systems and termination of wires and cables awareness to eliminate or minimize the risk of injury.

PPE	HAZARDS	TRAINING
Mandatory: • Safety Boots • Electrical Gloves • Safety Glasses	• Contact with live wiring • Striking utilities • Contact with sharp material • Eye injury during hydrovac activities • Struck by oncoming traffic	• Qualified Electrician

ROLES AND RESPONSIBILITIES

Supervisor:

- Inform and provide employees with appropriate PPE.
- Ensure workers are properly trained and competent to operate assigned duties.
- Ensure employees understand the safe job procedure before work begins.
- Ensure employees are in compliance with the safe job procedure.
- Conduct inspections to ensure all tools and equipment are in good working condition.
- Handle maintenance issues and repairs in a timely manner.

Worker:

- Wear appropriate PPE to prevent potential injuries.
- Must be properly trained and competent to carry out duties.
- Understand and be in compliance with safe job procedure prior to and during all work operations.
- Report any potential hazards to prevent workplace injuries.
- Conduct inspections as required

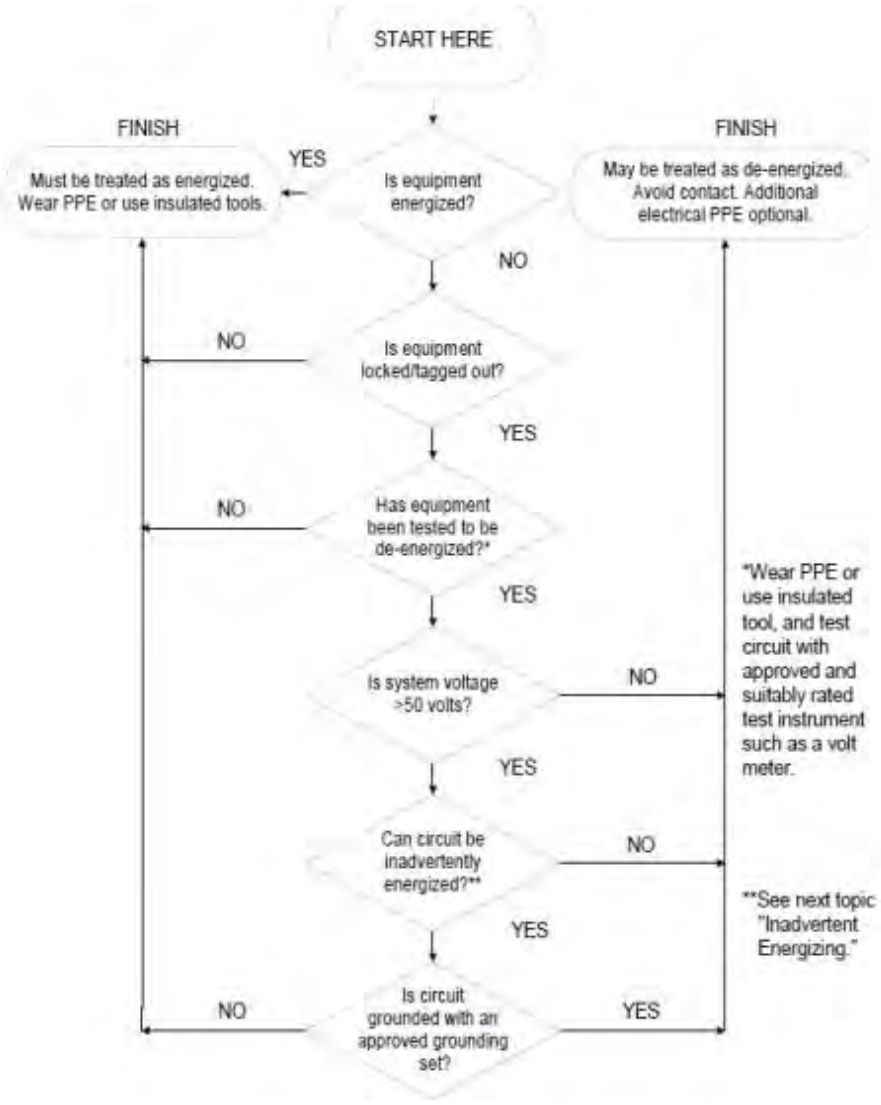
SAFE JOB PROCEDURE

When working on any electrical equipment:

- De-energize electrical circuits before repairs are made.
- Follow lockout and tag-out (energy isolation) procedures, if necessary, to ensure equipment remains de-energized.
- Isolate equipment controlled by the automation systems from the control system.
- Do not stand directly in front of an electric panel when operating the disconnecting means or operator switch.
- Remove jewelry that might come in contact with circuits.
- Keep hands, shoes, and clothing dry, as possible, before handling any energized electrical equipment.

- Use Appropriate electrical PPE (CSA z462).
- Maintain a safe distance from exposed energized parts. Use equipment or tools that are electrically insulated where personnel contact is possible.
- Maintain electric tools and power cords in good condition.
- Only authorized, trained, and qualified personnel may perform work on electrical equipment and systems.
- Higher-risk electrical work may require additional job planning and permitting, Personal Protective Equipment (PPE), tools, test instruments, and procedures.
- Avoid contact with electrical power lines, including downed power lines.
- Even low voltage lines present a potential for shock or electrocution.

Energizing or De-Energizing Systems



Qualified and authorized personnel should use lockout/tag-out procedures and equipment to bring electrical equipment to “zero energy stat” where there are no energized parts or stored energy that can be transmitted or released to harm personnel.

Lockout/Tagging involves the following steps:

- Prepare for shutdown.
- Shut down machine/equipment.
- Isolate machine/equipment from energy source.
- Apply lockout and tagging devices to equipment isolation points.
- Release potentially hazardous stored energy.
- Verify isolation of machine/equipment prior to commencing work.

After Lockout/Tag-out is performed, personnel working on or near de-energized lines or conductors in electrical equipment should be protected against the shock hazard and flash burns that could occur if the circuit is inadvertently re-energized.

The following possible conditions and occurrences should be considered in determining the type and extent of additional protection to be provided when working on de-energized electrical systems:

- Could switching errors cause inadvertent re-energizing of the circuit?
- Could induced voltages from adjacent energized conductors cause the circuit to become energized? Note: Voltages can increase appreciably when high-fault currents flow in adjacent circuits.
- Could direct or nearby lightning strikes energize the circuit?
- Could store charges from capacitors or other equipment energize the circuit?

Installation Location

Do not install in the following places, as this may lead to malfunction or failure:

- Location exposed to direct sunlight.
- Location subject to ambient temperature lower than 0 or higher than 55°C. (-25 to +55°C for the G70D-V model).
- Subject to relative humidity lower than 10 or higher than 90 percent, and location subject to dramatic temperature changes causing possible condensation. (45 to 85 percent for the G70D-V model).
- Locations subject to corrosive or flammable gases.
- Locations subject to excessive dust, salt, or metal powder.
- Locations subject to shock or vibration.
- Locations subject to water, oil, or chemical reagents splashes.

Cable Termination to an Electrical Panel

1. Remove the panel and breaker trim covers and place them in a secure, non-obstructive place.
2. Test the incoming supply cables to ensure that there is no power present.
3. Choose an entry location that is suitable for the cable termination points and panel wire ways.
4. Install an approved cable connector into the panels.
5. Strip the outer protective sheath of the cable long enough for the conductors to reach the termination points in an unstressed manner.
6. Feed the stripped portion of the cable through the connector into the panel until the sheath enters the compression segment of the connector.
7. Tighten the connector onto the cable.
8. Make the conductor connections into the panel to their respective termination points.
9. Replace the panel and breaker trim covers.

10. Remove the lock out equipment and energize the panel.
11. Clean up the work area.

When working near utility lines:

- Utility locates must be obtained prior to starting any excavation or ground disturbance activity.
- Locate sheets must be on site at all times in hard copy during work and must match the marked work area.
- It is mandatory to order new locates if they do not match your work area, if your work area changes or if the locate markings aren't visible.

Refer to *Excavating, Trenching, Shoring and Backfilling- SJP* for more information on excavating near utilities.

ELEVATING WORK PLATFORMS - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This procedure serves as a step-by-step guide for performing the task of working on an elevating work platform. All employees who shall perform this task should review and work in accordance with the guidelines set out in this procedure.

PPE	HAZARDS	TRAINING
Mandatory: • Hard Hat • High Visibility Vest • Safety Boots • Fall Protection • Safety Glasses	• Overriding safety features • Overhead powerlines • Makeshift extensions • Overloading platform • Failure to cordon off • Improper maintenance • Improper blocking during maintenance • Improper access • Moving with platform raised • Improper refueling • Pinch points	• Elevating Work Platform Safety • Working at Heights

ROLES AND RESPONSIBILITIES

Owner:

Ensure that the machine meets the following requirements:

- It is in good condition.
- It complies with regulations.
- It is maintained in good condition.
- It conforms to the appropriate CSA Standard.
- It includes the correct load rating charts if required.

Supervisor:

- Ensure workers review the safe job procedure prior to entering work site.
- Provide workers with appropriate PPE and inform them about wearing appropriate PPE while working with on elevating work platform.
- Ensure workers have the appropriate training and certificate to operate elevating work platform.

Worker:

- Be informed of hazards operating scissor lift.
- Review and understand safe job procedure prior to operating the scissor lift.
- Follow the supervisor's directions on how to proceed when working on a scissor lift.
- Notify supervisor immediately if scissor lift is defective or missing parts.

- Receive adequate training.
- Wear appropriate PPE during operations.

SAFE JOB PROCEDURE

1. Conduct a pre-use inspection of the equipment and work area.
2. Ensure the operating and maintenance manuals are available with the equipment.
3. Set up barriers and warning signs around the equipment to ensure workers or pedestrians are not in close proximity of the work area.
4. Ensure the operating and emergency controls are clearly marked to indicate their function, the continuous pressure type and protected against inadvertent operation.
5. Ensure the carrier vehicle of the platform is secured against inadvertent movement before a worker occupies the work platform.
6. Load the platform evenly according to the manufacturer's instructions.
7. Ensure the load is properly stacked and stable before lifting or moving.
8. Maintain three-point contact and use proper climbing techniques when getting on and off the platform.
9. Attach fall protection equipment to the approved anchor point on the equipment.
10. Ensure the gate is securely closed before moving the platform.
11. Check for overhead obstructions (i.e. powerlines, structures, trees, equipment, etc.) before raising the platform.
12. Maintain a safe clearance from overhead powerlines.
13. Keep your hands, arms, feet, legs and head inside the work platform at all times when the lift is raising, lowering or moving.
14. Keep ground personnel away from the equipment and out from under the platform.
15. Ensure that the warning system (both the intermittent horn and flashing light) is automatically activated when the platform is in motion.
16. When moving the platform look in the direction of travel. Ensure that the path is clear, and the ground is firm and level.
17. Operate and maintain the equipment according to manufacturer’s instructions.

EXCAVATION, TRENCHING, SHORING, AND BACKFILLING - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

The objective of this safe job procedure is to provide workers involved in using an excavator with a step by step training and hazard awareness to eliminate or minimize the risk.

PPE	HAZARDS	TRAINING
Mandatory: • Hard Hat • Safety Boots • Safety Glasses • High Visibility Vest **Recommended:** • Gloves • Radio communication	• Overloading mobile equipment • Blocked vision • Exposure to dust • Poor maintenance of excavator • Lack of training • Poor housekeeping around the work area • Cave-ins	• Heavy Equipment Operator Training

ROLES AND RESPONSIBILITIES

Supervisor:

- Ensure all equipment, protective devices and clothing are used/worn by workers.
- Advise workers of any known potential or actual health or safety dangers.
- Ensure workers are competent for operations.
- Ensure workers have completed the appropriate training and were provided written instructions.
- Schedule maintenance according to manufacturer's instructions.
- Identify locates prior to beginning excvation operations.

Worker:

- Complete appropriate training.
- Operate the equipment according to the manufacturer's instructions.
- Report any potential hazards to the supervisor.
- Conduct and document pre-use inspections on equipment.
- Ensure locates have been identified prior to beginning work.

EXCAVATION

1. Conduct a pre-use inspection on the excavator to ensure it is in good condition.
2. Ensure pathways and work area are clear from workers, material and equipment prior to operations.
3. Identify the soil types related to the excavation.
4. Identify all gas, electrical and other services have been identified, marked and shut down. If locates cannot be shut down, the site supervisor must supervise work being done.

5. If surrounding structures and buildings will be affected by the excavation, a precautionary procedure must be developed by an engineer to avoid disturbing the structure.
6. Secure seatbelt prior to starting the excavator.
7. Start the excavator and approach excavation area.
8. Pick up the soil with the excavator bucket.
9. Move excavated soil to a designated area or truck. The soil must be placed in an area free from blocking pathways, roads and doors and where it will not cause cave-ins (at least one metre away from the edge of the trench).
10. If needed, assign a competent worker to guide the operator during excavation. If path of travel is blocked, follow the competent worker's directions and signals to excavate safely.
11. When excavating, consider the following:
    - Maintain a slow and consistent speed when operating the excavator to prevent abrupt movement.
    - Maintain communication with the competent worker to ensure excavation is safely being done.
    - Maintain three point contact on the excavator at all times when entering and exiting the excavator.
    - Stay clear of overhead power lines. Avoid extremely steep slopes when excavating or moving the excavator.
    - Maintain a clear path of vision during operations; if there is a blind spot or blocked vision, communicate with the competent worker.
    - Do not leave the excavator on and unattended.
    - Do not work under suspended or raised loads and materials.
12. After excavation has been completed, park the excavator in an appropriate spot, free from blocking pathways, roads and doors.
13. Remove the key out of ignition.

When excavating near utilities it is important to consider the following:

1. Utility locates must be obtained prior to starting any excavation or ground disturbance activity.
2. Locate sheets must be on site at all times in hard copy during work and must match the marked work area.
3. It is mandatory to order new locates if they do not match your work area, if your work area changes or if the locate markings aren't visible.
4. The excavator shall not excavate outside the area covered by the locate request without first obtaining a new locate.
5. Locate accuracy is within 1 metre on either side of the surface centre line locate or 1 metre on either side of the marked limits of the underground structure, unless other boundary limits are specified o the locate instructions.
6. The excavator must not use mechanical excavating equipment to dig within the boundary limits to expose the utility line.
7. The locate form has an expiry date (usually 30 days) and the utility contact phone number on the form. Excavators shall not rely on expired locates.
8. Hydro Excavation May need a prior agreement from the client to use hydrovac as an alternative to hand digging when we come within 1 foot from the utility.

Initial Exposure of Utility

- If the utility line cannot be located following the safe procedures described in this document, the excavator shall contact the Utility company for assistance with the locate.

- At no time should an excavator use mechanical excavation within the boundary limits of the locate without first hand-digging/Hydrovac-ing test holes to determine the exact centre line and depth of cover of the utility line.
- Test holes must be excavated by hand or hydrovac.

Excavating after Test Holes are Completed

Where test holes in an area have been completed and the utility line located, mechanical excavation may take place provided the following procedures are used:

- Wherever possible, mechanical excavating equipment should be operated parallel to the direction of the utility line when the excavation is within 1 metre of the utility line; and
- Mechanical excavation must not be used closer than 0.3 Metre (1 foot) in any direction of the utility line.
- Excavation within 0.3 metres (1 foot) in any direction of the utility line must be carried out by hand-digging or hydrovac.
- Under no circumstance shall an excavator attempt to move utility lines.

TRENCHING

A trench is defined as a hole that is dug with its depth exceeding its width.

1. Locate all gas, electrical and other services and ensure they are marked, and shut down.
2. Know, without doubt, what your ground conditions are. May include compaction testing or other verification methods.
3. Determine a proper access/egress method prior to entering excavated area.
4. Ensure that Engineer Stamped Tab Data and Certifications are on site for the trench box. Cross reference that the tab data matches the criteria of the application of the trench box. (i.e. box is rated for this purpose)
5. Expose any utilities that might be in conflict or crossing excavation.
6. Do not enter a trench that is more than 4 feet deep, unless it is sloped, shored, or protected by a trench box.
7. Design drawing and specifications of trench boxes that is approved and signed by a professional engineer.
8. Set out lines and levels to which excavation is to be made.
9. Always have the designated project top man observing the excavation, begin excavating neatly to outside dimensions of the box to be set, to a depth no more than 1.2 m above final bottom elevation. A shelf for sides of the trench box to rest on is desirable.
10. Place assembled trench box into excavation (no one is allowed in trench box when it is being raised or lowered).
11. Disconnect the rigging from the box.
12. Evenly depress on the top rails until the box is plumb and level.
13. When material is to be moved directly from excavation into dump trucks, ensure excavator and trucks are far enough away that no compression stress is experienced by excavation wall(s).
14. Prior to entry into the trench box hold a pre-job safety instruction that reminds workers that no worker shall ever leave the safety of the shoring for any reason.
15. Ensure safe access and egress into the box via bridging and handrail.
16. All ladders utilized must be secured and extend beyond the top of the box by a minimum of 1m.
17. Signals will be relayed to the excavator operator for all excavation activities. Uniform signals are to be used and reviewed with all personnel who are operating or laboring in the vicinity to ensure that they are clear.

18. When the box is occupied, the buckets and attachments of all equipment entering the box must be inspected for any debris or loose components that could potentially fall on the workers within the box. The operator must be cleared for entry by the designated project topman prior to crossing the trench box or entering the trench box.
19. Complete necessary work always having a topman present at all times having workers in sight that are present inside the trench box.
20. Bedding backfill and pipe lowering and installation will be performed by the mainline excavator. Bedding compaction equipment will also be lowered and removed from the trench box by the mainline excavator. Step 19 must be reassessed and followed during this phase of work.
21. Clay backfill will be placed and install by the side excavator and track loader. This work task will take place behind the pipe installation operation however the project topman will need to clear the backfill operators to commence this operation once it is safe to do so. A steel plate will be installed on the bottom 3m of the trench box to resist any clay backfill material from rolling into the trench box.
22. Perform excavation for next pipe.
23. Workers exit the box safely prior to the box being moved.
24. Utilizing the “pulling lugs” on the box, advance the box into the new alignment.

