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UNIVERSITY OF LETHBRIDGE
FACILITIES

HEALTH & SAFETY PROGRAM

ORGANIZATIONAL COMMITMENT

ORGANIZATIONAL COMMITMENT

RESPONSIBILITIES

The ultimate responsibility for establishing and maintaining the Occupational Health and Safety Program on campus rests with the Board of Governors of The University of Lethbridge. Basic policies, which govern the activities and limitations of the Health and Safety program, are proposed by the President of The University of Lethbridge and issued under the final authority of the Board of Governors.

The primary responsibility for providing and maintaining a healthy and safe campus environment on a day-to-day basis lies at the operational departmental level. Specific responsibilities of all Facilities staff are directly proportional to their operational authority and are listed below.

The Facilities Department requires that all supervisors and employees adhere to the policies, regulations and procedures set forth in this manual as well as the policies and regulations of The University of Lethbridge and the *Alberta Occupational Health & Safety Regulation and Code*. This manual does not replace the standards set forth by The University of Lethbridge or the *Alberta Occupational Health & Safety Regulation and Code*. Where there are discrepancies the stricter will apply.

Executive Director of Facilities:

It is the responsibility of the Executive Director of Facilities to maintain a healthy and safe working environment within the jurisdiction, to monitor and exercise control over assigned areas and implement the following designated safety-related responsibilities:

- Providing management the support and leadership necessary for the overall planning, implementation and execution of The University of Lethbridge safety policies within their areas of responsibility.
- Incorporating adequate provisions for safe working practices and conditions in operational policies and procedures and in programs and projects.
- Monitoring and evaluating safety performance within their areas of responsibility and recommending measures to bring about improvement.

Superintendents, Managers and Supervisors

All Superintendents, Managers and Supervisors within Facilities are responsible for ensuring that facilities and conditions under their jurisdiction are monitored and maintained in a safe manner at all times. Special emphasis should be given to ensuring that adequate training is provided prior to tasks being assigned. It is expected that preference will be given to following established safe work procedures over expedient hazardous shortcuts in all operations. Further responsibilities include:

- Ensuring compliance with the Alberta Occupational Health and Safety Regulations and Code;

ORGANIZATIONAL COMMITMENT

- Planning and executing all activities in a manner that promotes compliance with The University of Lethbridge safety policies.
- Ensuring that individuals in their areas of assignment have been given adequate direction, training and instruction in the safe performance of their work, and that it is performed without undue risk.
- Ensuring that employees are provided with all tools and equipment (including Personal Protective Equipment (PPE) complete with instructions on its proper use), necessary to carry out their duties without jeopardizing their health and safety or the health and safety of others.
- Ensuring that work areas are inspected at regular intervals to prevent the development of unsafe conditions and practices.
- Authorizing the action necessary to correct substandard conditions or procedures.
- Ensuring all incidents and near misses are reported and investigated, and action taken to prevent a recurrence.
- Making every effort to ensure that medical treatment is received for all injuries.

Employees

All Facilities employees are subject to the health and safety requirements established in this manual, to departmental operational procedures and to all other applicable regulatory requirements. Responsibilities of employees include:

- Observing all safety rules and procedures established by the regulatory authorities and The University of Lethbridge.
- Consulting with their Supervisor on the safe way to perform a task which is considered hazardous or is known to be hazardous, prior to beginning the task.
- Performing a Hazard Assessment before commencement of any task, involving the physical environment, to ensure all control measures are in place to safely execute the task without risk to themselves, other employees or the public.
- Wearing Personal Protective Equipment when required to ensure health and safety are not jeopardized.
- Promptly reporting hazardous or unsafe equipment, facilities, conditions, procedures or behavior to a supervisor, making suggestions for their corrective action and taking corrective action where authorized.
- Immediately reporting to a supervisor all work related incidents or injuries and obtaining first-aid treatment without delay.
- Reporting promptly to a supervisor any treatment by a physician following a work related injury.

UNIVERSITY OF LETHBRIDGE
FACILITIES

HEALTH & SAFETY PROGRAM

HAZARD IDENTIFICATION

HAZARD IDENTIFICATION

A consistent hazard evaluation process was used throughout the Facilities departments for hazard identification of the various job tasks performed, and equipment used. Workshops were conducted to train employees and managers on how to evaluate the hazards associated with their jobs.

The employees performing the tasks, and operating the equipment conducted all evaluations.

HAZARDS

For each job task and piece of equipment evaluated the following OH&S industry standard hazards were taken into consideration:

1. Falling Objects
2. Chemical Exposure
3. Exposure to Heat / Cold
4. Dust / Vapours
5. Light Radiation
6. Electrical
7. Noise
8. Eye Injury
9. Repetitive Strain / Motion
10. Lifting
11. Slips / Falls
12. Ice / Docks & Roads
13. Rotating Equipment
14. Pinch Points
15. Cuts
16. Eye Strain
17. Fire
18. Asbestos
19. Radioactive Exposure
20. Working Alone
21. Mould
22. Pedestrian / Vehicular Traffic
23. Bio-Hazardous Material
24. Wildlife Hazards
25. Asbestos Awareness Information

The above list shall be used as a guide in reference to hazards identified throughout this manual.

HAZARD ASSESSMENT

The fundamental principle of a Health and Safety Program is to reduce injury and disease to employees. One of the most important aspects of a health and safety program is hazard assessment. Hazard identification is crucial in the workplace.

Conducting a Hazard Assessment

1. The job tasks are listed.
2. Compile a master list of the jobs.
3. Determine the hazards associated with the jobs. Each hazard is determined as if there are not controls in place. For example, chemical splash without safety goggles.
4. Rank the **exposure**
 - 1 = unlikely: a person is exposed to the hazard 1x a year or less
 - 2 = occasionally: a person is exposed to the hazard 1x month or less
 - 3 = often: a person is exposed to the hazard more than 2x but less than 4x per month
 - 4 = frequently: a person is exposed to the hazard 1x or 2x per week
 - 5 = continuous: a person is exposed to the hazard 1x or more per day
5. What is the **probability of occurrence**
 - 1 = unlikely to occur
 - 2 = some chance
 - 3 = could occur
 - 4 = good chance
 - 5 = will occur if not attended to
6. What are the **consequences**
 - 1 = insignificant: a person receives a very minor injury, no damage to property
 - 2 = first aid or minor property damage: a person administers first aid to self
 - 3 = injury results in lost time, seeking medical help or significant property damage
 - 4 = injury results in permanent disability, serious health effects or property damage
 - 5 = injury results in a fatality, or there is major property damage
7. Add the numbers to reach a total risk rating. A risk rating of:
Serious (11 – 15) means the hazard must be attended to immediately, prior to the commencement of the job. Controls **must** be put into place. A safe job procedure **must** be in place prior to the commencement of the job.
Moderate (6 – 10) means the hazard requires attention. Controls **should** be put into place. A safe work procedure **should** be in place prior to the commencement of the job, but could be attended to once the job has commenced. Employees **must** be aware of the hazard. The safe work procedure **must** be in place prior to the completion of the job.
Low (3 – 5) means the hazard requires monitoring. Controls are recommended. A safe work procedure is recommended.