Repeat steps 11 through 23 until the required work has been completed.

Follow the excavation operations to trench. The main factors affecting trench stability are:

1. **Soil Type**

   The type of soil determines the strength and stability of the trench walls. Even if the soil appears hard, it still has the potential to have faults to make it unstable. It is the supervisor’s responsibility to be aware of the different soils available on site. Soil types may change within 50 metres of the work area. There are four types of soil that can be identified on site:

   Type 1
   - Often described as “hard ground to dig”.
   - During excavation, it appears as smooth and shiny on the side.
   - If exposed to sunlight for a few days, sides lose its shininess and remains intact without cracking and crumbling.
   - If exposed to rain or wet weather, it may break down along the edges.
   - Include “hardpan”, consolidated clay, and some glacial tilts.

   Type 2
   - Can be easily excavated by a backhoe or hand excavated with some difficulty.
   - Trenches will remain vertical for a short period of time with no apparent tension cracks.
   - If soil is left to be exposed to air or sunlight, tension cracks will form and soil will begin to dry. Soil will then begin to crack and splay into the trench.

   Type 3
   - Can be excavated easily with a backhoe.
   - When dry, type 3 soil is very flaky and will form a conical pile on the ground.
   - Dry type 3 soil will not stand vertically and the sides of the excavations will cave in to a natural slope.
   - When wet, the soil will stand vertically for a short period of time.
   - Can lose chunks of soil to the trench when there is vibration during excavation.

Type 4

- Can be excavated easily with a backhoe.
- Can flow very easily and must be supported and contained to be excavated to any significant depth.
- With high moisture content, it is sensitive to vibration and other disturbances that cause the soil to flow.
- Examples of type 4 soil are: quicksand, muskeg or other organic deposits, silty clays, etc.

2. Moisture Content

The level of moisture of soil can affect the trench's stability. Once a trench has been excavated, it is exposed to air, which is then absorbed by the soil. Changes are almost immediate at times, which can affect the strength of the walls. The longer the trench is open, the greater risk for a cave-in.

3. Vibration

There are many sources of vibration that can affect a trench. Some examples of vibration is: use of mobile equipment, traffic, compaction equipment in close proximity and ground chipping/blasting.

4. Surcharge

A surcharge is an excessive load or weight that can affect trench stability. Soil that has been excavated and piled next to the trench can affect the stability of the trench. Excavated soil must be kept at least one metre away from the edge of the trench. Mobile equipment must also be considered and kept at a safe distance away from the trench.

5. Previous Excavation

Old trenches parallel to the new trench can affect the stability of the trench. If soil has been disturbed, it is likely to turn into type 3 or 4 soil, which is difficult to keep up.

6. Existing Foundations

There are usually failure zones with surcharges, changes in soil condition or other disruptions that can cause collapse. If a foundation extends into the failure zone, it can cause cave-ins.

7. Weather

Weather conditions such as: rain, melting snow, thawing earth and airflow from adjacent streams, storm drains and sewers can produce changes in the soil conditions.

Trench Box Removal Procedure:

1. Attach rigging to bottom trench box lifting lugs.
2. Remove ladders and bridges from the excavation.
3. Draw all stacked boxes up from bottom.
4. When top box is 1m above the surface plane, remove box from stack.
5. Repeat Steps 1 through 3 until boxes are removed from trench.
6. Thoroughly inspect the trench boxes for any damages which may have occurred and immediately report to your supervisor.

BACKFILLING

1. A designated spotter above will guide the dump truck to the back fill area. The spotter must wear a high visibility jacket.
2. The spotter will communicate to the dump truck operator to standby while he signals to the designated lower level spotter.
3. All workers at the backfilling location must wear high visibility vests.
4. Before starting, all personnel involved will be made aware of the dangers in this area.
5. The lower level spotter will communicate to equipment operators and workers to back away.
6. When backed away far enough, the lower level spotter will signal to above spotter an ‘all clear’ sign.
7. The above spotter then signals the truck driver to proceed with the dump.
8. Equipment and workers shall not approach until the load is completely dumped.
9. When backfilling near or around utility lines, it should be performed in such a manner as to provide firm support under the utility lines and the trench must be backfilled with clean fill or granular material free of material injurious to the utility line. Backfilling should be performed without using tamping equipment (tampers) directly on exposed utility lines and using extra caution around electric cable splices.

FIRE EXTINGUISHER - SWP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This practice provides guidelines for performing the task of using a fire extinguisher. All employees who use fire extinguishers must review and work in accordance to the guidelines set out in this practice.

PPE	HAZARDS	TRAINING
Recommended: • Mask • Gloves	• Kick back • Slips, trips and falls • Heavy lifting and carrying	• Fire Extinguisher Safety

SAFE WORK PRACTICE

1. Prior to using a fire extinguisher, assess the fire.
2. **DO NOT** fight a fire if:
   - You do not know what material is burning
   - You do not know what type of extinguisher to use
   - You have not been trained how to use a fire extinguisher
   - The fire is spreading beyond the spot it started
   - You do not feel comfortable to
3. Determine what type of fire extinguisher must be used to fight the fire. Consider the following:

Class A 	Fires involving: paper, wood, cloth, rubber or plastics	Approved Fire Extinguishers: Type A Type A-B
Class B 	Fires involving: flammable or combustible liquids, gases, oil, paints, or lacquer	Approved Fire Extinguishers: Type A-B Type B-C Type A-B-C
Class C 	Fires involving: energized (live) electrical equipment such as: motors, appliances or power tools	Approved Fire Extinguishers: Type B-C Type A-B-C
Class D 	Fires involving metals such as: magnesium, titanium, sodium and potassium	Approved Fire Extinguishers: Bucket of Sand
Class K 	Fires involving cooking oils, or fats in cooking appliances	Approved Fire Extinguishers: Wet Chemical

REMEMBER: THE WRONG EXTINGUISHER COULD FUEL THE FIRE

PASS (PULL, AIM, SQUEEZE AND SWEEP)

1. **Pull** the pin while holding the nozzle pointing away from you. In most cases the pin is located below the discharge lever.
2. **Aim** the nozzle or end of the hose at the base of the fire, or the lowest point of the fire closest to you. Extinguishers are designed to operate upright. Always hold the extinguisher upright, never horizontal.
3. **Squeeze** the trigger slowly and evenly and hold all the way open. This will expel the extinguishing agent through the nozzle.
4. **Sweep** the fire from side to side from the extinguishing agent. As the fire closest to you goes out, advance towards the remaining fire. Always maintain a safe distance (at least 2M) and ensure that you have a means of escape behind you. You will have 8 - 25 seconds of flow time on most portable extinguishers.
5. Avoid walking away from a fire, even if it is out; Fires have the potential to re-ignite.
6. Always stand by the fire exit, to easily exit the premises if the fire grows.

If the fire is growing too rapidly, it is too hot to approach, or you feel threatened by smoke, do not keep attempting to extinguish the fire, call the fire department immediately for assistance.

MAINTENANCE

When inspecting a fire extinguisher on a **monthly** basis, consider the following:

- Fire extinguishers are well supported and hangers are fastened
- Easy accessibility of fire extinguishers
- Fire extinguisher must be in good working condition
- Ring pin must be in place
- The seal must be intact

Remove the fire extinguisher from service if the following occurs:

- Cylinder or shell threads are damaged
- If a corrosion causes pitting, including corrosion under removable name plate assembles
- Cylinder has been burned in the fire

FORKLIFT OPERATION - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

The objective of this safe job procedure is to provide workers involved in using a forklift with a step by step training and hazard awareness to eliminate or minimize the risks involved.

PPE	HAZARDS	TRAINING
Mandatory: • Safety Boots	• Poor maintenance of forklift • Lack of/improper training • Blocked vision during operation • Travelling at excessive speeds • Poor housekeeping • Unsecured loads on forklifts	• Forklift Certification

ROLES AND RESPONSIBILITIES

Supervisor:

- Inform and provide employees with appropriate PPE during forklift operations.
- Ensure forklift operators are properly trained and competent to operate the machine.
- Ensure employees understand the forklift safe job procedure before operations occur.
- Ensure employees are in compliance with the safe job procedure.
- Conduct inspections to ensure all components of the forklift is in good working condition.
- Handle maintenance issues and machine repairs in a timely manner.

Worker:

- Wear appropriate PPE during the operation and work site to prevent potential injuries.
- Must be properly trained and competent to operate forklift.
- Understand and be in compliance with the forklift safe job procedure prior to and during operations.
- Report any potential hazards to prevent workplace injuries.
- Conduct daily inspections prior to operating the forklift.

SAFE JOB PROCEDURE

1. Conduct a pre-use inspection on the forklift to ensure it is in good condition.
2. Ensure pathways and work area are clear from workers, material and equipment prior to operations.
3. Load the forklift. When loading the forklift, consider the following:
    - Know the recommended load limit of the forklift and do not exceed it.
    - Know how to assess the weight of the load to be lifted.
    - Check for overhead clearance before raising the load.
    - Wear leather gloves when moving loads or checking skids.
4. Move the load. When the forklift is being operated, consider the following:
    - Wear your seatbelt when moving the load.

- Know how to properly enter and exit the vehicle.
- Operate the forklift smoothly when stopping, starting, lifting and tilting.
- Know the blind spots of the forklift with or without the load.
- Use corner mirrors, back-up alarms, buzzers and warning lights to help prevent collisions.
- Stop when workers cross the route being travelled. Workers have the right of way.
- Operate at a safe speed; consider all conditions of the work area.
- When travelling on inclines or ramps:
  - Keep the forks pointed downhill without the load
  - Keep the forks pointed uphill with the load
  - Do not turn until the forklift is on level ground
- Ensure fire exits are not blocked during operations.
- Remain alert of unexpected situations.
- Keep hands, arms, head, feet and legs inside the forklift during operations.
- Travel with forks as low as possible from the floor and tilted back.
- Decrease speed at all corners and sound the horn prior to turning.
- Travel in reverse when the load blocks your vision. Consider the following:
  - Face the rear
  - Sound horn before moving
  - Go slowly
  - Stop when vision is limited or blocked
  - Proceed when safe to do so

5. Turning off forklift
   - Ensure the forklift is parked on a stable, even surface, and lower the fork to the ground.
   - Turn off the forklift and remove the key from the ignition.
   - Ensure the forklift is not blocking any exits or passageways and is parked appropriately.
   - Do not leave the forklift with a suspended load unattended.

6. Maintain the forklift according to manufacturer's instructions.

GRADING - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

The objective of this safe job procedure is to provide workers involved in using a grader with a step by step training and hazard awareness to eliminate or minimize risk.

PPE	HAZARDS	TRAINING
Mandatory: • Hard Hat • High Visibility Vest • Safety Boots • Safety Glasses • Hearing Protection **Recommended:** • Gloves • Dust Mask	• Poor maintenance of grader • Lack of/improper training • Blocked vision during operation • Travelling at excessive speeds • Poor housekeeping • Projectile of material	• From a competent worker

ROLES AND RESPONSIBILITIES

Supervisor:

- Inform and provide employees with appropriate PPE during operations.
- Ensure Grader operators are properly trained and competent to operate the machine.
- Ensure employees are in compliance with the safe job procedure.
- Conduct inspections to ensure all components of the grader is in good working condition.
- Handle maintenance issues and machine repairs in a timely manner.

Worker:

- Wear appropriate PPE during the operation and work site to prevent potential injuries.
- Must be properly trained and competent to operate Grader.
- Understand and be in compliance with the loader safe job procedure prior to and during operations.
- Report any potential hazards to prevent workplace injuries.
- Conduct daily inspections prior to operate the grader.

SAFE JOB PROCEDURE

1. Ensure Grader is properly shut down by:
    - Placing the frame lock pin and wheel locks (if applicable)
    - Battery disconnect switch is OFF

2. Conduct a pre-use inspection on the Grader to ensure it is in good condition.

3. Ensure pathways and work area are clear from workers, material and equipment prior to operations.
4. All appropriate signs are in place in conspicuous areas to notify personnel effected.
5. Road-building machines and their operators must adhere to the following:
    - Display a slow-moving vehicle sign while operating on the highway.
    - Avoid speeds in excess of 40 km/hour on the highway.
    - Avoid carrying loads unless it is essential to highway construction or maintenance.
6. Always maintain 3-point contact at all times while entering and exiting the vehicle.
7. Adjust seats, steering wheels and mirrors for comfortability.
8. Abide by all traffic signs, lights and rules during operations.
9. Be attentive to nearby emergency vehicles and pull over as safely as possible.
10. Alert other workers, traffic controllers and spotter prior the beginning operations.
11. Maintain communication with other workers during operations.
12. Ensure appropriate traffic control plan is in place.
13. Ensure there is a spotter to provide assistance in the case of a blind spot.
14. Maintain a slow and consistent speed during operations.
15. Maintain a safe distance between workers and Grader to avoid injuries.
16. Remove keys from ignition after operations are complete.
17. Take breaks when needed to reduce ergonomic stress and heat stress.
18. Stay hydrated throughout operations.

DON'T:

- Use phones or other electronics during operations.
- Drive under the influence of drugs, alcohol, or other substances.
- Drive while fatigued.
- Smoke during operations.
- Eat or drink during operations.
- Remove PPE during operations.
- Ignore heat stress or discomfort from fumes exposure.

HOISTING AND RIGGING - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

The objective of this Safe Job Procedure is to provide workers involved in hoisting and rigging the step by step training and hazard awareness to eliminate or minimize the risk.

PPE	HAZARDS	TRAINING
Mandatory: • Hard Hat • High Visibility Vest • Safety Boots • Gloves	• Overloading material • Defective equipment • Extreme weather conditions • Electrical contact • Improper training • Lack of/improper training • Poor securement of material	• Hoisting and Rigging

ROLES AND RESPONSIBILITIES

Crane Owner:

- Crane and rigging equipment is maintained according to the manufacturer's instructions.
- Maintenance, repair, transport and assembly is done by trained personnel.
- Inspections and maintenance is documented and kept on file.
- Ensure only licensed personnel operate the crane.

Supervisor:

- Ensure the crane operator and signaler are competent with hoisting and rigging operations.
- Supervise the lift at all times.
- Ensure load ratings are appropriate for the lift prior to operations.
- Ensure the safety of the employees that are rigging and other workers on the site.
- Establish a safe route for the load to travel during the lift.
- Control the movement of workers on site during rigging operations.
- Ensure all personnel involved in the operation understand their jobs, responsibilities and their role in the overall safety of each lift.

Crane Operator:

- Complete written and in class instructions of hoisting and rigging.
- Safely lift and move the load from one point to another.
- Identify potential hazards and report to the supervisor.
- Refuse to proceed hoisting and rigging in unsafe conditions.
- Knowledgeable in the crane and the manufacturer instructions.
- Comply with the inspection and maintenance procedures.
- Be aware of the load and rigging weights and the crane's capacity.
- Establish a safe route to travel with the load.

Signaler:

- Competent and capable of directing the crane and load to ensure safe and efficient operations.
- Knowledgeable in hand signals for hoisting.

SAFE JOB PROCEDURE

1. Conduct a pre-use inspection on rigging equipment prior to hoisting and rigging; check for wear, tears, corrosions, bends, etc. on rigging hardware.
2. Ensure overhead powerlines have been identified and a route has been planned prior to operations.
3. Check the weather conditions prior to hoisting and rigging to avoid heavy wind conditions.
4. If applicable, ensure a traffic control plan is in place.
5. Place barriers and warning signs around the work area to alert other workers and pedestrians of hoisting and rigging operations.
6. Choose an appropriate rigging hardware according to the weight of the load being lifted, and its capabilities.
7. Ensure the rigging hardware is attached to the mobile crane properly.
8. When hooking up the material to the rigging hardware, consider the following:
    - Ensure the material is balanced properly on the rigging hardware; Place the material in the centre as much as possible to avoid any tipping.
    - Avoid wrapping the rigging hardware around the load.
    - Avoid modifying rigging hardware unless specified in the manufacturer's instructions.
9. Prior to hoisting the load completely, ensure all employees are at a safe distance from the load.
10. A signaler shall be used when:
    - The operator cannot see the load
    - The operator cannot see the load's landing area
    - The operator cannot see the path of travel of the load or the crane
    - The operator is far enough away from the load to make the judgement of distance difficult
    - The crane is working within the boom's length of the approach limits to powerlines or electrical equipment.
11. Lift the load slightly to confirm he securement of the load to the rigging hardware and that there is no loose rigging hardware attached to the load.
12. When hoisting the load, consider the following:
    - Lift the load directly upwards and avoid any swinging during the lift. This will ensure the load is balanced on the rigging hardware.
    - When moving the load, use one or more taglines to prevent uncontrolled motion.
    - Ensure there are no workers under the suspended load at all times.
    - Move the load at a consistent speed to avoid abrupt movement, excessive swinging and tipping over or load.
    - Be aware of the overhead powerlines at all times when moving the load.
    - Maintain communication with the signaler at all times during the move.
    - If there is blocked vision during the move, the signaler shall guide the operator through the work area.
    - If the signaler is unclear, use communication devices to retrieve clear instructions.

13. When setting the load down, consider the following:
    - Ensure there are no employees working where the load is being set down.
    - Set the load down on an even surface.
    - Use taglines to help pivot the load if needed.
    - Ensure the load is completely set down prior to unhooking the load from the crane.
14. Maintain the mobile crane and rigging equipment according to manufacturer's instructions.

HOUSEKEEPING - SWP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This practice serves to provide a guideline for performing the task of general housekeeping. All employees should review and work in accordance with the guidelines set out in the practice.

PPE	HAZARDS	TRAINING
Recommended: • Hard Hat • High Visibility Vest • Safety Boots • Gloves	• Obstructions in the way of the worker • Slips, trips and falls • Exposure to dust • Struck by dropped objects	• Manual Material Handling and MSD Prevention

SAFE WORK PRACTICE

General housekeeping is established by regularly maintaining the work space. While performing work on-site or within the office ensure the following:

- Daily cleanups
- Waste disposal
- Removal of unused material

Work Areas

- Limit the amount of materials in your work area to minimize clutter; take only what you need.
- Place barriers and warning signs to alert others of the work taking place.
- Do not leave tools and equipment where it may pose a tripping hazard while not in use.
- Secure mats, rugs and carpets that do not lay flat by tacking or taping.
- Always close cabinet or storage drawers/doors.
- Cover or tape cords/cables that cross walkways (office only).
- Keep working areas well lit.

Aisles and Stairways

- Aisles and stairways should be kept clear at all times.
- Do not use aisles and stairways as a storage area.
- Keep walkways well lit.

Waste Disposal

- Separate recyclable materials from waste disposal materials.
- Label all waste receptacles appropriately.
- Avoid allowing waste to build up, dispose as soon as possible.
- Use wet cloth to clean any liquid residue of the waste (if applicable).

Storage

- Location of the stockpiles should not interfere with work.
- Stored material should not obstruct aisles, stairs, exits, fire equipment, eye wash stations or first aid stations.
- Flammable, combustible, toxic or other hazardous materials must be stored in approved containers in designated areas that are appropriate for the different hazards that they pose.
- Storage of materials must meet all requirements specified in the fire codes and the regulations of environmental and occupational health and safety agencies in the jurisdiction that you are working in.
- Put equipment, material and tools away after it being used.
- Review ***Material Handling - Safe Work Practice*** for proper lifting and carrying techniques.

LADDER USE - SWP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This practice provides a guideline for performing the task of working on ladders. All employees who use ladders must review and work in accordance with the guidelines set out in the practice.

PPE	HAZARDS	TRAINING
Mandatory: • Safety boots • Hard Hat **Recommended:** • Gloves • Fall Protection	• Struck by falling ladder • Lifting and carrying the ladder • Falls from heights • Poor housekeeping • Improper use or type of ladder • Overhead hazards i.e electrical cables	• Working at heights • Ladder Safety

SAFE WORK PRACTICE

1. Conduct a visual pre-use inspection on ladders prior to use.

2. Select the most appropriate type of ladder prior to use.

    - **Extension trestle ladder** – a self-supporting portable ladder that is adjustable in length, consisting of a trestle ladder base, a vertically adjustable extension section and an adequate means of locking the ladder base and extension section together

    - **Platform ladder** – a self-supporting portable ladder that is not adjustable in length, where the highest standing level is a platform

    - **Single ladder** – a non-self-supporting portable ladder that is not adjustable in length and has only one section Stepladder – a self-supporting portable ladder that is not adjustable in length, has flat steps and a hinged back, and whose back section is either a single ladder or other supporting device

    - **Step stool** – a self-supporting, portable, fixed, or foldable ladder that is not adjustable in length and has:
        - (a) a height of 800 millimetres or less, excluding side rails, if any, above the top cap,
        - (b) flat steps, but no pail shelf, and
        - (c) a ladder top cap that can be stood or stepped on.

    - **Trestle ladder**–a self-supporting portable ladder, non-adjustable in length, having two sections and hinged at the top so as to be able to form equal angles with the base.

3. Select the most appropriate material of ladder prior to use.
    - Aluminum
    - Wooden
    - Fibreglass

- Steel

4. Ensure proper housekeeping and remove obstacles prior to setting up and using the ladder.
5. Secure the base of the ladder from accidental movement. Use ladders with non-slip bottom, nail the cleats to the floor or anchor the feet or bottom of the side rails.
6. Tie off the ladder if needed to prevent any accidental movement.
7. If not possible to tie the ladder, have workers hold the ladder.

DO:

- Ensure the ladder is placed on a firm, level surface.
- If the ladder is used to access another level, ensure there are railings extend at least 3 feet over the landing surface.
- Ensure extension ladders are placed at a proper angle, which is 1 foot back for every 3 or 4 feet up (1:4 ratio).
- Be cautious of overhead power lines when setting up and using ladders (as may be applicable).
- Stand on the ladder no higher than the fourth rung from the top.
- Allow only one person to use the ladder at a time.
- Always face the ladder when climbing up and down the ladder.
- Maintain 3 point contact at all times.
- Keep your centre of gravity between the side rails of the ladder.
- Use a rope to deliver and receive tools to workers at the bottom or top of the ladder when reasonably practicable.
- If the work being done on the ladder is 10 feet or higher, fall protection must be used.
- Keep safety boots clean at all times to prevent slips, trips and falls.
- Rest the ladder on its side rails rather than their rungs.
- Use two or more workers to move long or heavy ladders.

DON'T:

- Use portable ladders horizontally as a substitute for scaffold planks, runways, or any other service for which they are not designed.
- Splice together short ladders to make a longer ladder.
- Use ladders as bracing, skids or storage racks.
- Place ladders on unstable surfaces.
- Overreach when obtaining equipment, tools, material, etc.
- Climb up and down the ladder while carrying equipment, tools, material, etc.
- Stand on the ladder on one foot.
- Use aluminum ladders when working near overhead power lines.

LEAD SAFETY - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This procedure outlines general measures and procedures for all work with lead, followed by specific recommendations for Type 1, Type 2, and Type 3 operations.

PPE	HAZARDS	TRAINING
Depends on Task	• Lead poisoning • Respiratory irritation • Eye irritation • Long-term health effects • Feeling weak • Kidney and brain damage • Anemia	• PPE Training

ROLES AND RESPONSIBILITIES

Supervisor:

- Ensure workers review the safe job procedure prior to entering work site.
- Provide and inform workers on wearing appropriate PPE while working in areas where they may be exposed to lead.
- Establish level of exposure of lead and inform workers on safety precautions.
- Provide appropriate respirators to workers according to the level of exposure of lead.
- Ensure eye wash stations are readily available for workers to use.

Worker:

- Review and understand safe job procedure prior to entering work space.
- Be alert of where the lead is located on the work site to avoid unnecessary contact.
- Follow the supervisor's directions on how to proceed on working alongside lead.
- Follow supervisor's directions on how to work with lead safely.
- Wear appropriate PPE during operations.

GENERAL SAFE JOB PROCEDURE

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
    - Clearly 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, at regular intervals and properly disposed;
- The work area should be inspected daily 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.

TYPE GUIDELINES

Operational Guidelines 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.

Operational Guidelines 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 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 only.
3. Respirators must be worn in the work area at all times.

Personal Protective Clothing and Equipment
Suitable protective clothing and equipment 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.

Operational Guidelines for Type 3 Operations

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.

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.

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 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.

LOADER OPERATION - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

The objective of this safe job procedure is to provide workers involved in using a loader with a step by step training and hazard awareness to eliminate or minimize the risk.

PPE	HAZARDS	TRAINING
Mandatory: • Safety Boots • Hard Hat • High Visibility Vest **Recommended:** • Safety Glasses	• Poor maintenance of loader • Lack of/improper training • Blocked vision during operation • Travelling at excessive speeds • Poor housekeeping • Unsecured loads on loaders	• Loader Certification

ROLES AND RESPONSIBILITIES

Supervisor:

- Inform and provide employees with appropriate PPE during loader operations.
- Ensure loader operators are properly trained and competent to operate the machine.
- Ensure employees understand the loader safe job procedure before operations occur.
- Ensure employees are in compliance with the safe job procedure.
- Conduct inspections to ensure all components of the loader is in good working condition.
- Handle maintenance issues and machine repairs in a timely manner.

Worker:

- Wear appropriate PPE during the operation and work site to prevent potential injuries.
- Must be properly trained and competent to operate loader.
- Understand and be in compliance with the loader safe job procedure prior to and during operations.
- Report any potential hazards to prevent workplace injuries.
- Conduct daily inspections prior to operating the loader.

SAFE JOB PROCEDURE

1. Conduct a pre-use inspection on the loader to ensure it is in good condition.
2. Ensure pathways and work area are clear from workers, material and equipment prior to operations.

3. Load the loader
   - Know the recommended load limit of the loader and do not exceed it.
   - Know how to assess the weight of the load to be lifted.
   - Check for overhead clearance before raising the load.
   - Wear leather gloves when moving loads or checking skids.

4. Move the load
   - Wear your seatbelt when moving the load.
   - Know how to properly enter and exit the vehicle.
   - Operate the loader smoothly when stopping, starting, lifting and tilting.
   - Know the blind spots of the loader with or without the load.
   - Use corner mirrors, back-up alarms, buzzers and warning lights to help prevent collisions.
   - Stop when workers cross the route being travelled. Workers have the right of way.
   - Operate at a safe speed; consider all conditions of the work area.
   - When travelling on inclines or ramps:
     - Do not turn until the loader is on level ground
   - Ensure fire exits are not blocked during operations.
   - Remain alert of unexpected situations.
   - Keep hands, arms, head, feet and legs inside the loader during operations.
   - Travel with bucket as low as possible from the floor and tilted back.
   - Decrease speed at all corners and sound the horn prior to turning.
   - Travel in reverse when the load blocks your vision. Consider the following:
     - Face the rear
     - Sound horn before moving
     - Go slowly
     - Stop when vision is limited or blocked
     - Proceed when safe to do so

5. Turn off the loader
   - Ensure the loader is parked on a stable, even surface, and lower the bucket to the ground.
   - Turn off the loader and remove the key from the ignition.
   - Ensure the loader is not blocking any exits or passageways and is parked appropriately.
   - Do not leave the loader with a suspended load unattended.

6. Maintain the loader according to manufacturer's instructions.

- Wear your seatbelt when moving the load.
- Know how to properly enter and exit the vehicle.
- Operate the loader smoothly when stopping, starting, lifting and tilting.
- Know the blind spots of the loader with or without the load.
- Use corner mirrors, back-up alarms, buzzers and warning lights to help prevent collisions.
- Stop when workers cross the route being travelled. Workers have the right of way.
- Operate at a safe speed; consider all conditions of the work area.
- When travelling on inclines or ramps:
  - Do not turn until the loader is on level ground
- Ensure fire exits are not blocked during operations.
- Remain alert of unexpected situations.
- Keep hands, arms, head, feet and legs inside the loader during operations.
- Travel with bucket as low as possible from the floor and tilted back.
- Decrease speed at all corners and sound the horn prior to turning.
- Travel in reverse when the load blocks your vision. Consider the following:
  - Face the rear
  - Sound horn before moving
  - Go slowly
  - Stop when vision is limited or blocked
  - Proceed when safe to do so

7. Turning off loader
   - Ensure the loader is parked on a stable, even surface, and lower the bucket to the ground.
   - Turn off the loader and remove the key from the ignition.
   - Ensure the loader is not blocking any exits or passageways and is parked appropriately.
   - Do not leave the loader with a suspended load unattended.

8. Maintain the loader according to manufacturer's instructions.

LOCKOUT AND TAGGING - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This procedure serves as a step-by-step guide for performing the task of lockout and tagging. All employees who shall perform this task should review and work in accordance with the guidelines set out in this procedure.

PPE	HAZARDS	TRAINING
Mandatory: • Safety Boots • Safety Glasses • High Visibility Vest **Recommended:** • Gloves • Ear Protection	• Electrocution • Exposure to gases/chemicals • Poor housekeeping	• Lockout and Tagging

ROLES AND RESPONSIBILITIES

Senior Management:

- Ensure that work-specific or site-specific lockout and tagging procedures conform to requirements of the company's health and safety program.
- Provide general and system-specific lockout and tagging training.

Supervisors:

- Provide workers with tags, individual keys, padlocks and scissors.
- Consult with management and/or the owner/client if a secure lockout is not possible.
- Check that all workers are clear of work area before re-energizing the system.
- Obtain the owner/client's authority to re-energize any system.

Workers:

- Comply with the Lockout and Tagging Procedure and/or the owner/client's lockout and tagging procedure.

SAFE JOB PROCEDURE

1. Prepare for Shutdown

- Identify which sources of energy are present and must be controlled
- Identify which method of control will be used, which involves completing sets of specific work instructions that outline what controls and practices are needed to lock and tag out a system before performing any activity

2. Notify all Affected Employees

Communicate the following information to all personnel:

- What method of lockout is to be used
- Reason for the lockout and tagging
- Person responsible for the lockout and tagging
- How the system will remain locked out through-out the duration of the specific work

3. System Shutdown

- The system should be shut down in its normal manner
- Ensure to refer to the manufacturer's instructions or company instructions on proper shutdown techniques
- Ensure that controls are in the off position and all moving parts have come to a complete stop

4. Isolation of System from Hazardous Energy

In general the following procedures should be used:

- Switch electrical disconnects to the off position
- Visually verify that the breaker connections are in the off position
- Lock the disconnects into the off position
- Maintain an isolation log that identifies which panels and systems have been isolated

5. Removal of Residual or Stored Energy

- Contact the manufacturer for specific instructions (if needed)
- Ensure capacitors are discharged in the lockout process in order to protect workers from electrical shock

6. Lockout and Tagging of Electrical Panels and Breakers

- Each lock should have only one key. There should be as many locks on the system as there are people working on the tool/equipment.
- Lockout tags should clearly show the:
  - Name that applied the lock
  - Date of the application
  - Reason for lockout
- Locks and tags must be durable enough to withstand the environment in which it is being used
- Each worker who may be required to work on the system must be protected by placing an individually keyed safety lock on the isolation device
- Tags should be noticeable that read danger to prevent accidental start-up of system
- The tag should identify the purpose of the lock and must clearly identify that the system is not to be energized/operated until work is complete
- All electrical systems that may be subject to induction must be temporarily grounded using approved grounding components

7. Verify Isolation

- Verify that the system is properly locked out before beginning work. If there is no response from the activation, isolation is verified.
- Electrical panels and breakers must be tested with a CSA certified potential test indicator to ensure that all components are de-energized and de-activated.
- Workers testing electrical systems must:

- Remove all watches, rings, neck chains and other conducting jewelry
- Wear electric shock resistant footwear
- Wear safety glasses with UV protection

8. Lockout and Tagging Interruption

- If there is a locked and tagged out tool/equipment and there is a need for testing or positioning the following steps should be followed:
  1. Clear the equipment/process of tools and materials
  2. Ensure workers are at a safe distance from any potential hazard
  3. Remove locks/tags according to established procedure
  4. Proceed with the test
  5. De-energize all systems and re-lock/tag the controls before resuming work

9. Perform Maintenance

- Send locked and tagged out tool/equipment for maintenance.

10. Remove Lockout and Tag Devices

- Inspect the work area to make sure all tools and items have been removed
- Confirm that all employees and persons are safely located away from hazardous areas
- Verify that controls are in a neutral position
- Remove devices and re-energize tool/equipment
- Notify affected employees that servicing is completed
- If there are multiple work groups, the supervisor must inform all work groups that the system is no longer locked and tagged out

MATERIAL HANDLING - SWP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This practice serves to provide a guideline for performing the task of manual material handling. Employees must review, understand and work in accordance with the guidelines set out in the practice.

PPE	HAZARDS	TRAINING
Mandatory: • Safety Boots • Hard Hat • High Visibility Vest **Recommended:** • Gloves	• Musculoskeletal disorder • Forceful exertion • Repetitive tasks • Fixed or awkward postures/position	• Manual Material Handling and MSD Prevention

SAFE WORK PRACTICE

DO:

- When off-loading material, park the vehicle close to the entrance and unload heavy material.
- Use a second worker, if needed, to move heavy or awkward material.
- Ensure path of travel is free of any tripping hazards, ice or snow and is well lit.
- Use assistive equipment whenever possible, such as dollies and carts, prior to attempting to lift material.
- Use platform ladder.
- Assess the weight of the load and determine if it can be lifted in a safe manner.
- When lifting material, consider the following tips:
    1. Floor surfaces
    2. Size and shape of the material
    3. Container, tool and equipment handles
    4. Load condition and weight distribution
    5. Environmental conditions
    6. Temperatures
    7. Clear the area
    8. Plan where the material is being stored
    9. Stand close to the load and face the way you intend to move
    10. Use a wide stance to gain balance
    11. Bend your knees and get a good grip on the load / object to be lifted
    12. Tuck chin into the chest
    13. Keep your back straight, lift with your legs and keep the lifted object close to your body
    14. Avoid twisting and side bending while lifting

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.

- Store material at knee level and below shoulder height (as much as possible)
- Take breaks when needed to stretch your back and legs when lifting and carrying material

DON'T:

- Overload yourself
- Carry loads or objects with one hand
- Overreach when handling material; use assistive mobile equipment

OFFICE ERGONOMICS - SWP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This practice serves to provide a guideline for being ergonomically safe. All employees should review and work in accordance with the guidelines set out in the practice.

PPE	HAZARDS	TRAINING
N/A	• Musculoskeletal disorder • Poor housekeeping • Struck by dropped material • Handling sharp objects	• Office Ergonomics

SAFE WORK PRACTICE

It is essential for the employee to sit and carry out their duties in comfort while allowing for voluntary changes in the working position.

Sitting Practices

When choosing a chair, consider the following:

- Controls that are easy to operate from sitting position.
- A seat that adjusts for both height and tilt.
- A seat that does not put pressure the back of thighs or knees.
- A seat with a front edge that curves towards the floor.
- Breathable, non-slippery fabric on the seat.
- A backrest shaped to support the lower back.
- A stable five-point base.
- Wheels or casters suitable for the type of flooring.
- A swivel mechanism.
- Armrests that can be adjusted to the elbow height when your upper arms are hanging down and your forearms are at about a 90 degree angle to the upper arms.
- Armrests that do not interfere with free movements within the workstation.
- Ensure armrests extend 25 centimetres from the back of the seat to reduce stress off the shoulders.