HAZARD ELIMINATION AND CONTROL

If an existing or potential hazard to workers is identified during a hazard assessment, measures must be taken to:

- eliminate the hazard, or
- If elimination is not reasonably practicable, control the hazard

If reasonably practicable, the hazard must be eliminated or controlled through the use of engineering controls.

If a hazard cannot be eliminated or controlled using engineering controls, administrative controls must be used to control the hazard to a level as low as reasonably achievable.

If a hazard cannot be eliminated or controlled using engineering or administrative controls, then appropriate personal protective equipment must be used.

If a hazard cannot be eliminated or controlled using any one of the above controls, then a combination of these should be used if this would provide a greater level of worker safety.

If emergency action is required to control or eliminate a hazard that is dangerous to the safety or health of workers:

- only those workers competent in correcting the condition, and the minimum number necessary to correct the condition, may be exposed to the hazard, and
- every reasonable effort must be made to control the hazard while the condition is being corrected.

The following are some examples of controls.

Engineering controls

- Design of a workplace
- Automation/material handling devices
- Machine guard, interlocks, lockouts, warning devices
- Isolation/enclosure
- Limitation (safety valves)
- Ventilation (general dilution/local exhaust)
- Storage
- Air monitoring devices
- Communication devices

Administrative controls

- Substitution of a less toxic product
- Purchasing criteria (tools, equipment, chairs, etc)
- Policies and procedures
- Training
- Organizing and planning work
- Rotation of workers
- Safety plan/procedure

Personal Protective Equipment (PPE)

- Hard hat
- Goggles
- Hearing
- Safety boots
- T-shirts with 4 inch sleeves
- Respiratory protective equipment
- Fall protection

JOB TASKS ANALYZED

Safe Work Procedures were written up for jobs tasks evaluated as having High or Extreme Hazards associated with them.

The job tasks listed below for Grounds Maintenance were found to have the corresponding hazards associated with them through the Risk Analysis process as mentioned.

Conducted by:	Vern Leckie	Date:	February 2001
	Frank Perotta		
	Richard Tedesco		
	Rich Feenstra		
	Ryan Boyle		
	Tyler Fallwell		
	Jayne Yates		

Aerating Turf

- #5 Light Radiation (10)
- #7 Noise (10)

Aerial Pruning – Boom Truck

- #7 Noise (10)
- #8 Eye Injury (12)
- #9 Repetitive Strain / Motion (12)
- #11 Slips / Falls (13)
- #13 Rotating Equipment (12)
- #15 Cuts (12)

Campus Clean Up / Litter Pickup

- #3 Exposure Heat / Cold
- #5 Light Radiation
- #9 Repetitive Strain / Motion
- #10 Lifting
- #11 Slips / Falls
- #15 Cuts
- #22 Bio-Hazardous Material

Cultivating – Hand Work

- #5 Light Radiation (10)
- #9 Repetitive Strain / Motion (10)

Cultivating – Tractor Mount

- #4 Dust / Vapours (12)
- #5 Light Radiation (10)
- #7 Noise (10)

Cultivating – Walk Behind

HAZARD IDENTIFICATION

- #4 Dust / Vapours (12)
- #5 Light Radiation (10)
- #7 Noise (10)
- #9 Repetitive Strain / Motion (10)
- #10 Lifting (10)
- #13 Rotating Equipment (10)

Curb Work

- #9 Repetitive Strain / Motion (12)
- #10 Lifting (12)

Indoor Plants – Chemical Work

- #2 Chemical Exposure (12)
- #4 Dust / Vapours (12)
- #8 Eye Injury (12)

Mowing – Push Mowers

- #3 Exposure to Heat / Cold (10)
- #5 Light Radiation (11)
- #7 Noise (11)
- #15 Cuts (11)

Mowing – Toro Mowing

- #3 Exposure to Heat / Cold (10)
- #7 Noise (11)
- #15 Cuts (11)

Mowing – John Deere Walk Behind

- #3 Exposure to Heat / Cold (10)
- #5 Light Radiation (11)
- #7 Noise (11)
- #11 Slips / Falls (12)
- #15 Cuts (11)

Pesticide Application

- #2 Chemical Exposure (12)
- #4 Dust / Vapours (12)
- #8 Eye Injury (12)

Planting Bed Cleanup and Maintenance

- #5 Light Radiation (10)

Pruning – Chainsaw Operation

- #1 Falling Objects (11)
- #7 Noise (10)
- #8 Eye Injury (12)
- #9 Repetitive Strain / Motion (12)

HAZARD IDENTIFICATION

- #13 Rotating Equipment (12)
- #15 Cuts (12)

Pruning – Fire / Burning

- #3 Exposure to Heat / Cold (11)
- #17 Fire (15)

Pruning – Ground Work

- #1 Falling Objects (11)
- #7 Noise (10)
- #8 Eye Injury (12)
- #9 Repetitive Strain / Motion (12)
- #13 Rotating Equipment (12)
- #15 Cuts (12)

Pruning – Ladder Work

- #7 Noise (10)
- #8 Eye Injury (12)
- #9 Repetitive Strain / Motion (12)
- #11 Slips / Falls (13)
- #13 Rotating Equipment (12)
- #15 Cuts (12)

Pruning – Shrubs

- #1 Falling Objects (11)
- #7 Noise (10)
- #8 Eye Injury (12)
- #9 Repetitive Strain / Motion (12)
- #15 Cuts (10)

Shoreline Cleanup

- #11 Slips / Falls (12)

Signage – Installation / Construction

- #1 Falling Objects (11)

Sod Cutting

- #5 Light Radiation (10)
- #7 Noise (11)

Sportfield Line Painting

- #2 Chemical Exposure (11)
- #8 Eye Injury (13)

Storm Sewer Cleanup

- #9 Repetitive Strain / Motion (12)
- #10 Lifting (12)

Street Sweeping

HAZARD IDENTIFICATION

- #4 Dust / Vapours (12)

Submerged Aquatic Weed Control (Chemical Work)

- #2 Chemical Exposure (12)
- #4 Dust / Vapours (12)
- #8 Eye Injury (12)

Toro Broom Sweeping of Roadways

- #4 Dust / Vapours (12)

Vegetation – Chemical Control

- #2 Chemical Exposure (12)
- #4 Dust / Vapours (12)
- #8 Eye Injury (12)

Weed Whipping

- #5 Light Radiation (11)
- #7 Noise (11)
- #8 Eye Injury (11)

Welding / Cutting / Burning

- #4 Dust / Vapours (10)
- #5 Light Radiation (10)
- #6 Electrical (11)
- #8 Eye Injury (14)
- #7 Fire (12)

UNIVERSITY OF LETHBRIDGE
FACILITIES

HEALTH & SAFETY PROGRAM

HAZARD CONTROL

SAFE WORK PROCEDURES OVERVIEW

Throughout Facilities, assessments were conducted on the various existing job tasks and equipment operated to determine the hazards employees may be exposed to. The assessment system used can be found in the previous section of this manual.

Safe Work Procedures were written for specific tasks having high or extreme hazards associated with them. Throughout the Safe Work Procedures, reference is made to various Safe Work Practices as found in Appendix 'A' of these manuals. The Safe Work Procedures vary from the Practices, in that the Procedures are a step by step outline on how to carry out a specific task, whereas the Practices are general safety measures / precautions for tools, equipment, or general work practices which can be applied to a number of Safe Work Procedures.

The Safe Work Procedures were designed to ensure that any information pertaining to the task could be found on the form prior to commencing work. Any hazards associated with the task, along with control measures for these hazards, specific tools or equipment required for the job, as well as references to supplementary material are all listed on the form.

A copy of the Safe Work Procedures Template can be found in this section. This form and the previously mentioned Hazard Analysis System are used whenever new responsibilities or equipment are added to a department.

AERATING TURF

GENERAL / BRIEF DESCRIPTION OF TASK:

- Aerate the turf by means of pull type aerator attached to a tractor. The purpose of this activity is to remove cores of soil to allow air and water to move quickly down into the root zone of the turf.

FREQUENCY OF TASK PERFORMED:

- Twice per growing season usually late April and early September.

HAZARDS IDENTIFIED:

#5 – Light Radiation

#7 – Noise

P.P.E. REQUIRED:

- Safety Boots
- Hearing Protection – when power tools used
- Gloves
- Sun Protection

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for any possible hazards.
- Always shut off tractor when attaching or detaching aerator.
- Block up aerator when it is held up by tractor hydraulics to clean tines etc.
- Do not attempt to move aerator by hand as it is very heavy.
- Check tractor and aerator to make sure everything is working properly.
- Flag all irrigation sprinklers before beginning to prevent damage to sprinklers.
- Always lift aerator at the end of each pass. Do not turn with aerator down as it damages turf and the aerator.

CAMPUS CLEANUP / LITTER PICKUP

GENERAL / BRIEF DESCRIPTION OF TASK:

- Litter picking operations are conducted during good weather conditions as required year round. A massive spring cleanup occurs during the first week of May when summer staff begin working. Garbage, which has been left around or blown around on campus, is cleaned up, bagged and disposed of.

FREQUENCY OF TASK PERFORMED:

- One – three / four day spring cleanup.
- Weekly cleanup May, June, July, and August.
- As required during remainder of year.

HAZARDS IDENTIFIED:

- #3 Exposure Heat / Cold
- #5 Light Radiation
- #9 Repetitive Strain / Motion
- #10 Lifting
- #11 Slips / Falls
- #15 Cuts
- #22 Bio-Hazardous Material

P.P.E. REQUIRED:

- Safety Boots
- Gloves
- Adequate clothing for season

SPECIAL TOOLS REQUIRED (if any):

Paper pickers

SAFE WORK PROCEDURE:

- Visually inspect the worksite for possible hazards.
- All Grounds Workers must be vaccinated for **Hepatitis 'B'**.
- Grounds Workers must work outside in extreme temperatures. While working outside Grounds Workers must bring appropriate clothing to deal with weather changes and protect against injury due to exposure to extreme heat and cold.
- Sunscreen with an SPF of 15 or greater must be worn – this should be applied 20 minutes prior to exposure to the sun as recommended by Health Canada.
- Please refer to '**Info Sheet for Sun Protection**' as found in Appendix 'B'.

SAFE WORK PROCEDURES

- Always wear gloves to protect against broken glass, metal, sharps or other contaminated or potentially bio-hazardous materials.
- Any bio-hazardous materials must be double bagged and disposed of in a bio-hazardous container.
- Be aware of any burrowing in the area caused by animals in an attempt to reduce or eliminate injury caused by tripping, slips or falls.
- Bags should be fastened into bag holders with rubber bands to prevent hazards due to garbage spillage.
- In an attempt to alleviate injuries caused by repetitive strain & motion, regular scheduled breaks should be taken and rotation of duties with shift partner exercised.
- When picking up large items or bags of garbage follow '**Proper Lifting Techniques**' as outlined in Appendix 'A'.

CULTIVATING - HAND WORK

GENERAL / BRIEF DESCRIPTION OF TASK:

- To turn up soil / remove weeds in areas which are not accessible with walk behind rototiller using a shovel, hoe, or rake.

FREQUENCY OF TASK PERFORMED:

- On demand – (May to October).

HAZARDS IDENTIFIED:

#5 – Light Radiation
#9 – Repetitive Strain / Motion
#10 - Lifting

P.P.E. REQUIRED:

- Safety Boots
- Gloves
- Sun Protection

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for any possible hazards.
- Check all hand tools for repairs needed. Report any repairs to supervisor.
- Refer to Safe Work Practice for “**Defective Tools**” as found in Appendix ‘A’.
- When lifting fertilizer, peat moss bags or other planting bed additives, do not lift bags over 40lbs.
- Refer to Safe Work Practice for “**Proper Lifting Techniques**” as found in Appendix ‘A’.
- In an attempt to alleviate injuries caused by repetitive strain & motion, regular scheduled breaks should be taken and rotation of duties with shift partner exercised.
- Grounds workers must work outside in extreme temperatures. While working outside, Grounds workers must bring appropriate clothing to deal with weather changes and protect against injury or lost time due to exposure to extreme heat.
- Sunscreen with an SPF of 15 or greater must be worn – this should be applied 20 minutes prior to exposure to the sun as recommended by Health Canada.
- Please refer to ‘**Info Sheet for Sun Protection**’ as found in Appendix ‘B’
- A hat with a brim that protects the ears and the back of the neck from sun exposure is recommended.

CULTIVATING – TRACTOR MOUNT

GENERAL / BRIEF DESCRIPTION OF TASK:

- To rototill large areas that can accommodate tractors and will not damage any trees or shrubs.

FREQUENCY OF TASK PERFORMED:

- On demand – (May to October).

HAZARDS IDENTIFIED:

#7 – Noise

P.P.E. REQUIRED:

- Safety Boots
- Gloves
- Hearing Protection

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for any possible hazards.
- Check tractor and tiller fluid levels, and for grease and repairs that may be needed. Report any repairs to supervisor.
- Refer to Safe Work Practice for **Re-fuelling** as found in University Vehicles document located in this manual.
- Check rototiller frequently if using in heavily weeded area, and clean off if necessary.
- Ensure PTO is turned off before getting out of tractor to avoid serious injury or fatality caused by rotating equipment.
- Always wear gloves when cleaning off tynes, hooking up PTO, and hitching rototiller to tractor, to avoid injury due to pinch points and cuts.
- Once tilling is complete, clean off all equipment and check all fluid levels prior to putting equipment back in storage shops.

CULTIVATING – WALK BEHIND

GENERAL / BRIEF DESCRIPTION OF TASK:

- To rototill tree and flower beds that are inaccessible with tractor mount rototiller.

FREQUENCY OF TASK PERFORMED:

- On demand – (May to October).