To Adjust the Chair:

1. Stand in front of the chair. Adjust the height of the chair so the highest point of the seat is just below the knee cap.
2. Sit on the chair and keep your feet flat on the floor.
3. Adjust the back rest forwards and backwards as well as up and down so that it fits the follow in your back.
4. Sit upright with your arms hanging loosely by your sides. Bend your elbows at about a right angle and adjust the armrests height until they barely touch the undersides of the elbows. Remove the armrests from the chair if this level cannot be adjusted, or if in their lowest adjustment, elevate the elbows slightly.
5. Tilt the seat forwards or backwards if you prefer.

Work Surface

- Ensure legs can be comfortably placed underneath the desk. If there is not enough room to be comfortably placed, it means the work surface is too low.
- If your arms need to be elevated in order to place them over the work surface, it means the work surface is too high.
- Use an adjustable footrest if you cannot keep your feet flat on the floor.

When setting up a work surface, consider the following:

- Maintain a neutral body position.
- Hands, wrists and forearms are straight, in-line and roughly parallel to the floor.
- Head is level or bent slightly forward, forward facing and balanced.
- Ensure the spine is straight.
- Shoulders are relaxed and upper arms hang normally at the side of the body.
- Elbows stay close to the body and are bent at a right angle.
- Avoid twisting the upper torso.
- Ensure the monitor is at eye level.
- Take breaks when needed to reduce body stress.

Mouse

When choosing a mouse, whether it be the traditional, trackball, central pointing devices or joy sticks, consider the following:

- Ensure the mouse fits your hand; ensure the mouse supports a natural curve of your hand.
- Ensure the mouse maintains a neutral positioning of the hand and wrist.
- Buttons must respond to a light touch, to avoid pressing the buttons too hard to make it work.
- Buttons should not cause finger cramping and be placed too far apart.
- Ensure the mouse has a “click lock” function.
- Avoid squeezing the mouse, hold it loosely in your hand with a relaxed grip.
- Keep your wrist straight; Ensure your forearm, wrist and fingers are in a straight line.
- Move the mouse from the elbow joint, rather than moving the wrist.
- Keep the mouse clean to avoid the build-up of dust in the rollers or the laser sensors.
- Protect the wrist; Ensure the wrist is placed on the table and not the edge of the desk.

Keyboard

- Ensure the keyboard is placed at the same height beside the mouse.
- Position the keyboard for two-handed keyboarding directly in front of you.
- Use the wrist/palm support and/or mouse wrist pad for micro-breaks from keyboarding.
- Ensure keyboard buttons respond to a light touch.
- Elevate the keyboard if needed; use a wrist rest to avoid wrists from hitting the edge of the keyboard.

Monitors

Positioning the Monitor:

1. Ensure the monitor is at a straight angle to the eyes, or slightly lower around (15 degrees).
2. Adjust the distance of the monitor to your comfortability. Ensure content on the monitor can be read without eyestrain.
3. Ensure the monitor is placed right in front of you to avoid neck strains.
4. Monitor should be at arm length reach.

Screen Brightness and Colours

- Adjust the brightness and contrast according to your preference.
- Use a light colour for the background.
- Place the monitor parallel with overhead lights.
- Angle the monitor away from lights and windows.
- Ensure the screen is clear when displaying characters and that the contrast is stark between the colours of the characters on the screen.

Lighting

To reduce eye strain, consider the following:

- Use appropriate overhead lighting. Use filters to diffuse overhead lightings.
- Cover windows with adjustable blinds.
- Adjust the monitor brightness to appropriate settings.
- Check your vision every one to two years, or as recommended.
- Consider using task specific computer glasses.
- Take breaks from the screen on a regular basis.

Other Considerations

- Ensure proper housekeeping around the work station to avoid trips, slips and falls.
- Ensure work material and equipment is within reach.
- Ensure there is adequate spacing in the work station.
- Avoid sitting for long period of times.
- Move the printer, photocopier or filing cabinet away from your workstation to allow you to get up and walk.

OVERHEAD POWER LINES - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

The objective of this Safe Job Procedure is to provide workers involved in working near overhead power lines the step by step training and hazard awareness to eliminate or minimize the risk.

PPE	HAZARDS	TRAINING
Dependent on Task	• Lack of awareness • Blocked vision • Contact with live wires/overhead power lines • Improper use of ladders • Arc flash	• Working at Heights • Ladder Safety • Electrical Safety

ROLES AND RESPONSIBILITIES

Supervisor:

- Be aware of overhead power lines in the work area prior to beginning work.
- Ensure workers have been adequately trained on the company's procedure in regards to overhead power lines.
- Contact local utility of protective equipment is required to be installed.
- Ensure the operator of the equipment and the signaler are competent to work around overhead power lines.

Employee:

- Report any overhead power lines in the work area.
- Comply with the employer's written procedure on working around overhead power lines.

Signaler:

- Competent to guide worker around overhead power lines.

SAFE JOB PROCEDURE

High voltage electrocution is the largest single cause of fatalities associated with cranes. At times, utility companies can temporarily shut down to move the line. However, there are times where workers must work around live wires.

1. Prior to beginning the work, if overhead power lines are identified, report it to the site supervisor immediately.
2. The supervisor must develop a written plan of how workers will work around the power lines in a safe manner.
3. Work must not begin until the plan has been communicated to workers and workers have understood the hazards and know what are their duties and responsibilities.

Maintain a safe distance from overhead power lines

- When working around live wires, there is a potential for the electric arc to jump from the power line to a conductor of electricity.
- The minimum permitted distance away from the power lines are:

Normal Voltage Ratings	Minimum Distance
750 < 150 000 volts	3 metres
150 000 < 250 000 volts	4.5 metres
250 000 <	6 metres

- If workers are required to worker at a closer distance to the overhead power lines specified above, protective measures must be taken to do so such as de-energizing the power lines or re-routing the electricity around the work area.
- If power lines cannot be de-energized or re-routed, and under the authority of the owner of the electrical conductor, protective equipment can be installed and written procedures can be developed and implemented to allow workers to work near overhead power lines.

Treat all overhead power lines as live until reliable sources have informed otherwise.

Identify the voltage prior to beginning work.

- Voltages can be identified on the utility pole or by calling the utility.
- If work is being done within the permitted distances, a written procedure must be developed and communicated.

Insulating or rubberizing power lines can provide some protection to workers. This can be inquired with utility provider.

Place warning signs around the work area.

- Warning signs will help keep workers at a safe distance.
- Warning signs must be visible in all weather conditions.
- Typical warning signs will say “DANGER! ELECTRICAL POWERLINES OVERHEAD” with the voltage beside.

Ensure the warning sticker in the operator’s cab is legible and in good condition.

Assign a signaler when working near overhead power lines.

- The signaler must be competent according to the site supervisor.
- The signaler must be in full view of the worker working near the overhead power line and must have a clear view of the equipment and the electrical conductor at all times.

Avoid using taglines if possible.

- If taglines must be used, dry polypropylene rope has better insulating properties than most ropes.

Slow down the operating cycle of the machine by reducing hoisting, swinging, booming and travel speeds.

- Be cautious of overhead power lines when working around them for long periods of time, to avoid swinging of material and accidental contact.

- Be cautious of travelling in mobile equipment on uneven surfaces and during windy conditions.

If the worker makes contact with an overhead power lines, follow these instructions:

1. Stay on the equipment. Do not touch the equipment and the ground at the same time; it can be fatal.
2. Keep others away. Do not let anyone else touch the equipment or anything attached to the machine.
3. Break contact. If possible, while remaining inside the machine, try to break contact by moving the equipment clear of the wires. Do not attempt to if it is not safe to do so.
4. Call the local utility. Inform local utility of the incident. Remain in the equipment until power has been shut off and there is confirmation of the shut off.
5. If you are forced to leave the equipment, jump carefully off the equipment onto the ground landing only on your feet, with your feet together.
6. Report the contact. Provide an incident report of the electrical contact to the local electrical utility. If the contact was with a power lines of 750 volts or more, the Ministry of Labour and the company's JHSC must be informed or if there is a fatality or critical injury.
7. Inspect the equipment. The equipment must be thoroughly inspected to ensure there is no damage.

PHYSICAL AGENTS – HEAT AND COLD STRESS - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This safe job procedure will guide employees on how to work safely with physical agents in the work place environment. Heat/cold stress are physical factors that could potentially harm the employee while they are performing their assigned duties.

CONTROL MEASURES

- Whenever possible, use engineering measures such as ventilation, heat shields or spot cooling. (Wet cloth under your hard hat or applied to the back of your neck, or spraying yourself with a water sprayer).
- Schedule high exertion jobs during the cool parts of the day, if possible, or rest after heavy exertion.
- Monitor employees during their shift to ensure they are not experiencing heat stress.
- Take frequent breaks and rotate tasks during hot weather conditions to cool down the body.
- Stay hydrated - provide employees with water to drink frequently.
- Ensure there is an employee onsite who is first aid certified in case of an emergency.
- Stay alert of weather changes and inform employees when necessary.
- Use sunscreen to prevent sunburn.
- Wear long sleeve to protect from the sun.
- Review hot weather concerns, recognition of symptoms, prevention methods at Weekly Tool Box talks.
- Take adequate breaks.

EXTREME COLD TEMPERATURES

Potential Hazards	Symptoms	Treatment
Hypothermia A condition in which the body uses up its stored energy and can no longer produce heat. This condition often occurs after prolonged exposure to cold temperatures.	**Early Symptoms** • Shivering • Fatigue • Loss of coordination • Confusion • Disorientation **Late Symptoms** • No shivering • Blue skin • Dilated pupils • Slowed pulse • Loss of consciousness	• Request immediate medical assistance • Move the victim into a warm room or shelter • Remove any wet clothing • Warm the center of their body first—chest, neck, head, and groin—using an electric blanket; or use skin-to- skin contact under loose, dry layers of blankets, clothing, or towels • If conscious, warm beverages may help increase the body temperature • Once temperature has increased, keep them dry and wrapped in a warm

		blanket, including the head and neck. If no pulse, begin CPR	
Frostbite An injury to the body that is caused by freezing, which most often affects the nose, ears, cheeks, chin, fingers, or toes.	• Reduced blood flow to hands and feet • Numbness • Aching • Tingling or stinging • Bluish or pale, waxy skin	• Get into a warm room as soon as possible • Unless necessary, do not walk on frostbitten feet or toes • Immerse the affected area in warm (not hot) water, or warm the affected area using body heat. Do not use a heating pad, fireplace, or radiator for warming • Do not massage the frostbitten area	
EXTREME HEAT TEMPERATURES			
Potential Hazards	**Symptoms**	**Treatment**	**Prevention**
Heat Rash	• Red bumpy rash with severe itching	• Change into dry clothes and avoid hot environments • Rinse skin with cool water	• Wash regularly to keep skin clean and dry
Heat Cramps	• Painful cramps occur commonly in the most worked muscles (arms, legs or stomach); this can happen suddenly at work or later at home • Heat cramps are serious because they can be a warning of other more dangerous heat-induced illnesses	• Move to a cool area; loosen clothing, gently massage muscles and drink cool salted water (1½ to 2½ mL salt in 1 liters of water) or electrolyte replacement beverage • If the cramps are severe seek medical aid	• Reduce activity levels and/or heat exposure. Drink fluids regularly • Employees should check on each other to help spot the symptoms that often precede heat stroke
Fainting	• Sudden fainting after at least two hours of work; cool moist skin; weak pulse	• Get medical attention • Assess need for cardiopulmonary resuscitation (CPR) • Move to a cool area; loosen	• Reduce activity levels and/or heat exposure • Drink fluids regularly • Move around and avoid standing in

		clothing; have the person lie down; and offer sips of cool water • Fainting may also be due to other illnesses	one place for too long • Employees should check on each other to help spot the symptoms that often precede heat stroke
Heat Exhaustion	• Heavy sweating • Cool moist skin • Body temperature over 38°C; weak pulse • Normal or low blood pressure • Fatigue/weakness • Nausea	• Get medical attention • Move the person to a cool shaded area, loosen or remove excess clothing, provide cool water to drink • Fan and spray with cool water • Do not leave affected person alone	• Reduce activity levels and/or heat exposure. • Drink fluids regularly • Employees should check on each other to help spot the symptoms that often precede heat stroke
Heat Stroke	High temperature (over 40°C) and any one of the following: • Person is weak • Confused • Upset or acting strangely; • Has hot, dry, red skin (classic heat stroke) or profusely sweating (exertional heat stroke) • A fast pulse; headache or dizziness • Fainting and have convulsions	• Call ambulance • Remove excess clothing • Fan and spray the person with cool water • Offer sips of cool water if the person is conscious	• Reduce activity levels and/or heat exposure • Drink fluids regularly • Employees should check on each other to help spot the symptoms that often precede heat stroke

PHYSICAL AGENTS – RADIATION AND UV EXPOSURE - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This safe job procedure will assist to protect workers from radiation induced health conditions.

PPE	HAZARDS	TRAINING
Recommended: • Safety Glasses • Protective Clothing • Gloves	• Skin burns • Eye irritation • Long-term health effects • Cancer and disease	*See requirements outlined in procedure*

ROLES AND RESPONSIBILITIES

Supervisor:

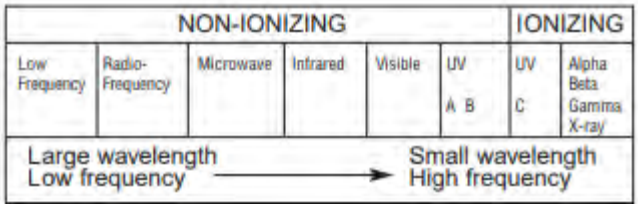
- Ensure proper controls are implemented.
- Ensure workers are wearing appropriate protective devices as instructed.
- Take every precaution reasonable in the circumstances for the protection of a worker.

Worker:

- Wear appropriate protection devices as instructed.
- Review and understand the safe job procedure prior to performing task.
- Immediately report to your supervisor the absence of or defect in any equipment.
- Choose the appropriate equipment for the task.

RADIATION

Radiation is energy that travels through space in the form of electromagnetic waves or sub-atomic particles. There are two main types of radiation: IONIZING and NON-IONIZING.



Ionizing radiation produces electrically charged particles or ions when it interacts with material. Ionization is the result of a collision between ionizing radiation and matter. Non-ionizing radiation produces changes in the human body mainly through thermal effects.

IONIZING RADIATION

Ionizing radiation can be found anywhere in the natural environment. It comes from space, from the sun, and from naturally occurring radioactive elements in the earth. Ionizing radiation can also come from manmade sources such as nuclear power plants and x-ray machines. The main sources of ionizing radiation are x-rays, gamma rays, alpha particles, beta particles, and neutrons.

IONIZING RADIATION - POTENTIAL HAZARDS

Exposure to Ionizing Radiation

Workers can be exposed to radiation in two ways:

1. Internal exposure — radioactive substances are ingested, inhaled, or absorbed through the skin. Some can be eliminated within a few hours via urine and feces while others are stored in the body and eliminated slowly over many years.
2. External exposure — x-rays, gamma rays, and neutrons represent the main health hazard because of their ability to penetrate the human body.

Immediate effects — High doses of radiation delivered in a short period to the whole body or particular organs can produce various health effects including death within a few weeks after exposure. Death is usually a result of the body's inability to cope with the large quantity of dead cells within various tissues and/or organs. The severity of symptoms depends on:

- the total radiation dose
- how quickly the dose was delivered
- the type of radiation and the part of the body exposed.

Delayed effects — Workers exposed to low doses of radiation are at increased risk of developing cancer later in life and of passing on damaged genetic material to their offspring. Cancers observed in populations exposed to low levels of radiation include leukemia, thyroid, breast, lung, and bone.

Sources of Ionizing Radiation
Construction workers can be exposed to ionizing radiation from both natural and manmade sources.

		Job type	*Radiation type*
Natural Sources	Radon in soil	Tunnelling, highway and road construction	Alpha
Manmade Sources	Industrial Radiography		Gamma
	Nuclear Power Plants		Beta, Gamma, Neutrons
	X-ray Machines		X-rays

MONITORS

Various monitors are available to measure radiation. They can be divided into two main types:

1. Personal monitoring for measuring a worker's cumulative exposure
2. Survey instruments for measuring exposure at a given time and place.

Personal Monitoring-Examples:

- Film Badge, Thermoluminescence Detector (TLD), Pocket Dosimeter, Survey Instruments, Ionization Chambers, Geiger Müeller Counters, Proportional Counters, Scintillation Counters

Body Monitoring Instruments-Examples:

- Frisker Monitor, Foot and Frisker Monitors, Hand, Foot, and Frisker Monitors, Portal Monitor, Bioassay Samples

RADIATION CONTROL PROGRAMS

For external radiation exposure, the basic protection measures are reducing time of exposure, increasing distance from the source, and shielding the source with appropriate material.

Radiation type	*Shielding material*
Neutrons	Water
Alpha	Paper
Beta	Plastic
Gamma	Lead, concrete

CONTROL MEASURES-RADIATION

To minimize exposure, the following measures are recommended:

1. Engineering controls, such as properly enclosing the source, are the primary means of control.
2. Administrative controls, such as restricting access and maintaining a safe distance, should be used as a secondary means of control.
3. Training and educating workers is an essential element in any control program.
4. Personnel should not smoke, eat, drink, or chew in contaminated areas.
5. The selection of personal protective equipment depends on the contamination level in the work area. Workers should inspect protective equipment and clothing before using it.
6. Workers must wear personal monitoring devices where required.
7. Workers must keep track of radiation exposure status.
8. Potentially contaminated clothing should be removed without spreading contamination to the skin and disposed of in the dirty clothes hamper.
9. A shower is required to ensure that contamination is not taken home.