HAZARDS IDENTIFIED:

#4 – Dust / Vapours
#5 – Light Radiation
#7 – Noise
#9 – Repetitive Strain / Motion
#10 - Lifting
#13 – Rotating Equipment

P.P.E. REQUIRED:

- Safety Boots
- Gloves
- Hearing Protection
- Sun Protection

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for any possible hazards.
- Check equipment fluid levels and ensure all guards are properly in place. Report any repairs to supervisor.
- Refer to Safe Work Practice for **Re-fuelling** as found in University Vehicles document located in this manual.
- Till soil in beds between trees, shrubs and / or flowers until all of the area is turned up and clean of weeds.
- Refer to Safe Work Practice for “**Proper Lifting Techniques**” as found in Appendix ‘A’.
- Extreme caution when putting tiller in reverse as it can catch legs.
- Clean off tynes if plugged with weeds as needed. Ensure that machine is turned off before attempting to clean.

CURB WORK

GENERAL / BRIEF DESCRIPTION OF TASK:

- To place curbs in new parking areas, or replace old curbs. Once placed curbs shall be spiked into place.

FREQUENCY OF TASK PERFORMED:

- As needed.

HAZARDS IDENTIFIED:

#9 – Repetitive Strain / Motion

#10 - Lifting

P.P.E. REQUIRED:

- Gloves
- Safety Boots
- Safety Glasses

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for all possible hazards.
- Where possible a forklift, skid steer or tractor should be used to lift and move the curbs.
- Refer to Safe Work Practice for “**Forklift Operation**” as found in Appendix ‘A’.
- If space does not allow for use of a machine, and the curbs need to be lifted manually, this is a 2 person job.
- Refer to Safe Work Practice for “**Proper Lifting Techniques**” as found in Appendix ‘A’.
- Once curbs are placed, place spikes in slots and pound into ground with sledgehammer.
- Caution when using sledgehammer.
- Replaced curbs shall be removed and spikes also removed.
- Clean area, and place in new curb. Pound in new spikes.

TRANSPORTATION AND DISPOSAL OF METAL

GENERAL / BRIEF DESCRIPTION OF TASK:

- Use of vehicles to transport metal objects to remote storage metal bin.
- Unloading such items into bin.

FREQUENCY OF TASK PERFORMED:

- Infrequent/quarterly.

HAZARDS IDENTIFIED:

- #1 – Falling objects
- #9 – Repetitive strain/motion
- #10 – Lifting
- #11 – Slips/falls
- #14 – Pinch points
- #15 – Cuts

P.P.E. REQUIRED:

- Safety boots
- Gloves
- Adequate clothing for weather conditions

SPECIAL TOOLS REQUIRED (if any):

- Tie down straps/rope
- Forklift
- Flat deck truck

SAFE WORK PROCEDURE:

To load metal objects onto truck:

- Ensure vehicle utilized has adequate area of deck for objects being disposeded.
- Depending on the object, this may be a two-person job, with one person stabilizing the object(s) and one person operating the lift, or both people lifting object from ground to truck deck surface.
- Refer to Safe work Practice for ***“Forklift Operation”*** as found in Appendix ‘A’
- Refer to Safe work Practice for ***“Proper Lifting Techniques”*** as found in Appendix ‘A’.
- Ensure object is as close as possible to front of truck before transporting.
- Secure objects using rope or tie down straps.
- While transporting objects to the metal bin, be aware of position of objects at all times. If object tips or slides out of position, immediately stop vehicle and re-secure.

To Unload Metal Objects Into Metal Bin:

- Carefully back truck up to metal bin.
- Check to make sure there are no obstructions under path of truck
- Check to see that there are no metal objects protruding from the bin.
- If so, safely rearrange items so as they are confined within the bin and/or report to supervisor that the bin must be emptied. Do not unload the truck if this is the case.

SAFE WORK PROCEDURES

- Depending on the objects, this may be a two-person job, with both people sharing the lifting and dumping.
- Refer to Safe work Practice for ***“Proper Lifting Techniques”*** as found in Appendix ‘A’.
- If forklift is required, refer to Safe Work Practice for ***“Forklift Operation”*** as found in Appendix ‘A’

NOTE: the metal bin is not to be filled beyond the confined space of the bin.

FERTILIZER APPLICATION

GENERAL / BRIEF DESCRIPTION OF TASK:

- To apply fertilizer to specific areas of the campus using a PTO driven spreader or a push hand spreader.

FREQUENCY OF TASK PERFORMED:

- May to October – the playing field is fertilized monthly while other specific areas on campus are done once a year.

HAZARDS IDENTIFIED:

#3 Exposure Heat / Cold
#4 Dust /Vapours
#5 Light Radiation
#8 Eye Injury
#10 Lifting
#13 Rotating Equipment
#14 Pinch Points

P.P.E. REQUIRED:

- Safety Boots
- Gloves
- Dust Mask
- Safety Glasses
- Coveralls

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for any possible hazards.
- This is performed mostly by full-time regular staff. On occasion Summer Staff will fertilize with the walk behind spreader. Summer Staff are not to fertilize using the PTO driven spreader with the tractor.
- Grounds workers must work outside in extreme temperatures. While working outside, Grounds workers must bring appropriate clothing to deal with weather changes and protect against injury or lost time due to exposure to extreme heat / cold
- Sunscreen with an SPF of 15 or greater must be worn – this should be applied 20 minutes prior to exposure to the sun as recommended by Health Canada.

SAFE WORK PROCEDURES

- Please refer to **'Info Sheet for Sun Protection'** as found in Appendix 'B'
- A hat with a brim that protects the ears and the back of the neck from sun exposure is recommended.
- Gloves must be worn when hooking up spreader to tractor to protect against injury caused by pinch points on the hitch.
- Ensure no persons are standing overtop of or near PTO when it is engaged.
- If you need to get out of the tractor to work on or refill hopper, ensure PTO is shut off first.
- When filling hoppers, you should be in a well-ventilated area as the fertilizers give off a fine dust. Use a dust mask to prevent inhalation of dust.
- Safety glasses must be worn when filling the hopper to prevent eye injury from dust that sifts up when the bags of fertilizer are poured.
- Refer to Manufacturers labels and MSDS for specific precautions to take while handling.
- Use caution when lifting bags to fill the hopper. Fertilizer bags weigh 50 lbs. each. Use proper lifting techniques or obtain assistance if bags are too heavy.
- Refer to Safe Work Practices for **"Proper Lifting Techniques"** as found in Appendix 'A'.
- When fertilizing is completed, the spreader is to be rinsed out with the pressure washer.

GARBAGE RECEPTACLE COLLECTION

GENERAL / BRIEF DESCRIPTION OF TASK:

- Removing full garbage bags from garbage receptacles at various sites on campus and replacing with new bags.