CONTROL MEASURES-INDUSTRIAL RADIOGRAPHY MACHINES

The following measures are recommended by Health Canada:

1. Portable cameras should be properly shielded to prevent excessive radiation from escaping.
2. The device should be locked to prevent unauthorized use.
3. The camera should be designed so that the radiation source cannot be removed.
4. The camera should be designed so that it cannot be unlocked unless it is fully shielded.
5. The control device should be designed so that it cannot be removed unless the radiation source is in the stored position.
6. A radiation warning sign should be placed in the vicinity of the instrument.
7. The control device should be designed so that the operator can work the device without being exposed to the emergent beam.
8. The camera must be transported in accordance with regulations for transporting dangerous goods.
9. Operators must be certified to operate the machine.
10. Operators should have a yearly medical exam.

NON-IONIZING RADIATION

Non-ionizing radiation does not have enough energy to ionize atoms, but it vibrates and rotates molecules, causing heating. Non-ionizing radiation is classified by frequency and stated in units of hertz (Hz).

The following types of non-ionizing radiation may be present in construction; ultraviolet (UV), lasers, radiofrequency, and RF/microwave.

UV RADIATION - POTENTIAL HAZARDS

Construction personnel working outdoors are exposed to invisible UV radiation from the sun during spring and summer. Another source of UV radiation is the intense light generated by welding. Overexposure to UV radiation can lead to skin and eye damage.

Skin Damage — Overexposure to UV radiation leads to the painful reddening, blistering, and peeling of skin commonly known as sunburn. The skin may "tan" by producing melanin to protect itself against UV light. Although this dark pigment blocks some of the damaging rays (mostly UVB), the protection is far from adequate. Skin damage still occurs.

Damage done to the skin by excessive exposure to UV rays is cumulative. Chronic or long-term exposure to UV radiation has been related to a number of health effects, including skin cancer, premature aging or wrinkling of the skin, and eye problems.

- UV exposure from the sun has been established as a major cause of melanoma.
- People who experience multiple sunburns early in life are more likely to develop skin cancer than people who experience no sunburns.
- People who work outdoors as teenagers are at an increased risk of developing skin cancers.

- People with chronic exposure to the sun are at an increased risk of developing skin cancer.

Eye Damage — UV radiation can damage the eyes. Conditions include cataracts (clouding of the lens) and corneal injuries (involving the outer membrane of the eye).

Welders' flash, also known as arc eye and snow blindness, is a painful irritation of the cornea and conjunctiva (the membrane connecting the eyeball and the inner eyelid). Symptoms include sensitivity to light and the sensation of sand in the eye.

CONTROL MEASURES

- If possible, work in the shade when the sun is most intense (late morning and early afternoon).
- Wear sunglasses or safety glasses that protect against UVA and UVB.
- Use sunscreen with a Sun Protection Factor (SPF) of at least 15. Apply sunscreen generously to all exposed skin, including lips and nose.
- Wear clothing that covers arms and legs. The tighter the weave the better.

LASERS - POTENTIAL HAZARDS

Lasers are increasingly used in construction for line guides and levelers. Lasers can cause serious injuries, especially to your eyes and skin. Lasers are identified by class, ranging from Class 1 (low-power lasers incapable of damaging the eye and therefore exempt from control measures) to Class 4 (high-powered lasers capable of causing severe eye damage in less than 0.25 seconds).

CONTROL MEASURES

1. The lasers should have a power output of less than 5 milliwatts (mW) and a power intensity (density) of less than 2.5mW per square centimetre.
2. Operators of laser equipment should be trained in safety procedures, set-up, operation, and maintenance of the specific devices being used.
3. Where possible, the laser beam should be set up well above eye level.
4. The laser device should be shut off when not in use.
5. All employees working near the laser should be advised not to look directly at the laser or its reflection.
6. Lasers should not be pointed at reflective surfaces.
7. A sign should be placed in the vicinity warning people not to stare at the instrument or beam.
8. Each laser should be labelled to indicate maximum output and power intensity.
9. Workers who regularly work in the laser vicinity should have a yearly eye exam.
10. For the safety of the general public, the beam should be confined within the construction area.
11. Optical instruments such as transits and levels should not be pointed at the laser beam or its reflection.
12. The laser instrument should be stored in a locked box when not in use.

RADIO-FREQUENCY HEAT SEALERS

Radio-frequency sealers commonly operate at a frequency of 27.12 megahertz. These devices are also known as heat sealers or welders. Heat sealers generate high-energy radio-frequency (RF) radiation between two conductive plates. When two or more pieces of nonconductive material such as PVC plastic are placed between the energized plates, the material is fused together. RF sealers are used in construction to weld roof tarps and PVC pipe. RF sealers provide a very strong seal and require no toxic solvents. The National Institute for Occupational Health and Safety (NIOSH) has found that in certain situations the hands of workers operating RF sealers have been exposed to high levels of radiation.

CONTROL MEASURES

1. The RF sealer should be properly shielded to prevent excessive radiation from escaping.
2. The device should be designed so that it cannot be operated unless it is fully shielded.
3. The control device should be designed so that the operator can work the device without being exposed to RF radiation.
4. Operators of the RF sealer should have a yearly medical exam.

RADIO AND TELEVISION ANTENNAS

Radio and television broadcast stations transmit their signals via radio-frequency (RF) radiation. In urban areas, broadcast antennas are usually located on rooftops where construction workers may unknowingly be exposed to RF radiation as they complete maintenance, repair, and other work.

RADIO AND TELEVISION ANTENNAS - CONTROL MEASURES

1. Temporarily lower power levels while work is being performed on or around antennas.
2. Transmit from another antenna while work is being performed.
3. Perform repairs or other work while the antenna is not operational.
4. Maintain a safe distance from the antenna while it is operating.

PHYSICAL AGENTS – NOISE - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

Protective measures and procedures should be implemented when working around elevated noise levels.

PPE	HAZARDS	TRAINING
Mandatory: • Hearing Protection	• Noise-induced hearing loss (NIHL) • Tinnitus (ringing in the ears) • High blood pressure • Fatigue	• Noise Safety

ROLES AND RESPONSIBILITIES

Supervisor:

- Ensure proper controls are implemented.
- Ensure workers are wearing appropriate hearing protection devices as instructed .
- Monitor the noise exposure level.
- Ensure workers are trained on the care and use of the PPE, including its limitations, proper fitting, inspection and maintenance and, if applicable, cleaning and disinfection.
- Take every precaution reasonable in the circumstances for the protection of a worker.

Worker:

- Wear appropriate hearing protection devices as instructed.
- Review and understand the safe job procedure prior to performing task.
- Immediately report to your supervisor the absence of or defect in PPE.

HEARING PROTECTION

Noise is unwanted sound. It is one of the most common occupational health hazards. Noise can be continuous, variable, intermittent or impulsive depending on how it changes over time. Some properties that noise is measured at includes: frequency, sound pressure, sound power and time distribution.

- Frequency: the rate at which the source produces sound waves. (Hz)
- Sound Pressure: amount of air pressure fluctuation a noise source creates. (dB)
- Sound Power: sound energy transferred per second from the noise source to the air.

Hearing Loss
Any reduction in the normal ability to hear is referred to as a loss of hearing. A hearing loss can be either temporary or permanent.

Temporary Threshold Shift

With a temporary hearing loss, normal hearing will usually return after a rest period away from all sources of intense or loud noise. The recovery period may be minutes, hours, a day, or perhaps even longer.

Permanent Threshold Shift

Permanent hearing loss is the result of hair cell or nerve destruction within the cochlea. Once these important parts of the hearing process are destroyed, they can never be restored or regenerated. This can range from slight impairment to nearly total deafness.

Symptoms

- Having difficulty telling similar-sounding words apart or picking out a voice in a crowd.
- Asking people to speak up, then complaining that they are shouting.
- Experiencing a permanent ringing in the ears (tinnitus).
- Turning the volume on the radio or television up very high.
- Difficulty hearing a person on the telephone.

As per the Ontario Regulation (O.Reg. 381), every employer shall ensure that no worker is exposed to a sound level greater than a time-weighted average exposure limit of 85 dBA (decibels measured on the A-weighting network of a sound-level meter) measured over an 8-hour work day.

NOISE IDENTIFICATION PROTOCOL

Determining Factors for hearing loss:

- Type of noise
- Intensity of noise
- Duration of exposure
- Employment duration
- Type of noise environment
- Source's distance from the worker
- Worker's age
- Worker's present health and individual susceptibility
- Worker's home and leisure activities

Noise Measurement

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 any use of hearing protection devices.

Area noise measurement

Sound Level Meter: hand-held device that is commonly used to measure the change in air pressure as sound travels through it.

Personal Noise Measurement

Noise Dosimeter: device that measures the noise exposure that a worker has experienced over a period of time.

CONTROL MEASURES

When a worker is exposed to a daily noise dose exceeding the limit of 85 dBA Lex, 8, the employer must take measures to reduce the exposure to noise. The measures include a hierarchy of controls and the list in decreasing order of effectiveness includes:

- Elimination (including substitution) of the noise source
- Engineering controls
- Administrative controls including work practices
- Wearing of hearing protection devices

Engineering Controls and Noise Reduction

Engineering controls are the preferred method for addressing noise exposure on a long- term basis. Engineering controls are based on the following principles:

- Controlling at the source; and
- Controlling along the path of transmission.

Engineering controls at the source include:

- Modification, retrofitting of equipment;
- Replacement of worn parts that may be a source of noise; and
- Relocation of equipment.

Engineering controls along the path of transmission involve stopping the noise before it reaches a worker. Engineering controls along the path can include:

- absorbing noise by installing enclosures
- screens and shields
- minimizing the noise reflected from surfaces using sound-absorbing materials
- enclosing a work station in a noisy area

Administrative Controls/Work Practices and Noise Reduction

The following controls will be beneficial for noise reduction:

- Reducing a worker's exposure time to noise by reorganizing tasks or rotating work assignments to limit the worker's total shift exposure to an acceptable level.
- Implementation of a good preventive maintenance program to prevent equipment from becoming a significant source of noise and the setting of maximum noise specifications for the purchase of new equipment.

Warning Signs

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, regularly exceeds 85 dBA.

Hearing Protection Devices (HBDs)

Hearing Protection Devices are barriers that reduce the amount of noise reaching the sensitive inner ear. Fit, comfort, and sound reduction or "attenuation" are important considerations in choosing the devices.

The two types of hearing protection devices used most commonly are earplugs or earmuffs.

- Earplugs attenuate noise by plugging the ear canal.
- Earmuffs cover the external part of the ear, providing an "acoustical seal".

Choosing Appropriate Hearing Protection

In addition to attenuation characteristics, the following factors should be considered when selecting hearing protectors:

1. Noise exposure levels
2. Comfort
3. Appearance
4. Work environment or work procedures
5. Overprotection

Noise exposure levels

Typical Noise Levels of Tools and Equipment:

Equipment	Noise Level (dBA)
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
Grinders	106-110
Chainsaws	100-115
Concrete Saw	97-103
Sand blasting nozzle	111-117
Jack hammers	100-115
Compressors	85-104

According to CAN/CSA-Z1007: Hearing Loss Prevention Program (HLPP) Management, HPDs can be selected based on one of four methods:

1. Single Number Reporting Methods:
    a. Noise Reduction Rating or NRR Method
    b. Single Number Rating (subject fit 84th percentile) or SNR (SF84) Method
2. CSA Class Method
3. Octave-Band (OB) Computation Method
4. Field Attenuation Estimation System (FAES).

In Ontario, the NRR Method and CSA Class Method are the most common indicators used to estimate the level of protection afforded by a hearing protector.

Noise Reduction Rating (NRR) and De-Rating

Device Type	% of NRR Achieved	Predicted dBA Effective at the Ear
Earplugs	50	L_{eq} – [NRR (0.5) – 3]
Earmuffs	70	L_{eq} – [NRR (0.7) – 3]
Dual Protection	65	L_{eq} – [NRR + 5(0.65) – 3]

Note: L_{eq} is the equivalent sound pressure level in dBA.

CSA Class method

Level of Noise Exposure L_{ex} (dBA)	Class
≤ 90	C
91 to 95	B or BL*
96 to 105	A or AL*
> 105	DUAL+

Comfort

- Ensure ear plugs are clean prior to use.
- Take breaks from ear plugs to reduce the chance of pressure development.
- Earmuffs should be made of material that do not absorb sweat and are easy to maintain.
- Earmuff cups and head band should be adjustable to conform to various head sizes and shapes.

Appearance

- Heavy, bulky hearing protection devices may discourage employees to wear them; encourage employees to choose their own hearing protection.

Work environment/procedures

- Must consider the nature of work when choosing hearing protection
- Hearing protection should not affect other PPE

Overprotection

- Hearing protection should not block out all noise in the work area
- Worker should still be able to hear any main form of communication.

TRAINING

Workers will be provided with adequate training and instruction in the care and use of the device, including its limitations, proper fitting, inspection and maintenance and, if applicable, cleaning and disinfection.

- Hands-on demonstration will be provided to workers.
- Workers must practice using the HPDs under close supervision.
- Checks are needed to ensure the best possible protection.

FIT, CARE, AND USE

Earmuffs

1. Earmuffs should conform to the latest issue of CSA Standard Z94.2.
2. The cup part of the earmuff should fit snugly over the entire ear and be held firmly in place by a tension band.
3. The cup and band should not be so tight as to cause discomfort.
4. Cup, cushion, and band should be checked for possible defects such as cracks, holes, or leaking seals before each use of the HPD.
5. Because band tension can be reduced over a period of time, the band may require repair or replacement.
6. Defective or damaged parts should be repaired or replaced as needed. Tension band, cushions, and cups are readily replaceable. Consult the manufacturer's instructions for information related to the selection, care, and use of earmuffs.

Earplugs

1. Earplugs should conform to the latest issue of CSA Standard Z94.2.
2. As best practice, the ear must be pulled back to straighten the canal for the plug to fit properly for insertion.
3. Earplugs must be fitted snugly in the ear canal. This will cause some discomfort initially. However, in time (usually a period of two weeks) the discomfort vanishes. Should there be severe discomfort initially or mild discomfort for more than a few weeks, seek professional advice. In most instances it will only be a matter of re-sizing, although some ear canals cannot be fitted with plugs because of obstructions, unique shapes, or deformities. In fact, the shape of one ear canal may be entirely different from the other.
4. Reusable earplugs should be washed daily with warm soapy water to prevent the remote possibility of infection or other discomfort. When not in use, they should be kept in a clean container.
5. Earplugs with torn or otherwise damaged flanges should be replaced.

AUDIOMETRIC TESTING

Workers who are exposed to noise levels that exceed 85 dBA over 8hr should participate in audiometric testing. This testing is used to monitor an individual’s hearing ability and determine the effectiveness of controls implemented in the workplace to minimize noise exposure for workers.

Two types of audiometric tests should be performed:

1. **Reference test** – a baseline test to which future audiometric tests are compared to.
2. **Monitoring test** – a periodic audiometric test compared to the reference test. This test is used to identify if hearing loss has occurred.

PHYSICAL AGENTS – VIBRATION - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This safe job procedure will assist to protect workers from vibration induced health conditions.

PPE	HAZARDS	TRAINING
Mandatory: • Hard Hat • High visibility Vest • Safety Shoes • Safety Glasses	• Skin burns • Eye irritation • Long-term health effects • Cancer and disease	*See requirements outlined in procedure*

ROLES AND RESPONSIBILITIES

Supervisor:

- Ensure proper controls are implemented.
- Ensure workers have received adequate training on using the tools and equipments.
- Ensure workers are wearing appropriate protective devices as required by employer.
- Ensure workers are using appropriate equipment for the task.
- Assigning the task by limiting the time that workers are exposed to vibration.
- Take every precaution reasonable in the circumstances for the protection of a worker.

Worker:

- Wear appropriate protection devices as required by employer.
- Review and understand the safe job procedure prior to performing task.
- Immediately report to your supervisor the absence of or defect in any equipment.
- Choose the appropriate equipment for the task.

HAND-ARM VIBRATION

Potential Hazards

Hand-arm vibration Syndrome (HAVS)

HAVS refers to the damage to nerves, blood vessels, muscles, and joints in the hands and arms due to HAV. HAVS initially affects the nerves. Symptoms include numbness, tingling, pain, or weakness. This can be followed by “Raynaud’s phenomenon” or “white finger”. Blood vessels become narrow and the reduced blood flow causes the fingers to become pale, waxy-white, or purplish. HAVS can also cause muscle pain and fatigue, joint stiffness, and loss of manual dexterity.

HAND-ARM VIBRATION (HAV)

Hand-arm vibration (HAV) is vibration transmitted into workers' hands and arms from work processes such as operating hand-held power tools.

The European Standard (Directive 2002/44/EC) recommends a daily exposure action value (EAV) of 2.5 m/s2 and a daily exposure limit value (ELV) of 5.0 m/s2. The EAV is a daily amount of vibration exposure. If workers are exposed to more than the EAV, employers are required to take action to reduce HAV exposure. The ELV is the maximum amount of vibration an employee may be exposed to on any single day. This should never be exceeded. A worker who is exposed to vibration levels above the ELV is considered to be at high risk of developing HAVS.

VIBRATION LEVELS FOR CERTAIN VIBRATING TOOLS AND EQUIPMENT

Low risk (<2.5 m/s²)	**Medium risk** (2.5–5 m/s²)	**High risk** (>5 m/s²)
• threading machine	• angle grinder	• circular saw
• vacuum cleaner	• floor sander	• chainsaw
• band saw	• electric screw driver	• impact drill
• spray gun	• core drill	• reciprocating saw
• abrasive band	• hand-held sander	• impact wrench
• cordless screwdriver	• cross cut saw	• jackhammer
• jet washer	• chop saw	• pneumatic hammer
	• air drill	• air chisel
	• blower	• hammer drill

CONTROL MEASURES

- Alternative work methods that eliminate or reduce exposure to vibration.
- Ensuring the equipment selected for the task is the lowest vibrating tool that is suitable for the task and can do the work efficiently.
- Ergonomic design of workstations. Awkward postures can increase the load on employees' hands, wrists, and arms.
- Devices such as jigs and suspension systems to reduce the need to grip and support heavy tools.
- Do not use blunt or damaged tools and replace worn out items.
- Limiting the time that workers are exposed to vibration. For example, workers in teams where they switch tasks throughout the day. That way, one worker is not operating a vibrating tool for the entire day.
- Gloves to keep hands warm and also provide some protection from vibration.