FREQUENCY OF TASK PERFORMED:

- Performed daily

HAZARDS IDENTIFIED:

#1 Falling Objects
#2 Chemical Exposure
#3 Exposure Heat / Cold
#5 Light Radiation
#8 Eye Injury
#9 Repetitive Strain / Motion
#10 Lifting
#11 Slips / Falls
#14 Pinch Points
#15 Cuts
#22 Bio-Hazardous Material

P.P.E. REQUIRED:

- Safety Boots
- Gloves
- Safety goggles (when pressure washing)

SPECIAL TOOLS REQUIRED (if any):

Rubber gloves

SAFE WORK PROCEDURE:

- Visually inspect worksite for any possible hazards.
- Grounds workers must work outside in extreme temperatures. While working outside, Grounds workers must bring appropriate clothing to deal with weather changes and protect against injury or lost time due to exposure to extreme heat / cold.
- Sunscreen with an SPF of 15 or greater must be worn – this should be applied 20 minutes prior to exposure to the sun as recommended by Health Canada.
- Please refer to ***'Info Sheet for Sun Protection'*** as found in Appendix 'B'
- A hat with a brim that protects the ears and the back of the neck from sun exposure is recommended.
- Gloves must be worn when handling garbage to protect against injury or serious health complications from contact with sharp objects, unknown chemicals or bio-hazardous material.

SAFE WORK PROCEDURES

- Exercise caution during winter months or rainy season as area around bins can become extremely slippery.
- Always visually inspect contents of bags for dangerous or heavy objects.
- If bag is too heavy get help to load or unload.
- Refer to Safe Work Practices for “**Proper Lifting Techniques**” as found in Appendix ‘A’.
- In an attempt to alleviate injuries caused by repetitive strain & motion, regular scheduled breaks should be taken and rotation of duties with shift partner exercised.
- When pressure washing receptacles, goggles or a face shield must be worn.

INDOOR PLANTERS – HIGH WORK

GENERAL / BRIEF DESCRIPTION OF TASK:

- To water / fertilize / exchange plants that are located in U Hall on the level 7 & 8 Mezanine.

FREQUENCY OF TASK PERFORMED:

- Twice weekly

HAZARDS IDENTIFIED:

#11 – Slips / Falls

P.P.E. REQUIRED:

- Safety Boots

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for any possible hazards.
- Extreme caution to be taken when climbing onto Mezanine.
- Open water valve.
- Climb onto walkway.
- Water all plants, ensuring not to over water and have run-off into the sixth level atrium.

INDOOR PLANTERS - PLANTING

GENERAL / BRIEF DESCRIPTION OF TASK:

- Place pots.

FREQUENCY OF TASK PERFORMED:

- As needed throughout the year.

HAZARDS IDENTIFIED:

#10 - Lifting

P.P.E. REQUIRED:

- Gloves
- Safety Boots

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect area for possible hazards.
- Place soil in pot until approximately $\frac{1}{4}$ to $\frac{1}{2}$ full.
- Refer to Safe Work Practice for “**Proper Lifting Techniques**” as found in Appendix ‘A’.
- Put in plant that is to be potted.
- Caution when handling some plants.
- Slowly add soil around plant and firmly pack soil
- Once soil has filled pot, water plant.
- Clean working area.

INDOOR PLANTS – CHEMICAL WORK

GENERAL / BRIEF DESCRIPTION OF TASK:

- Spray indoor plants with backpack sprayer.
- Task to be done by a licensed pesticide applicator or a licensed assistant pesticide applicator.

FREQUENCY OF TASK PERFORMED:

- As needed – usually once per month.

HAZARDS IDENTIFIED:

#2 – Chemical Exposure
#4 – Dust / Vapours
#8 – Eye Injury

P.P.E. REQUIRED:

- Rubber Gloves
- Safety Boots
- Organic Filter Mask
- Safety Glasses

SPECIAL TOOLS REQUIRED (if any):

Backpack sprayer

SAFE WORK PROCEDURE:

- Visually inspect worksite for any possible hazards.
- Assess all plants for bugs that may be infecting the plant.
- Determine and mix chemical to be applied.
- Refer to MSDS sheets for any additional safety precautions to take.
- Place out wet floor signs in work area.
- Thoroughly spray plants, being careful not to spray windows or pedestrians.
- Clean any overspray off windows or floor.
- Remove floor signs.
- Record date, chemical used, and location.
- Place chemical back into locking cabinet.

IRRIGATION (PREVENTATIVE MAINTENANCE)

GENERAL / BRIEF DESCRIPTION OF TASK:

- Inspection and maintenance of all irrigation equipment.
- All required repairs are assessed and reported.
- Routine maintenance / weekly check of time clocks / controller / any malfunctioning of electrical system.

FREQUENCY OF TASK PERFORMED:

Performed monthly from May to October

HAZARDS IDENTIFIED:

P.P.E. REQUIRED:

- Safety Boots
- Gloves

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for possible hazards before working on system.
- Check automatic systems weekly.
- Check clock, controllers for electrical malfunctioning.
- Report electrical problems to Utility Supervisor for repair by electrician.
- Program clocks for scheduled watering.
- Inspect clocks on regular basis to ensure proper settings.
- Note conditions of grass and adjust accordingly.

IRRIGATION (REPAIRS)

GENERAL / BRIEF DESCRIPTION OF TASK:

- Repairs made to valves, pipes and heads

FREQUENCY OF TASK PERFORMED:

- Performed on demand (April to October)

HAZARDS IDENTIFIED:

P.P.E. REQUIRED:

- Safety Boots
- Gloves
- Sun Protection

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect work site for possible hazards.
- Use primer and glue in a well-ventilated area.
- Refer to Safe Work Practices for “**Flammable and Toxic Material**” as found in Appendix ‘A’
- Determine repair parts that are needed.
- Clean (dig) out work area needed to perform repair.
- If glue is used in repair, leave glued area exposed as to ensure proper drying.
- Cover area once completed, and landscape to original looks.
- Pressure test area to guarantee area has been fixed.

IRRIGATION (WINTERIZATION - SHUTDOWN)

GENERAL / BRIEF DESCRIPTION OF TASK:

- Shutdown pump and drain all irrigation lines

FREQUENCY OF TASK PERFORMED:

- Performed yearly in October

HAZARDS IDENTIFIED:

#3 – Exposure to Heat / Cold

#8 – Eye Injury

#22 – Pedestrian Traffic

P.P.E. REQUIRED:

- Safety Boots
- Gloves
- Hearing Protection
- Sun Protection
- Safety Glasses / Goggles
- Clothing to suit environmental conditions

SPECIAL TOOLS REQUIRED (if any):

Compressor

SAFE WORK PROCEDURE:

- Visually inspect work site for possible hazards.
- Hearing protection should be worn while working with compressor.
- Refer to Safe Work Procedure for “**Use of Compressed Air**” as found in Appendix ‘A’.
- Caution should be taken as not to stand directly over sprinkler that has compressed air escaping as it may break and come out of the ground.
- Ensure all systems at main service valve are turned off.
- In order to avoid inconvenience to pedestrians, draining of systems in high traffic areas should be done in early morning hours or late evening hours. Remote areas with little or no pedestrian traffic can be drained during the regular day hours.

LINE PAINTING – (ROADWAYS AND PARKING LOTS)

GENERAL / BRIEF DESCRIPTION OF TASK:

- To paint designated parking areas and roadways to ensure driver and public safety.

FREQUENCY OF TASK PERFORMED:

- Done yearly with some areas being completed twice yearly.
- Everything being done in July and August with some touch-ups done in the spring if needed.

HAZARDS IDENTIFIED:

P.P.E. REQUIRED:

- Safety Vest
- Safety Boots
- Safety Gloves
- Coveralls
- Safety Glasses

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for possible hazards
- Always mix paint and clean machine in a well-ventilated area as fumes are very flammable.
- Refer to Safe Work Procedure for “**Use of Cleaning Solvents and Flammables**” as found in Appendix ‘A’.
- Extreme caution should be used while using paint thinners.
- No open flames are to be within area of paint or thinners.
- Be aware of traffic while painting.
- Always work with a partner who will notify you of hazards.
- Ensure all equipment is properly maintained with all problems reported to the mechanic.
- Check fuel and oil daily.
- Most painting is done early morning, with safety vests to be worn at all times.
- Areas to be painted shall be cleaned of all debris and dirt.
- Freshly painted areas shall have pylons on the lines to avoid traffic crossing them.
- The machine shall be thoroughly cleaned after each use.

PARKING LOT – HAND WORK

GENERAL / BRIEF DESCRIPTION OF TASK:

- Clean all areas, primarily in between curbs, that cannot be reached by machine.

FREQUENCY OF TASK PERFORMED:

- Spring – or as needed.

HAZARDS IDENTIFIED:

P.P.E. REQUIRED:

- Safety Boots
- Gloves
- Safety Vest
- Safety Glasses
- Hearing Protection

SPECIAL TOOLS REQUIRED (if any):

- Shindiawa Power Sweeper
- Push broom
- Shovel
- Scraper

SAFE WORK PROCEDURE:

- Visually inspect worksite for any possible hazards.
- Sweep gravel and debris from in between parking curbs out towards roadway.
- Ensure swept gravel is far enough into roadway so that the street sweeper is able to pick it up.
- Watch for vehicular traffic when in parking lots.

PESTICIDE APPLICATION

GENERAL / BRIEF DESCRIPTION OF TASK:

- Mixing and applying chemical done by a Licensed Pesticide Applicator.
- To spray affected areas on campus with gas powered sprayer or backpack sprayer
- Assistant Pesticide Applicator only authorized to apply chemical

FREQUENCY OF TASK PERFORMED:

- Trees may be sprayed for insects in the early summer if a problem arises. Weeds are spot sprayed with Round-up where and when required. Once in 4 – 5 years broad-leafed weed killers may be applied to fine turf areas. We try to keep our spraying to an absolute minimum and only when a need exists.

HAZARDS IDENTIFIED:

- #2 – Chemical Exposure
- #4 – Dust / Vapours
- #8 – Eye Injury

P.P.E. REQUIRED:

- Coveralls
- Respirator (filtered for organic vapours)
- Goggles
- Rubber Gloves
- Rubber Boots
- Safety Belt

SPECIAL TOOLS REQUIRED (if any):

- Back Pack Sprayer
- Boom Sprayer

SAFE WORK PROCEDURE:

- Visually inspect worksite for possible hazards.
- **NEVER spray in windy conditions. (10 – 15 Km/H acceptable)**
- **ALL** spraying is to be done under the supervision of a Licensed Pesticide Applicator.
- Do not spray when there are people in the area.
- Safety equipment must be worn during mixing, application, and cleaning. (ie. Goggles, rubber gloves, coveralls, rubber boots, and respirators). Respirators should have filters for organic vapours. This includes the tractor operator or any other employee assisting the person spraying chemicals.
- Safety belt to be worn when spraying from cage on tractor.
- Refer to Info Sheet for “**Safety Belts, Lanyards, and Life-lines**” as found in PPE section of this manual.

SAFE WORK PROCEDURE (cont.):

- Read and follow all instructions on container. Refer to MSDS for further information.
- Test application equipment with water before adding chemical.
- Should you spill chemical on yourself or coveralls, you must shower immediately soaping thoroughly. While spraying coveralls are the only clothing that should be worn. Coveralls that are contaminated with chemical should be placed in a plastic bag and labeled as Hazardous Waste. Chemical spills should be contained with absorbent material (Berthenante). After the chemical has been absorbed, clean up the material and place it in a plastic bag with the name of the chemical listed, then labeled as Hazardous Waste. Read MSDS sheets to see if further action is necessary.
- Use all chemical that is in applicator. Mix only what is needed.
- When spraying is completed, flush all equipment with water, applying flush water to spray area.
- Empty containers to be rinsed four times with this flush water added to chemical batch.
- Flushed containers are to be placed in the Hazardous Waste compound for disposal.
- When turf areas have been sprayed with herbicide, signage must be placed out to notify the public.
- Ample notification of University of Lethbridge community to precede spray activities.
- Sprayed areas are to be closed 48 hours following application.
- Monitor area sprayed and evaluate if further spraying is needed.

PICNIC TABLES / PARK BENCHES

GENERAL / BRIEF DESCRIPTION OF TASK:

- Repair furniture on site or in shop.

FREQUENCY OF TASK PERFORMED:

- Inspect in the spring, then monthly throughout the summer.

HAZARDS IDENTIFIED:

10 – Lifting
#16 – Eye Strain
#17 – Fire

P.P.E. REQUIRED:

- Gloves
- Safety Boots
- Sun Protection
- Welders Face Shield
- Welding Bib / coat

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for possible hazards.
- Refer to Safe Work Practice for “**Use of Non-Powered Hand Tools**” as found in Appendix ‘A’.
- Check for stability of metal frame. If there are any cracks in the metal have it welded immediately.
- Please refer to Safe Work Practice for “**Welding, Cutting, Burning**” as found in Appendix ‘A’.
- Ensure a face shield is worn with a welder’s rated lense to prevent eye strain.
- If table or bench is not secured to the ground it should be taken back to the welding shop to be repaired.
- If welding needs to be done on site – a Hot Work Permit must be obtained from the Utilities department prior to starting.
- Refer to “**Hot Work Permit**” as found in Policies and Guidelines section of the Safety Manual.
- If welding on site, ensure flash curtains are setup around area to protect passersby from welder’s flash.
- Exercise caution when lifting.
- Refer to Safe Work Practices for “**Proper Lifting Procedures**” as found in Appendix ‘A’.
- Remove unsafe tables.

PLANTING BED CLEANUP AND MAINTENANCE

GENERAL / BRIEF DESCRIPTION OF TASK:

- To clean out all unwanted weeds / debris and to aerate soil.

FREQUENCY OF TASK PERFORMED:

- Should be done weekly – May to October

HAZARDS IDENTIFIED:

#3 – Exposure to Heat / Cold

#5 – Light Radiation

#9 – Repetitive Strain / Motion

P.P.E. REQUIRED:

- Gloves
- Safety Boots
- Sun Protection

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for possible hazards.
- In an attempt to alleviate injuries caused by repetitive strain & motion, regular scheduled breaks should be taken and rotation of duties with shift partner exercised.
- Grounds workers must work outside in extreme temperatures. While working outside, Grounds workers must bring appropriate clothing to deal with weather changes and protect against injury or lost time due to exposure to extreme heat.
- Sunscreen with an SPF of 15 or greater must be worn – this should be applied 20 minutes prior to exposure to the sun as recommended by Health Canada.
- Please refer to '**Info Sheet for Sun Protection**' as found in Appendix 'B'
- A hat with a brim that protects the ears and the back of the neck from sun exposure is recommended.
- Refer to Safe Work Procedures for "**Cultivating – Hand Work**" and "**Cultivating – Walk Behind**" as found in this section.