WHOLE BODY VIBRATION (WBV)

Potential Hazards

Short term exposure causes:

- abdominal and chest pain
- headaches
- nausea
- loss of balance

Long-term exposure causes health problems related to:

- spine
- gastrointestinal system

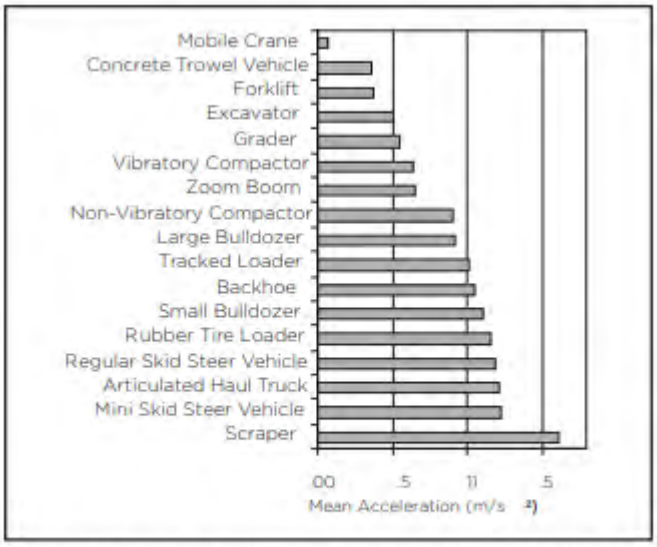
WHOLE BODY VIBRATION (WBV)

Whole body vibration (WBV) is vibration transmitted into workers' whole body from work processes such as operating heavy equipment such as bulldozers, backhoes, loaders, skid steer vehicles, excavators, and other machines.

The three main sources of whole-body vibration (WBV) from heavy equipment are:

- low-frequency vibration caused by the tires and terrain
- high-frequency vibration from the engine and transmission
- shock from running into potholes or obstacles.

Vibration Magnitude of Equipment



For eight hours of continuous work, the magnitude of vibration should not exceed 0.5 m/s².

WHOLE BODY VIBRATION (WBV) - CONTROL MEASURES

- Report any poorly maintained equipment to your supervisor. A good suspension system and correct tire pressure will help to reduce vibration.
- If your seat has hydraulic dampers and shock absorbers, adjust the seat to your weight and height.
- Slow down when driving over potholes and rough terrain such as shale or rock.
- Report any rough terrain to your supervisor. Other workers may be able to level or smooth out the road.
- Get out of your vehicle (in a safe location) for a few minutes every hour to stand, stretch, and give your body a break from vibration.

POWER AND HAND TOOLS - SWP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

Protecting workers from any accidents or potential hazards associated with using pneumatic/hand tools on a work site. This safe work practice acknowledges ways to avoid injuries and safely use power/hand tools.

PPE	HAZARDS	TRAINING
Mandatory: • Safety Boots • Gloves • Safety Glasses • Hard Hat • High Visibility Vest • Long pants **Recommended:** • Ear Protection • Dust Mask	• Loose hair entanglement • Projectile of dust/material particles • Poor maintenance of tool • Inhalation of dust particles • Contact with blade • Struck by compressed air hose	• Manual Material Handling and MSD Prevention • Power Tool Safety

SAFE WORK PRACTICE

1. Inspect the tool prior to operations. Do not use defective tools.
2. Ensure plugs and cords are not worn out prior to connecting the power.
3. Ensure proper housekeeping prior to operations to avoid trips, slips and falls.
4. Ensure there is adequate lighting when operating/using tools.

Consider the following tips when using power/hand tools:

DO:

- Use tools for its intended purposes. Use tools as recommended by the manufacturer.
- When possible, select power tools with a large handle to the tool body to reduce vibration.
- Use tools designed to allow the wrist to stay straight.
- Disconnect the power on the tool prior to adjusting its settings.
- Keep tools clean. Ensure sharp edges of tools are kept sharp for accurate cutting.
- Protect the cutting edges of tools when carrying them. Point the sharp edge of a tool away from yourself and other workers when walking. Hand the tool handle first, directly to the worker.
- Ensure tool cords are out of the way during operations.
- If practical, tie tools off when working at heights.
- Use power tools with two handles if possible to make holding and manipulation easier.
- Use spark-resistant tools when recommended and reasonably possible.
- Hold the tool firmly during operations to avoid accidental injury or kick back.
- Take breaks as needed to avoid ergonomic stress.

DON'T:

- Use the tool unless you have been trained to use it safely.
- Overwork the tool beyond its capacity.
- Climb a ladder with tools in hand.

- Operate a power tool with the guard removed or improperly adjusted.
- Operate power tools near water or wet grounds.
- Over use or carry the tool if unable to do so.
- Remove the cord without turning off the tool.
- Use inappropriate extension cords or power supply for the tool.
- Cut towards yourself when using cutting tools.
- Leave tools at heights on the edge or unattended.

Consider the following tips when using air-powered construction tools:

DO:

- Use tools for its intended purposes. Use tools as recommended by the manufacturer.
- Ensure that the air pressure has been turned off and the line pressure is relieved before disconnecting the hose or changing tools.
- Any hose that may whip shall have a whip check attached to prevent whipping.
- Wear personal protective equipment including eye protection/face shields and ensure other workers in the area are made aware of, or have restricted access to the hazard area.
- Hoses shall be checked on a regular basis for cuts, bulges, or other damage. Ensure that defective hoses are repaired or replaced, and all inspections and maintenance repairs are documented.
- A proper pressure regulator and relief device shall be included in the system to ensure that correct pressures are maintained.
- The correct air supply hoses shall be used for the tool/equipment being used.

DON'T:

- Use compressed air to blow debris or to clear dirt from clothing

Maintain tools according to manufacturer's instructions.

PRESSURE WASHING - SWP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This practice serves to provide guidelines for performing the task of pressure washing. All employees should review and work in accordance to the guidelines set out in the practice.

PPE	HAZARDS	TRAINING
Mandatory: • Safety Boots • Water Resisant Clothing • Hand protection (rubber gloves) • Goggles • Hard hat **Recommended:** • Face Shield • Ear Protection	• Exposure to high power water • Contact with water during use • Kickback of power washer • Poor maintenance of power washer • Projectile of dust particles	• Instruction by competent worker

SAFE WORK PRACTICE

1. Conduct a pre-use inspection on welding/torching equipment to ensure it is in good working condition.
2. Ensure there are warning signs around the work area to inform other workers of pressure washing operations.
3. Keep all bystanders away from the equipment during operation.
4. Inspect the work area prior to operations; Move all electric material or material that could be damaged during pressure washing operation.
5. Learn how to stop the equipment and release pressure quickly. Be thoroughly familiar with the controls.
6. Do not use acids, solvents, or any other flammable material in the pressure washer. These products can cause physical injuries to the operator and irreversible damage to the equipment.
7. Do not stand on unstable surfaces.
8. To reduce the risk of electrocution, keep all connections dry and off the ground. Where possible ensure unit is properly grounded with a ground fault circuit interrupter (GFCI).
9. Do not touch plug with wet hands.
10. The Gun Safety Lock prevents the trigger from accidentally being engaged. This safety feature does not lock the trigger in the on position.
11. Only cleaning detergent supplied or recommended by the manufacturer will be used with the pressure washer. If cleaning detergent is to be used, read and understand the Material Safety Data Sheet (MSDS) for the cleaning detergent prior to use.
12. When pressure washing, consider the following:

DO:

- Wear protective clothing.
- Stop unit to change nozzle, hose assemblies and other parts.

- Stop unit in case of a leak.
- Wear fall protection when pressure washing at heights.
- Only use the manufacture's recommended chemicals.
- Use sediment free water.

DON'T:

- Stand or work in awkward postures for long periods of time.
- Tie gun lever or trigger down.
- Start the unit with the gun engaged.
- Aim the gun at people, light unsecured objects or other potential hazards.
- Engage gun unless it is properly connected and held.
- Lay the gun in mud, dirt or sand.
- Touch live parts of welding equipment and the work piece.
- Leave welding/torching equipment unattended during operations.
- Point the nozzle at your skin or at other workers.
- Pressure wash with defective equipment.

Maintain pressure washing equipment according to the manufacturer's instructions.

ROLLER COMPACTION - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This procedure serves as a step-by-step guide for performing the task of roller compaction. All employees who shall perform this task should review and work in accordance with the guidelines set out in this procedure.

PPE	HAZARDS	TRAINING
Mandatory: • Hard Hat • High Visibility Vest • Safety Boots • Gloves • Safety Glasses **Recommended:** • Dust Mask	• Poor maintenance of mobile equipment • Lack of/improper training • Blocked vision during operation • Poor housekeeping • Exposure to fumes	• Trained by a competent person

ROLES AND RESPONSIBILITIES

Supervisor:

- Inform and provide employees with appropriate PPE during mobile equipment operations.
- Ensure operators are properly trained and competent to operate the machine.
- Ensure employees understand the mobile equipment safe job procedure before operations occur.
- Ensure employees are in compliance with the safe job procedure.
- Conduct inspections to ensure all components of the mobile equipment is in good working condition.
- Handle maintenance issues and machine repairs in a timely manner.

Employee:

- Wear appropriate PPE during the operation and work site to prevent potential injuries.
- Must be properly trained and competent to operate mobile equipment.
- Understand and be in compliance with the mobile equipment safe job procedure prior to and during operations.
- Report any potential hazards to prevent workplace injuries.
- Conduct daily inspections prior to operating the mobile equipment.

SAFE JOB PROCEDURE

1. Place barriers such as pylons or rails to avoid pedestrians or workers from entering premises.
2. Ensure the roller is properly shut down prior to pre-use inspection by ensuring the steering frame lock is stored in the lock position.
3. Conduct a pre-use inspection on the roller to ensure it is in good working condition.
4. Make sure all safe guards are in place and in good working condition.
5. Enter equipment and adjust seat for full driver control.
6. Ensure there are no workers in the path of the roller prior to rolling.

7. During operations, consider the following:
    - Always maintain 3-point contact during operations.
    - Alert other workers, traffic controllers and spotter prior to beginning operations.
    - Be familiar with rolling patterns.
    - Maintain a safe distance between workers and roller to avoid injuries.
    - Operate vehicle in a slow and consistent speed.
    - Operate roller on even and stable grounds.
    - Sound horn when reversing or turning corners.
    - Maintain a spotter if needed to guide operations with blocked vision or high traffic.
    - Remain alert of unexpected situations.

8. When shutting down the roller, ensure to:
    - Park the roller on a leveled surface.
    - Lower all attachments to the ground.
    - Engage parking brakes.
    - All controls are in a neutral position.
    - Turn off the engine and remove the key from ignition.

9. Maintain roller according to manufacturer's instructions.

SILICA - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

Protective measures and procedures should be implemented when working with silica. This procedure outlines the general measures and procedures for all work with silica, followed by specific recommendations for Type 1, Type 2 and Type 3 operations.

PPE	HAZARDS	TRAINING
Mandatory: • Hard Hat • High Visibility Vest • Safety Boots • Respirator Gloves • Protective Clothing	• Chronic illnesses- Silicosis • Lung damage • Severe coughing • Eye irritation	• PPE Training • WHMIS 2015

ROLES AND RESPONSIBILITIES

Supervisor:

- Ensure workers review the safe job procedure prior to entering work site.
- Ensure workers are aware of hazards being exposed to Silica.
- Provide and inform workers on wearing appropriate PPE while working in areas consisting silica.
- Establish level of exposure of Silica and inform workers on safety precautions.
- Provide appropriate respirators to workers according to the level of exposure of Silica.
- Ensure eye wash stations are readily available for workers to use.

Worker:

- Review and understand safe job procedure prior to entering work space.
- Be aware of health effects of silica.
- Be alert of where the silica is located on the work site to avoid unnecessary contact.
- Follow the supervisor's directions on how to proceed on working alongside silica.
- Follow supervisor's directions on how to work with silica safely.
- Wear appropriate PPE during operations.

GENERAL MEASURES

Warning signs should be posted in sufficient number to warn of the hazard. If it is an indoor operation, signs should be posted at each entrance to the work area. The signs should display the following information in large, clearly visible letters:

1. There is a silica dust hazard.
2. Access to the work area is restricted to authorized persons only.
3. Respirators must be worn in the work area at all times.

DUST CONTROL MEASURES

The generation of airborne silica-containing dust should be controlled with a mechanical ventilation system, wetting, or the use of a dust collection system. If silica-containing airborne dust is generated, mechanical ventilation with an air flow sufficient to remove airborne contaminants from workers' breathing zone should be provided. The air flow of the mechanical ventilation system should be at least 50 cubic feet per minute per square foot of face area (0.25 m3/s per square meter of face area). However, if it is determined that none of these methods are practical, workers may be provided with respirators to protect them from exposure. The following should be considered before assigning respirators:

- Risk to workers using wetting or a dust collection system.
- Likelihood of damage to equipment if wetting or a dust collection system is used.
- Frequency and duration of the operation.

If compressed air is being used to remove silica-containing dust outdoors, the operator and workers within 25 metres of the work area who may be exposed to the dust must either be removed from the path of the dust cloud or provided with respirators.
Where effective dust control measures are in place and where an employer can demonstrate on a continual basis that the silica exposure levels are below the OEL, respirators may not be required.

General Measures:

1. Clean-up after each operation is encouraged to prevent dust containing silica from spreading
2. Compressed air or dry sweeping should be avoided when cleaning a work area
3. Compressed air should not be used for removing dust from clothing
4. Workers exposed to silica should be provided with or have access to washing facilities equipped with clean water, soap, and individual towels
5. Silica dust on personal protective clothing and equipment should be removed by damp wiping or HEPA vacuuming
6. Contaminated personal protective clothing and equipment should be handled with care to prevent disturbing the silica dust and the generation of airborne silica dust
7. Washing facilities and laundering procedures must be suitable for handling silica contaminated laundry.

SILICA USE PROCEDURE

Operational Guidelines for Type 1 Operations

1. A half-mask particulate respirator with N-, R-, or P-series filter and 95, 99 or 100 per cent efficiency should be provided for workers performing Type 1 operations.
2. Respirators should also be provided when:
   - entering a dry mortar removal area with visible airborne dust for less than 15 minutes for the purposes of inspection and/or sampling purposes.
   - work is being performed within 25 metres of an outdoor area where silica-containing dust is being removed with compressed air

Operational Guidelines for Type 2 Operations

1. Respirators with a NIOSH APF of 50 should be provided for workers performing Type 2 operations.

2. The generation of silica-containing airborne dust should be controlled by thoroughly wetting the area prior to and/or during drilling or cutting operations and during the loading, scraping or moving of rock.
3. Other workers entering a work area where Type 2 operations are being performed should remain at least 10 metres away.
4. Ropes or barriers should be set up to prevent unauthorized personnel from entering the work area. If this is not possible and there are workers within the 10-metre limit, the Type 2 operation should be enclosed to prevent the escape of airborne silica-containing dust.

Operational Guidelines for Type 3 Operations

1. The operator of the abrasive blasting nozzle should wear a Type CE abrasive blast supplied air respirator operated in a pressure demand or positive pressure mode with a tight-fitting half-mask or full face piece.
2. It is recommended that compressed air that is used to supply supplied air respirators meet the breathing air purity requirements of CSA Standard Z180.1-00.
3. Where an oil-lubricated compressor is used to supply breathing air, a continuous carbon monoxide monitor/alarm should be provided.
4. While abrasive blasting is in progress or the airborne dust from abrasive blasting is visible,
   a. any worker entering the work area where abrasive blasting is being carried out for less than 15 minutes for inspection and/or sampling purposes should wear a half-mask particulate respirator with N-, R-, or P-series filter and 95, 99 or 100 per cent efficiency.
   b. any worker entering a work area where abrasive blasting is being carried out for more than 15 minutes should wear a respirator with a NIOSH APF of 50.
   c. workers engaged in cleaning dust from abrasive blasting operations, should wear a respirator with a NIOSH APF of 50.
5. Where abrasive blasting is conducted, barriers, partial enclosures and full enclosures should be in place to prevent other workers from being exposed to silica-containing dust and to prevent the spread of dust to other work areas.

Partial and full enclosures can also prevent or reduce the dispersion of silica 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 silica-containing dust to settle. If this is not achievable, warning signs should be posted at the distance where the silica-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 level of emission 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:

If, as outlined above, a Type 3 operation should be enclosed, the enclosure should meet the following requirements:

- entry ways in the enclosure should be equipped with air locks, overlapping door tarps or doors
- the enclosure should be supported by a secure structure
- all joints in the enclosure should be fully sealed
- 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 replacement air should be provided to replace the exhausted air
- the air pressure within the enclosure should be negative relative to the outside
- equipment venting such air shall 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)

If the enclosure is located outdoors these additional requirements should be met:

- the enclosure should be made of windproof materials that are impermeable to dust
- the enclosure should be supported by a structure that prevents more than minor movement of the enclosure.

Indoor Operations

If abrasive blasting is being conducted indoors and persons other than those doing the abrasive blasting may be exposed to silica-containing dust, the abrasive blasting area should be separated from the rest of the project by an enclosure that will confine the dust within the abrasive blasting area. When an indoor abrasive blasting operation is completed, dust and waste should be cleaned up and removed by vacuuming with a HEPA-filter-equipped vacuum, wet sweeping or wet shoveling.

Outdoor Operations

If abrasive blasting is being conducted outdoors and persons other than those doing the abrasive blasting may be exposed to silica-containing dust, the work area should be identified by ropes or barriers located at least 25 metres from the abrasive blasting area, to prevent entry by workers not directly involved in the operation.