PLAYGROUND MAINTENANCE - APERTURE

GENERAL / BRIEF DESCRIPTION OF TASK:

- Inspect playground equipment for repairs needed and maintain area at Aperture Park.

FREQUENCY OF TASK PERFORMED:

- Monthly checks are made throughout the year.

HAZARDS IDENTIFIED:

P.P.E. REQUIRED:

- Gloves
- Safety Boots
- Sun Protection

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for possible hazards.
- When working in area always be aware of children playing in area.
- Check components of playground apparatus.
- Notify housing of any repairs or replacement needed of apparatus.
- Inspect and repair if needed all wooden curbing and structure.
- Remove all unsafe equipment that is beyond repair.
- Tighten all bolts, nuts, screws or nails.
- Refer to Safe Work Practice for “**Use of Non-Powered Hand Tools**” as found in Appendix ‘A’.
- Rototill gravel to kill weeds monthly.
- Refer to Safe Work Procedure for “**Cultivating – Walk Behind**” as found in this section.

PRUNING – CHAINSAW OPERATION

GENERAL / BRIEF DESCRIPTION OF TASK:

- Properly maintain and use safely and correctly for pruning.

FREQUENCY OF TASK PERFORMED:

- While pruning it is used daily.

HAZARDS IDENTIFIED:

- #1 – Falling Objects
- #7 – Noise
- #8 – Eye Injury
- #9 – Repetitive Strain / Motion
- #13 – Rotating Equipment
- #15 – Cuts

P.P.E. REQUIRED:

- Gloves
- Safety Boots
- Safety Glasses
- Hearing Protection
- Chainsaw Pants
- Hard Hat
- Face Shield

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for possible hazards.
- Refer to Safe Work Practice for “**Use of Chainsaws**“, as found in Appendix ‘A’.
- Workers must work in pairs when working with chainsaws.
- Read operations guide before using.
- Ensure all safety equipment is being used.
- Keep chain tightened as recommended at all times.
- Ensure chains are sharpened and bar is well greased.
- Check all fluid levels.
- Report any problems with equipment to supervisor and mechanic.
- Never make cuts near ground so as not to hit rocks.
- Plan an escape route before cutting.
- When cutting, **never** stand directly in line with saw always make sure it is off to the side in case of it hitting something in the wood (knot, nail) and being forced back up towards the operator.
- When falling a tree, ensure that co-workers are fully aware of your intentions (where the tree should fall) and are clear of site before any cuts are made.
- Cut off required branches or cut down tree.
- Check equipment for any damage or repairs after use.
- Place barricades, cones or signage around work site in high traffic areas to re-direct pedestrian / vehicular traffic away from site.

PRUNING – GROUND WORK – SHRUBS / TREES

GENERAL / BRIEF DESCRIPTION OF TASK:

- Pruning of shrubs / trees to ensure the safety / health / structural development according to tree species using hand / power / other tools including pole pruners as required.

FREQUENCY OF TASK PERFORMED:

- Mainly done during winter months, but is carried out year round on a time permitted basis.

HAZARDS IDENTIFIED:

- #1 – Falling Objects
- #7 – Noise
- #8 – Eye Injury
- #9 – Repetitive Strain / Motion
- #13 – Rotating Equipment
- #15 – Cuts
- #22 – Pedestrian / Vehicular Traffic

P.P.E. REQUIRED:

- Safety Boots
- Gloves
- Safety Goggles
- Hearing Protection (with power tools)
- Hard Hat with Face Shield

SPECIAL TOOLS REQUIRED (if any):

- Chainsaw
- Power Hedge Trimmer
- Loppers
- Pruning Saws
- Hand Pruners
- Pole Saw

SAFE WORK PROCEDURE:

- Visually inspect worksite for possible hazards.
- Note proximity of traffic for safety.
- Inspect and assess pruning requirements.
- Select best equipment / tools for area prior to actual pruning.
- Refer to Safe Work Practices for “**Use of Chainsaws**” as found in Appendix ‘A’.
- Workers must work in pairs when working with chainsaws.
- Remove all unwanted branches from tree.
- Disinfect pruning tools between cuts on diseased branches.
- Refer to Safe Work Practices for “**Cleaning Solvents and Flammables**” as found in Appendix ‘A’.
- Place barricades, cones or signage around work site in high traffic areas to re-direct pedestrian / vehicular traffic away from site.

PRUNING – LADDER WORK

GENERAL / BRIEF DESCRIPTION OF TASK:

- To cut off dead or unwanted branches that can't be reached by a pole pruner.

FREQUENCY OF TASK PERFORMED:

- When pruning, this is performed daily.

HAZARDS IDENTIFIED:

#7 – Noise
#8 – Eye Injury
#9 – Repetitive Strain / Motion
#11 – Slips / Falls
#13 – Rotating Equipment
#15 - Cuts

P.P.E. REQUIRED:

- Safety Boots
- Hearing Protection
- Safety Goggles
- Gloves
- Safety Belt
- Sun Protection
- Hard Hat with Face Shield

SPECIAL TOOLS REQUIRED (if any):

Chainsaw
Extension Ladder
Nursery Ladder
Extension Saw

SAFE WORK PROCEDURE:

- Visually inspect worksite for possible hazards.
- Safety harness to be used at all times.
- Refer to Info Sheet for “**Safety Belts, Lanyards, and Life-lines**” as found in Appendix ‘B’
- Ensure all equipment is in proper operating condition.
- Set up ladder on secure, stable ground, and secure ladder to tree.
- Refer to Safe Work Practice for “**Use of Portable Ladders**” as found in Appendix ‘A’
- Once you are positioned on ladder, secure yourself to the tree with safety harness.
- Extreme caution should be used if on ladder and using a chainsaw.
- Refer to Safe Work Practice for “**Use of Chainsaws**” as found in Appendix ‘A’.
- Workers must work in pairs when working with chainsaws.
- Refer to Safe Work Procedure for “**Pruning – Chainsaw Operation**” as found in this section.
- Place barricades, cones or signage around work site in high traffic areas to re-direct pedestrian / vehicular traffic away from site.

MOWING - PUSH MOWERS

GENERAL / BRIEF DESCRIPTION OF TASK:

- To mow designated areas that are hard to reach with larger machines or are very small areas.

FREQUENCY OF TASK PERFORMED:

- These machines will be used weekly during the growing season (May – October).