If it is not possible to locate the ropes or barriers at least 25 metres from the abrasive blasting operation, the employer should ensure that the abrasive blasting area is separated from the rest of the project by an enclosure that will confine the dust within the abrasive blasting area.

SPILL RESPONSE - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This safe job procedure will ensure safe spill response operations to prevent potential hazards associated with workplace spills and pollution.

PPE	HAZARDS	TRAINING
Mandatory: • Safety Boots • Gloves • Goggles • Respirator	• Lack of awareness of spill • Skin contact with chemicals/hazardous material • Spill near flammable sources	• Spill Response • WHMIS

ROLES AND RESPONSIBILITIES

Management:

- Train workers who are involved in spills response.
- Implement control measures as per the site conditions.
- Review the program at least annually.
- Take every precaution reasonable in the circumstances for the protection of a worker.

Supervisor:

- Ensure Spill Response Team is in place and adequately trained.
- Provide appropriate PPE to workers when handling spills with specific chemicals.
- Ensure the appropriate SDS are up to date and is accessible to all workers.
- Ensure workers are in compliance with the procedure to avoid any injuries and disciplinary action.
- Ensure there is a spill kit station and Spill Response Team is aware of where to find the kits in the case of a spill.
- Maintain the spill kits by replacing and restocking materials when they are used or expired.
- Take every precaution reasonable in the circumstances for the protection of a worker

Worker:

- report any spills immediately to enforce the Spill Response Procedure.
- Immediately report any potential hazards that could cause a spill.

SAFE JOB PROCEDURE

When the case a spill occurs on a work site, the following steps should be followed:

1. Stop work immediately and turn off any machinery or equipment if any used.
2. Direct workers to the designated evacuation area to prevent any further exposure.
3. Immediately notify the supervisor.

4. Identify the chemical that has been spilled and retrieve the SDS to follow the appropriate safety procedures.
5. Retrieve the spill kit from its location to clean and contain the spill and ensure workers are properly trained on how to use the spill kit.
    - If there are waste materials combined with the liquid spill, ask the on duty supervisor for instructions on how to proceed, PRIOR to removing it.
    - If instructions have been given to remove the waste materials from the spill, ensure it is properly stored and labelled for easy identification.
    - Document what waste materials have been removed from the spill to refer to in the hazard assessment after containing the spill.
6. After the spill has been contained or cleaned up, conduct a hazard assessment and identify the cause of the spill.
7. Develop and implement corrective controls to eliminate the probability of the spill occurring again.
8. Document the spill incident and ensure it is kept in records for further investigation.

MAINTENANCE

- Conduct a monthly inspection for the spill kits, to ensure that none of the materials in the kits are expired or missing.
- Any materials that has been used or expired must be replaced immediately.

REPORTING POLLUTION AND SPILLS

Call Ontario's Spills Action Centre if you witness:

- Pollution spilled on land, in the water or in the air
- Industrial or commercial noise pollution
- Waste being dumped into the natural environment
- Improper disposal of commercial waste

During your call, an Environmental Officer will collect and assess your information before deciding on an appropriate response.

You will be asked for:

- Date and time of the incident
- Source and/or location of the incident
- Current status of the incident
- Type of pollutant involved
- What impact the pollutant is having on the environment
- Weather conditions (for example, precipitation, temperature, wind direction, etc.)

This reporting process helps the provincial government identify and track environmental issues.

Under provincial regulations, you must immediately report spills of pollutants that you control to Ontario's Spills Action Centre.

By law, spills must be reported when:

- you allowed the spill to occur

- you had control of the substance immediately before the spill occurred
- you are a member of a public agency and to your knowledge the spill has not already been reported

When the above applies, you must report the spill immediately to:

1. Ontario's Spills Action Centre
2. Local Municipality
3. The owner of the substance (if known)
4. The person in control of the substance (if known)

You will be asked to report:

- Your name and phone number
- Name and phone number of the person or company in control of the product spilled
- Date, time and location of the spill
- Duration of the spill (if known) and whether the spill is ongoing
- Type and quantity of pollutant spilled, including hazard level or toxicity information
- Source of the spill and information on the cause
- Description of adverse effects
- Environmental conditions that affect the spill (weather, traffic, etc.)
- Actions being taken to respond
- Other agencies and parties responding

An Environmental Officer will:

- Document the information and actions taken
- Assess the environmental and health impacts based on gathered information
- Ensure responsible parties respond to spill events as per their legislative responsibility
- Track and follow up on required cleanup activities
- Provide advice and information related to spills or environmental incidents
- Coordinate a response with other agencies, if needed
- Initiate government response when required

More details on regulatory reporting can be found in *Ontario Regulation 675/98*

CLEANUP AND REMEDIATION

Under the Environmental Protection Act, it is the duty of the owner or controller of a spilled pollutant to clean up a spill. They must do everything practicable to prevent and eliminate the negative effects from a spill, including restore the natural environment to its original state.

If those responsible for a spill cannot or will not respond to properly clean up the spill, the Minister of the Environment and Climate Change has the authority under the Environmental Protection Act to order those responsible to do so.

SPILL COST RECOVERY

High risk spills can require significant involvement and resources by the province to actively oversee and monitor the cleanup.

The Ontario government can recover reasonable costs and expenses that provincial agencies incur to respond to a spill, including any steps taken to ensure those responsible for the spill:

- prevent or minimize the impacts of contaminants on human health and the environment
- ensure the appropriate steps are taken to restore the natural environment
- prevent or reduce the risk of future spills into the natural environment

This can include time that provincial staff spend at the site of the spill, sampling and monitoring costs and any other related costs or expenses. Provincial agencies incur to ensure negative effects from the spill are adequately reversed.

TRAFFIC CONTROL - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This procedure serves as a step-by-step guide for protecting workers from any accidents or potential hazards associated with traffic control on a work site.

PPE	HAZARDS	TRAINING
Mandatory: • Hard Hat • High Visibility Vest • Safety Boots • Safety Glasses	• Working in the dark • Poor housekeeping around work area • Working in extreme weather conditions • Struck by a vehicle	• Traffic Control

ROLES AND RESPONSIBILITIES

Supervisor:

- Take every reasonable precaution to protect workers and ensure workers comply with the OHSA and Construction regulation. Make sure any equipment, protective devices, or clothing required by the employer is used or worn by workers.
- Provide workers with written instructions on traffic control measures and procedures and advise workers of any potential or actual health or safety dangers known by the supervisor.
- Ensure employees are in compliance with the safe job procedure.
- Conduct inspections to ensure all traffic control equipment is in good working condition.
- Handle maintenance of equipment in a timely manner.

Employee:

- Wear appropriate PPE during the operation and work site to prevent potential injuries.
- Be aware of potential traffic-related hazards and report any known hazards or contraventions to the supervisor or employer.
- Receive training on safe practices and procedures in traffic control and work in compliance with the OHSA and Construction regulation.
- Report any potential hazards to prevent workplace injuries.
- Conduct daily inspections on traffic control equipment, as required.

SAFE JOB PROCEDURE

Pre-Operational

1. Ensure a traffic protection plan is developed in accordance to Ontario Traffic Manual – Book 7 standards
2. Ensure a traffic protection plan is in place and kept at the construction project
3. Ensure worker is wearing appropriate PPE prior to controlling traffic on work site.

4. Provide worker with written and oral instruction prior to directing vehicle traffic
5. Check signs, cones, barricades and other traffic control devices to ensure they are in good condition and are located in the correct spot
6. Ensure devices are not hidden by other objects and beware of oncoming traffic when setting up traffic control devices.
7. Ensure weather conditions are taken into consideration and appropriate clothing is worn (*Refer to Physical Agents - Safe Job Procedure*).
   - **Heat**: ensure SPF approved sunscreen is applied and water is on site for worker to easily access.
   - **Cold**: ensure worker is wearing a winter jacket and gloves to ensure warmth.

Setting Up and Removal of Traffic Control Area

1. Plan your set up
2. Place vehicles upstream for protection
3. Assemble devices away from road
4. Minimize exposure to traffic
5. Ensure workers are visible and conspicuous
6. Start setting up, upstream
7. Be cautious of curbs
8. Cover signs that are installed before they are needed
9. Remove in opposite direction order of setup on closed side (move upstream)
10. Remove in same order as installation on open side (move downstream)

Police, Fire and Ambulance must be allowed to pass through traffic zones as quickly as possible.

Operational Guidelines

1. Always maintain a clear path of vision with workers and drivers while performing task.
2. Always maintain clear hearing to listen to worker instructions while performing task.
3. Hold the STOP and SLOW paddle high enough for drivers to view and follow directions.
4. For moving vehicles, initiate stopping by showing STOP paddle and use free hand to show stop hand movement.
5. Ensure vehicles come to a stop prior to walking in the middle of the road to give directions to drivers.
6. For stationery vehicles, initiate slow movement by showing SLOW paddle and use free hand to wave traffic along.
7. Switch directions frequently to ensure proper traffic flow and prevent obstructions.
8. A signaler shall ensure they are clear of the intended path of travel of the vehicle, machine or equipment. They must be in full view of the operator and have a clear view.
9. When operating a vehicle with an obstructed view of the intended path, or a person could be endangered by the vehicle, machine, or equipment or by its load, the operator must be assisted by a signaler.
10. Vehicles, equipment and machines are not to be operated in reverse or are operated in reverse as little as possible.

WELDING/TORCHING - SWP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This practice serves to provide guidelines for performing the task of using welding/torching. All employees should review and work in accordance to the guidelines set out in the practice.

PPE	HAZARDS	TRAINING
Mandatory: • Safety Boots • Welding Helmet • Welding Jacket • Face Shield • Ear Protection • Respirator • Leather welding gloves • Long Sleeves	• Ergonomic stress when lifting and carrying material • Poor housekeeping • Extreme hot temperatures • Contact with hot material/Contact with hot material • Elevated noise levels • Exposure to chemicals and fumes • Radiation • Working near flammable sources • Cuts and Lacerations • Electricity & Electrical Shock • Burns • Flying Sparks • UV Radiation to Skin and Eyes • Toxic Fumes • Fire	• Instruction by competent worker • Fire extinguisher training

SAFE WORK PRACTICE

1. Ensure task (drawings, instructions, specifications) are clearly understood.
2. Conduct a pre-use inspection on welding/torching equipment to ensure it is in good working condition. Gloves, welding gun and work leads are in good condition (no exposed wiring).
3. Ensure there are warning signs around the work area to inform other workers of welding/torching operations.
4. Inspect the work area prior to operations; Move all combustible material or flammable sources near the work area, if any.
5. If combustibles cannot be moved, cover them with a fire resistant blanket or shield. Protect gas lines and equipment from falling sparks, hot material and objects.
6. Ensure the work area is clear of any unnecessary material, tools or equipment. Work area should be clean and clear of grease, oil and any flammables/ combustibles. Use welding curtains or screens to protect other work areas from flashes.
7. Identify on/off switch and emergency stop button (if applicable).
8. Ensure there is adequate ventilation in the work area prior to operations.
    - **Mechanical dilution**: fans such as roof exhaust fans and wall fans force outside air into and out of the building.
    - **Local exhaust ventilation**: consists of an exhaust fan, air cleaner, and ducted system dedicated to removing airborne contaminants at the source and is exhausting them outdoors.

9. Ensure there are fire extinguishers in close proximity
10. When welding/torching, consider the following:

DO:

- Maintain all cords, remove damaged cords from service and report them to your supervisor.
- Keep welding equipment, work area and gloves dry to avoid electric shock.
- Wear welding helmet with correct grade of UV lens for MIG welding.
- Ensure respirator has documented fit test to don mask.
- Wear close fitted, protective clothing or overalls. Have fire extinguisher in proximity.
- Stand on rubber insulating matting during operation (when necessary)
- Position the welding item as flat as possible, on a horizontal surface between the waist and elbow height.
- Position stool at a comfortable height to allow working in a seated position.
- Always store material and tools within normal reach.
- Use positioning aids to accommodate work posture.
- Ground the work or metal to be welding to a good electrical ground.
- Keep hands clear from work piece and away from electrode. Ensure operator does not wrap electrode leads around themselves.
- Ensure power is turned off (from wall socket) before inserting or removing electrodes from electrode holder/handle
- Ensure current is correctly set according to electrode selection
- Never leave the welder running while unattended
- In case of an electric shock, following these steps:
  1) Call for medial help immediately
  2) Do not touch the victim with your “bare hands” until the worker is away from the electrical source
  3) If the electricity cannot be shut off, and the worker is still in contact with the electrical source, decide if you must move the victim or push the wire away from the worker.
  4) Insulate yourself if you must move the worker away from the live contact. Use a dry piece of wood, broom or other dry insulating object to move the wire away from the worker.
  5) Do not move the worker if there is a possibility of neck or spinal injuries
  6) Provide first aid assistance if the worker is not breathing
  7) Cover burns with sterile dressings/
  8) Keep the victim comfortable, warm and at rest and monitor breathing.

DON’T:

- Wear rings, jewelry or loose clothing while welding.
- Stand or work in awkward postures for long periods of time.
- Weld on surfaces that are still wet with a degreasing solvent.
- Use chlorinated hydrocarbon degreasers.
- Replace the welding electrode with a bare hand, or with a wet welding glove.
- Stand in water, on wet surfaces or working with wet hands or wearing sweaty garments.
- Hold or move the welding electrode holder and the welding return cable simultaneously when moving from one working position to another.
- Touch live parts of welding equipment and the work piece.
- Leave welding/torching equipment unattended during operations.
- Point the nozzle at your skin or at other workers.

- Weld with defective equipment.

11. After finishing welding operations, ensure sufficient time for materials to cool down before handling.
12. Switch off machine and fume extraction (if relevant).
13. Hang up electrode holder and welding cables.
14. Practice good housekeeping and ensure the area is clean and tidy.
15. Maintain welding/torching equipment according to the manufacturer's instructions.

One type of arc welding is MIG welding which permits the continuous welding at greater speeds. Specific procedures should be followed when completing operations:

1. Ensure the machine is correctly set up for current voltage, wire feed and shielding gas flow rate.
2. Ensure that other workers in the area are protected from any UV & IR radiation flask. Always erect a UV screen in your welding area.
3. Ensure the welding return cable (earth) makes firm contact to provide a good electric contact.
4. Ensure the workpiece has been prepped to be free of any paint, oxides, or other surface finishes ensuring a good electric contact.
5. Take particular care to avoid accidental UV welding flash to the skin and eyes.
6. Never leave the MIG welder running unattended.
7. Regularly inspect the welding tip and shield for damage.
8. When welding is finished or interrupted, turn off the shielding gas at the regulator, turn off the machine and secure the hand piece safely.

WET SAW - SWP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: August 7, 2019	**Date:** January 9, 2024

PURPOSE

Protecting workers from any accidents or potential hazards associated with using wet saw on a work site. This safe work practice acknowledges ways to avoid injuries and safely use wet saw.

PPE	HAZARDS	TRAINING
Mandatory: • Safety Boots • Gloves • Safety Glasses/Shield • High visibility vest • Hard hat **Recommended:** • Ear Protection	• Improper handling of saw • Hair or clothing entanglement • Eye injury • Respiratory damage • Cuts/scrapes • Poor maintenance of saw • Elevated noise levels	• Manual Material Handling and MSD Prevention • Competent worker

SAFE WORK PRACTICE

1. Conduct a pre use inspection on saw prior to use.
2. Ensure surroundings are clear of any unnecessary tools, equipment, material or tripping hazards.
3. Ensure the cutting depth is adjusted to avoid friction of the material and blade.
4. Ensure proper housekeeping prior to operations to avoid trips, slips and falls.
5. Ensure there is adequate lighting when operating/using wet saw.
6. Ensure guards are in place on the wet saw, in between the blade and on yourself.
7. Consider the following tips when using wet saw:

DO:

- Use wet saw for its intended purposes as recommended by the manufacturer.
- When mounting the blades, check them for cracks and defects, ensure that the mounting flanges are clean. Use only the blades compatible with your saw and rated for its maximum rpm.
- Check to see that all water delivery systems are working correctly before use. Water cooling is absolutely necessary to prevent heat build-up that can make disk disintegrate.
- Wear eye protection and gloves while using wet saw, there may be debris or pieces of tiles which can fly into our eyes and damage it.
- Keep the blade guard closed during operation.
- Keep fingers as far away from the blade as possible to avoid accidents.
- Maintain a firm grip when handling the saw to avoid rough operations and to avoid kick back.
- Maintain a firm footing when cutting.
- When cutting or handling cut tiles, you should be very cautious as they have very sharp edges. Wearing heavy duty work gloves is the best way to counter this.
- Disconnect the power on the wet saw prior to adjusting its settings.
- Wear a NIOSH approved mask rated type N-95 or higher when cutting any tile.

- Keep wet saw clean.
- Ensure wet saw cord is out of the way during operations.
- Take breaks as needed to avoid ergonomic stress.
- Have a first-aid kit nearby your workplace. It is always helpful in emergency cases.
- Use a quality extension cord while operating a tile saw, since they use a lot of power and it could melt low quality wires.

DON'T:

- Use blade if it is cracked or damaged.
- Cut if a small stream of water is not flowing over the blade and tile. Water is essential to keep the blade cool and produce quality cuts.
- Wear loose clothing or jewelry during operation to prevent entanglement.
- Use the wet saw for jobs which it is not designed, such as grinding.
- Remove the cord without turning off the wet saw.
- Use inappropriate extension cords or power supply for the wet saw, since the wet saw use a lot of power and it could melt low quality wires.
- Cut towards yourself when using wet saw.
- Hold the materials on hands during cutting.
- Remove, modify or defeat safety guards.
- Use worn out blades when cutting.

8. Maintain wet saw according to manufacturer's instructions.

WORKING AT HEIGHTS - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This procedure serves as a step-by-step guide for performing the task of working at heights. All employees who shall perform this task should review and work in accordance with the guidelines set out in this procedure.

PPE	HAZARDS	TRAINING
Mandatory: • Hard Hat • High Visibility Vest • Safety Boots • Fall Protection • Safety Glasses	• Falls from heights • Struck by dropped objects • Faulty fall protection equipment • Poor housekeeping	• Working at Heights

ROLES AND RESPONSIBILITIES

Supervisor:

- Take every precaution reasonable in the circumstances for the protection of a worker.
- Ensure that every worker has appropriate high visibility vest, googles and good working CSA approved hard hats, safety shoes or boots, safety harness, lanyard, shock absorber, and rope grab where required.
- Inspect safety harnesses at least once a month and replace any damaged components or equipment immediately.
- Ensure workers are adequately trained to carry on inspection of all equipments.
- Check guardrails and covers of floor/roof openings daily to ensure they are installed properly and adequate for the situation.
- Identify fall hazards with the crew for each job.
- Identify anchor points to be used and configuration of lifelines or other systems.
- Ensure that workers are adequately trained to use the equipment and follow the procedures specified for the task or project.
- Inspect ladders regularly.
- Tag and remove damaged ladders from service immediately and provide replacements (if used).
- Check on prior training and knowledge of new hires.
- Check site for overhead powerlines that may pose hazards.
- Keep ladders and materials away from overhead powerlines.
- Keep debris and materials away from ladders and floor/roof openings or edges.

Worker:

- Use fall-arrest equipment when guardrails need to be temporarily removed.
- Have a sign posted to warn others of the removed guardrail and always replace the guardrail as soon as possible.
- Temporarily restrict access to the unguarded area.

- Inspect safety harness and attachments before each use and report any defects to supervisor.
- Report any new fall hazard, any contravention of the Act or regulations or any hazard he/she is aware of to the supervisor.
- Keep debris and materials away from ladders and floor/roof openings or edges.

FALL PROTECTION IS REQUIRED IN THE FOLLOWING CONDITIONS

- Falling more than 3 metres
- Falling more than 1.2 metres, if the work area is used as a pathway 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

FALL PROTECTION

Full Body Harness, lanyards

- All full body harnesses, lanyards must be CSA certified. Look for the CSA label.
- Must be inspected by the worker before each use and yearly as per manufacturer's recommendation.
- Full body harnesses must be snug-fitting and worn with all hardware and straps intact and properly fastened.
- D-rings on the harness must be located in the centre of the back between the shoulder blades.

Lifelines

All lifelines must be:

- 16 millimetre (5/8") diameter polypropylene or equivalent.
- Used by only one worker at a time or unless specified by an engineer.
- 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.
- Connect at the right angle of the worker's position.
- Extended to the ground or have a positive stop that prevents the rope grab or other similar device from running of the end of the lifeline (vertical lifelines).
- Designed by a professional engineer using a standard custom designed (horizontal lifelines).

Rope Grabbing Device

- Inspected prior to use by the worker.
- To attach a full body harness to a lifeline, use a lanyard to hook on the D-ring then use a mechanical rope grab that has been CSA-certified. Look for the CSA label.
- Ensure it is for the right size of lifeline.

Guardrails (O. Reg. 213/91, s. 26.3)

- Workers installing guardrails must be tied off if it is three metres or higher.
- Guardrails must be installed no more than 30 centimetres from an open edge.
- Ensure guardrails are free of damage and defect.
- Support posts should be no more than 2.4 metres apart and securely anchored.
- All guardrails must have a: top rail, mid rail halfway and a toe board.
- Posts and rails must be capable of withstanding a force of at least 900N (200 lbs) applied at any point.
- All guardrails must be inspected prior to use.

SAFE JOB PROCEDURE

1. Conduct and document a pre-use inspection on fall protection prior to operations
2. Check weather conditions to ensure workers are not working in harsh/extreme temperatures
3. Refer to the Working at Heights Rescue Plan in the case of an emergency

Working from Scaffolds

1. Scaffold platforms must be fully planked.
2. Guardrails consisting of a top rail, mid-rail and toe board are required whenever the working platform is 2.4 metres (8 feet) or more above floor level.
3. Wheels and casters must be locked when personnel are working on the scaffold.
4. If the scaffold is more than 2.4 metres (8 feet) high, it must not be moved with personnel on it unless:
    - Workers wear full body harness with lanyard and shock absorber tied off to an 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 metres (10 feet) or more above the floor, or
- Above operating machinery, or
- Working over water, or
- Above hazardous substances or objects.

Elevating Work Platforms

1. Must meet requirements of the applicable National Standards of Canada Standard.
2. Must be equipped with guardrails.
3. Must show signs that clearly state the following:
    - Rated working load
    - Name and number of the National Standards of Canada
    - Limiting operating conditions
    - Specific firm level surface conditions
    - Name and address of owner
    - Any other warnings specified by manufacturer.
4. Must be inspected before each use by a trained worker as per O. Reg. 213/91, s. 147.

5. Ensure body harnesses are secured on the anchorage points if the equipment is lifted three metres or higher.

WORKING AT HEIGHTS - RESCUE PLAN - SJP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: June 14, 2019	**Date:** January 9, 2024

PURPOSE

This procedure serves as a step-by-step guide for performing the task of rescuing a worker in the event of a fall. All employees who perform this task should review and work in accordance with the guidelines set out in this procedure.

PPE	HAZARDS	TRAINING
Mandatory: • Hard Hat • High Visibility Vest • Safety Boots • Fall Protection • Safety Glasses	• Falls from heights • Faulty fall protection • Struck by objects • Poor housekeeping • Distractions on site • Contact with overhead powerlines	• Working at Heights

ROLES AND RESPONSIBILITIES

Employer:

- Train workers who are involved in performing duties with rescue planning.
- Implement control measures as per the site conditions.
- Review the program at least annually.
- Take every precaution reasonable in the circumstances for the protection of a worker.

Supervisor:

- Contact Rescue Team to assist injured worker.
- Communicate the rescue plan according to site work to all workers.
- Ensure workers that are participating in the rescue plan are certified and have received a refresher annual training.
- Ensure all fall protection is inspected by the worker before use and yearly by either a trained qualified personnel or by the manufacturer and in good condition.

Worker:

- Ensure they are familiar with who is on the Rescue Team.
- Follow site supervisor's instructions during the rescue procedure.
- Report any unsafe work conditions to site supervisor immediately.

CAUSES OF A RESCUE PLAN

Worker has:

- Fallen from a height;
- Been critically Injured;
- Suspension trauma;
- Panicking or tense about circumstances;

- Become unconscious; or
- Endured further injury.

RESCUE PLAN

Training

Workers must attend a site specific safety training session where they will review procedures in the case of an emergency. A Fall Protection Plan Form will be filled out to determine the best way to rescue the worker on site. Workers who will participate in the rescue plan will be trained on how to use the equipment available on site. Emergency response procedures will be reviewed on a regular basis or after an accident to ensure procedure is working properly.

Emergency Response Plan

1. The site supervisor will take control of the situation.
2. An emergency alarm will be sounded which will direct workers on the work site to stop work immediately. The emergency will be evaluated by the site supervisor and determine if there are any other contributing factors to the worker's endangerment.
3. If possible, the site supervisor will direct the trained workers to rescue the worker. If not possible, the site supervisor will call emergency services.
4. The site supervisor will isolate the accident area to limit exposure.
5. All other workers will be moved to a safe zone to reduce traffic in the work area and to allow a clear pathway for emergency services to enter the work site. All workers will remain silent and calm to allow emergency communication to occur.
6. Once emergency services have arrived, the site supervisor will assemble the emergency rescue team to determine the best rescue procedure for the worker in danger.

RESCUE PROCEDURE

The following rescue procedures are in the order of the most preferred rescue method, to the last resort rescue method:

A. Elevating Work Platform (EWP) Rescue

1. Bring the EWP to the accident site and use it to reach the worker in danger.
2. Ensure that rescue workers are wearing full-body harnesses attached to appropriate anchors in the EWP.
3. Ensure that the EWP has the load capacity for both the rescuer(s) and the fallen worker. If the worker in danger is not conscious, two rescuers will be needed to safely handle the weight of the worker.
4. Position the EWP platform below the worker and disconnect the worker's lanyard when it is safe to do so. When the worker is safely on the EWP, reattach the lanyard to an appropriate anchor point on the EWP if possible. Apply First Aid and CPR if possible.

B. Rescue from Work Area or Floor Below

1. Ensure that rescuers are protected against falling.
2. If possible, securely attach a second line to the fallen worker's harness to help rescuers pull the fallen worker to a safe area. You will need at least two strong workers to pull someone up to the level from which they fell.

3. Take up any slack in the retrieving line to avoid slippage.

C. Basket Rescue

Rescue baskets must be designed by a professional engineer in accordance with good manufacturing processes to withstand all loads to which it may be subjected. It must be kept on site at all times in an accessible location where it is clear of material or other equipment. The rescue basket must contain appropriate rigging equipment to use during an emergency.

Always keep the following items in the rescue basket:

1. First-aid kit
2. Three lanyards equipped with shock absorbers
3. One full-body harness
4. Tag line attached to the basket at all times
5. Descent controller rescue device in good working condition
6. Secondary safety line to tie the basket above the headache ball of the crane.

To perform a basket rescue, follow the steps below:

1. Notify the crane operator right away to position the crane to attach the basket.
2. While the basket is being attached, the crew leader checks that all safety rigging is done and all the required safety equipment is available.
3. With two rescuers in the basket, hoist it to a position that is above and as close as possible to the worker in danger. A designated worker on the ground guides the basket with a tag line. The designated worker must make sure that when the rescue basket reaches the right elevation, the door of the basket is facing the structural steel to provide an easy exit for rescuer #1.
4. Rescuer #1 exits the rescue basket and gets into a position to reach the worker in danger. When doing this, rescuer #1 must be tied-off at all times to either the structure or the rescue basket.
5. Rescuer #2, who is still in the rescue basket, lowers the line that will be used to retrieve the worker. Rescuer #2 attaches an extra lanyard to the line if required.
6. Rescuer #1 assesses the worker in danger for injuries and then decides how to proceed (i.e., treat injuries first, guide the fallen worker into the rescue basket, or lower the basket to the ground with the fallen worker attached to it).

If the basket rescue is the method used, keep the following points in mind:

- Perform a basket rescue only when it is not possible to use conventional equipment to rescue the fallen worker in a safe manner.
- Never exceed the maximum number of workers in the basket as indicated on the nameplate.
- Ensure that a competent worker inspects the crane and equipment being used prior to lifting rescuers.
- Always equip the crane with a fail-safe mechanism to prevent the boom from descending in the event of a power source or system failure.

- Maintain an adequate means of communication between the rescuers in the basket and the crane operator at all times.
- Ensure that workers in the rescue basket wear full-body safety harnesses attached to a lanyard and anchored to appropriate points in the basket at all times.
- Make sure that all rigging used to attach the rescue basket to the hook of a load line has a safety factor of 10 against failure. There should be a safety line attached to the load line directly from the basket.
- Do not allow cranes to travel while rescuers are in the basket.
- Do not use suspended rescue baskets during high winds, electrical storms, snow, ice, sleet, or other adverse conditions that could affect the safety of personnel on the platform or in the basket.

Once the worker in danger has been brought to a safe location, administer first aid. Arrange transportation to the hospital and designate a worker to accompany the injured worker to the hospital.

After rescuing the worker in danger, the site supervisor or health and safety representative shall:

- Begin the accident investigation.
- Quarantine all fall-arrest equipment that may have been subjected to fail fatigue effects and/or shock loading for further investigation.
- Secure the area (the OHSA requires that an accident scene not be disturbed where a fatal or critical injury has occurred).
- Determine whether or not the jobsite-specific rescue and evacuation plans were followed as designed.
- Record modifications or additions to the plans that the rescue team deems necessary.
- Record all documented communications with emergency services and other contractors involved. Inform the MOL in writing about the fall. (This should be done as soon as the accident occur – ss. 51, 52)
- Record all documented statements from employees, witnesses, and others.
- Save all photographs of the incident.
- Record all key information such as dates, time, weather, general site conditions, and specific accident locales including sketches of the immediate incident area, complete with measurements if applicable.

UNDERGROUND STORAGE TANK - SWP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: March 12, 2020	**Date:** January 9, 2024

PURPOSE

This document outlines general measures and practices to follow during the removal, altering, testing, and servicing of an underground storage tank and the equipment and accessories essential to its operation. It also covers what to do in the event of contaminated soil from storage tank removal (leak or spill).

PPE	HAZARDS	TRAINING
Mandatory: • Safety Boots • Hard Hat • High Visibility Vest **Recommended:** Gloves	• Contamination of groundwater • Contamination of soil	• Proper excavation training • Certification (OTB2-3, PM1-2)

ROLES AND RESPONSIBILITIES

Supervisor:

- Ensure workers review the safe job procedure before entering the worksite.
- Provide and inform workers on wearing appropriate PPE while working in areas where they may be exposed to contaminated soil.
- Ensure eyewash stations are readily available for workers to use.
- Understand and refer to the Liquid Fuels Handling Code.

Worker:

- Review and understand safe job procedures before entering the workspace.
- Be alert of contaminated soil onsite to avoid unnecessary contact.
- Follow the supervisor's directions on how to proceed.
- Wear appropriate PPE during operations.

GENERAL SAFE WORK PRACTICES

The following is a list of general measures and procedures that should be followed when handling an underground storage tank:

- Remove and contain the liquid from the tank for disposal at a MOECP-licensed disposal facility before removing the tank from the ground.
- Remove residual liquid and sludge according to the Liquid Fuels Handling Code.
- Obtain disposal facility receipts noting proper disposal.
- Ensure that excavations are constructed to minimize loss of ground and to maintain a safe work area.

- Protect underground utilities located within the work area.
- Remove the underground storage tank (UST) from the ground, place it on the ground adjacent to removal location, and secure it prior to cleaning.
- Measure levels of combustible vapours and oxygen, and ventilate UST if required to bring vapour or oxygen levels to safe limits.
- Clean UST by mopping, scraping, sweeping, and/or steam cleaning the interior of the tank.
- Collect and contain residuals removed from UST for transportation and disposal at a MOECP-licensed facility.
- Transport dismantled UST to a licensed waste facility.
- Excavate, remove, and dispose of pipes/lines, vents, and dispensers associated with the decommissioned tanks.

IN THE EVENT OF SOIL CONTAMINATION

In the event of a leak or spill during the removal of an underground storage tank, follow the procedure below to safely remove any contaminated soil:

- Separate and stockpile contaminated soil on plastic sheeting or in steel bins for off-site disposal.
- Cover each soil stockpile to protect from precipitation and prevent dispersion by wind.
- Stockpile soil until the soil verification laboratory data are provided by an environmental consultant indicating disposal requirements:
    - Results from the laboratory will be provided within 1 week of sample submission.
- Load the excavated soil after approval by, and under the supervision of an environmental consultant.
- Transport contaminated soil to disposal facility using a licenced MOECP hauler.
- Ensure trucks hauling contaminated soil are covered.
- Arrange off-site disposal of contaminated soil at a MOECP-licenced facility.
- Obtain waybill from the licensed facility for each load of soil disposed of and provide to the client within 15 working days of completing soil removal.
- Keep environmental assessment information in a clear, organized technical report format.
- Include a comparison of the soil analytical data with the appropriate MOECP soil cleanup standards.

COVID-19 (CORONAVIRUS DISEASE) - SWP

Developed By: Kurtis Samchee	**Reviewed & Approved By:** Kira Hoskin, Marco Samchee
Date: March 14, 2020	**Date:** January 9, 2024

PURPOSE

This document provides a list of safe practices for performing your regular tasks while protecting yourself and others from COVID-19 (i.e., coronavirus disease). All employees must be knowledgeable of the associated risks at this time and work together to stop the spread. Review this safe work practice document before starting work and refer to it whenever necessary.

PPE	HAZARDS	TRAINING
• Mask • Gloves • Safety Glasses	• Respiratory irritation and illness • Occupational disease	• Toolbox talks regularly and review of SWP

ROLES AND RESPONSIBILITIES

Supervisor:

- Ensure workers have reviewed and understood the safe work practices before working during the coronavirus outbreak.
- Provide workers with the appropriate PPE and ensure they know how to wear it.
- Direct workers on how to proceed with eliminating or reducing the risk of the hazards.
- Maintain worker medical records and follow up with precautionary shots for future purposes, if applicable.
- Report any cases of COVID-19 in the workplace when you are made aware of them.

Worker:

- Follow supervisor's directions on how to eliminate or reduce the risk of the biological hazard.
- Wear appropriate PPE, including masks, gloves, safety glasses when appropriate.
- Stay up-to-date with medical precautions.
- Review and understand the safe work practices to keep yourself and everyone else safe.
- Immediately report any symptoms you have to the supervisor.
- Refuse any work you feel is unsafe due to COVID-19.

SAFE WORK PRACTICE

DO:

- Wash hands regularly with soap and water for at least 20 seconds
- If hands are not visibly dirty, use an alcohol-based sanitizer to protect yourself and others
- Cover your nose and mouth with a tissue when coughing or sneezing
    - Throw the tissue away immediately and wash your hands
- Maintain social distancing whenever possible at least 2 metres apart
- Wear a mask whenever you are unable to social distance
- Take staggered lunch breaks to avoid social gatherings

- Wipe down your equipment, tools, or other shared physical resources when you are finished with it for the next person
- Keep windows open when carpooling with more than 2 workers
- Work from home when possible
- Avoid non-essential travel. If you must travel outside of the country, make sure to self-isolate for 14 days before returning to work
- Refuse any work you feel is unsafe
- Report any concerns to your supervisor or the JHSC

If you don't feel well or show symptoms of respiratory illness, stay home, and contact:

- Your health care provider
- Telehealth Ontario at 1-866-797-0000
- Your local public health unit

DON'T:

- Share PPE with coworkers
- Reuse PPE from previous days
- Come to work if you feel unwell or have a fever, cough, etc.
- Touch your eyes, nose, mouth, face

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