HAZARDS IDENTIFIED:

#3 – Exposure Heat / Cold
#5 – Light Radiation
#7 – Noise
#15 - Cuts

P.P.E. REQUIRED:

- Safety Boots
- Hearing Protection
- Gloves
- Sun Protection

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect area for possible hazards.
- If you are uncomfortable mowing an area with uneven ground, (steep berm), quit and cut the grass with a trimmer.
- Avoid mowing wet areas as this is hard on machines and increases the risk for operator to slip and fall.
- If you slip let go of the machine, as they are equipped with kill switches.
- Ensure mower is in proper working condition.
- Report any mechanical problems to supervisor and mechanic.
- Check oil level, gas level, and sharpness and security of blade.
- **All blade sharpening is to be done by permanent staff members only.**
- When re-fuelling, this should be done in a well-ventilated area.
- Refer to Safe Work Practice for **Re-fuelling** as found in University Vehicles document located in this manual.
- Have grass discharge away from sidewalks or roadways.

SHORELINE CLEANUP – RESERVOIR AND PONDS

GENERAL / BRIEF DESCRIPTION OF TASK:

- Various types of debris accumulate along the shorelines of the Reservoir and ponds. This is mostly garbage blown in or litter from visitors, which is picked and bagged for disposal. At certain times aquatic weeds may have to be raked up and disposed of.

FREQUENCY OF TASK PERFORMED:

- Litter Picking – One major spring cleanup and weekly litter picking by area person.
- Aquatic Weed Cleanup – as required – usually once a year.
- Occasionally fish will winter-kill and have to be removed after ice-out in spring.

HAZARDS IDENTIFIED:

- #10 – Lifting
- #11 – Slips / Falls

P.P.E. REQUIRED:

- Rubber Boots
- Gloves
- Adequate Clothing
- Sun Protection

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for possible hazards.
- **DO NOT wade into reservoir.**
- Always work in pairs.
- **Use extreme caution walking on slippery rocks and banks.**
- Rubber boots must be worn at all times
- When wading in cattail areas of ponds, do not try to cross open areas. Water is probably much deeper here.
- Do not overfill garbage bags. If bags become too heavy start a new bag. Bags should not exceed 40 lbs.
- Refer to Safe Work Practice for **“Proper Lifting Techniques”** as found in Appendix ‘A’

SHREDDER

GENERAL / BRIEF DESCRIPTION OF TASK:

- Chip pruned, fallen and dead trees and limbs up to 8" in diameter.

FREQUENCY OF TASK PERFORMED:

- When pruning – year round.

HAZARDS IDENTIFIED:

#4 – Dust / Vapours

#7 – Noise

#8 – Eye Injury

#10 – Lifting

#13 – Rotating Equipment

#22 – Pedestrian / Vehicular Traffic

P.P.E. REQUIRED:

- Gloves
- Face Shield and Safety glasses
- Safety boots
- Hard Hat
- Ear Protection

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Set up chipping site so pedestrian and vehicular traffic is not endangered. Situate the machine so that the mulch is discharged with the direction of the wind to carry any dust and loose particles away from the workers.
- Visually inspect worksite for possible hazards.
- This machine must be operated by a minimum of 2 people. No employee is authorized to operate this machine alone.
- Ensure proper PPE is worn at all times while handling material and operating machine. Please refer to the ***Info Sheets for Foot Protection, Hearing Protection, Eye & Face Protection, Head Protection, and Noise Exposure Limits*** as found in Appendix 'B'
- Thoroughly inspect equipment prior to use and ensure cutting chamber is empty. Report any problems to Supervisor and Mechanic.
- Check that all guards and deflectors are in place and in good working condition.
- No loose clothing is to be worn that can get caught into the feeder resulting in the individual being pulled into the machine.
- Do not allow hands or any other parts of the body inside the feeding chamber. Keep face and body back from feed opening
- When feeding material to be chipped, be extremely careful to as not to feed any pieces of metal, rocks, bottles, cans and other foreign objects into the machine.
- Refer to Safe Work Practice for ***'Proper Lifting Techniques'*** as found in Appendix 'A'
- If cutting mechanism strikes any foreign object or if the machine should start making any unusual noise or vibration, immediately shut off the engine or PTO and allow the machine to stop. Once the machine stops;
 - Inspect for damage
 - Replace or repair any damaged parts
 - Check for and tighten any loose parts
- Do not allow processed material to build up in the discharge area.
- Do not transport or move machine while it is operating.

SIDEWALK SNOW REMOVAL – MACHINE CLEANING

GENERAL / BRIEF DESCRIPTION OF TASK:

- Remove all snow off of campus sidewalks and patios.

FREQUENCY OF TASK PERFORMED:

- October to April – Whenever snow builds up on walkways.

HAZARDS IDENTIFIED:

P.P.E. REQUIRED:

- Gloves
- Safety Boots
- Adequate Clothing – Winter Conditions
- Hearing Protection

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for possible hazards.
- Make sure backup alarms are always operating.
- Make sure flashing lights and headlights are always on to improve visibility of machine to others.
- Inspect machinery to ensure that equipment is in safe reliable operating condition.
- Grease all points on machine if needed (every 5 – 10 hours of use).
- Top up fuel level.
- Refer to Safe Work Practice for **Re-fuelling** as found in University Vehicles document located in this manual.
- Check oil level and level of Radiator fluid.
- Report any equipment damage to mechanic.
- Always do visual checks when operating machines so you are aware of pedestrians.
- Clean snow from assigned routes.
- Do not sweep into direction of pedestrians.
- Follow specific snow clearing route assigned to the machine you are operating.
- Assist shovel snow removal crew to clear stairs etc. in your snow clearing route.
- Shut off PTO driven sweepers before exiting machines.

SIGNAGE INSTALLATION / CONSTRUCTION

GENERAL / BRIEF DESCRIPTION OF TASK:

- This work can be broken down to:
 - Sign replacement – replacing damaged or stolen signs.
 - Sign installation – single sign post installation – driven into ground.
 - Large sign construction.

FREQUENCY OF TASK PERFORMED:

- As required by work order – usually weekly.

HAZARDS IDENTIFIED:

#1 – Falling Objects

P.P.E. REQUIRED:

- Safety Boots
- Gloves
- Safety Belt
- Sun Protection

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Check to see if buried utilities may be affected. If unsure, have the Utilities department do line locates.
- Visually inspect worksite for possible hazards.
- Stay clear of post pounder.
- Stay clear of post hole auger.
- Use secured ladders or safety cage & safety belt for high work.
- Refer to Safe Work Practices on “**Use of Portable Ladders**” and as found in Appendix ‘A’.
- Refer to Safe Work Practice on “**Aerial Buckets**” as found in Appendix ‘A’
- Refer to Info Sheet for “**Safety Belts, Lanyards, and Life-lines**” as found in PPE section of this manual.
- Always work from deck of truck while pounding posts with post pounder.
- **Simple Sign Replacement:**
 - Remove bolts / nuts and old sign.
 - Replace sign and bolts / nuts and spacer.
 - Use a ladder if sign is too tall.
 - Straighten sign post if needed.

SAFE WORK PROCEDURE (cont.):

- **New Post and Sign:**
 - Pound post using post pounder from the deck of flatdeck truck.
 - When using post pounder do not allow pounder to come off the top of the post. This could result in an injury as this is a heavy object.
 - **Helpers are not to stand below post pounder during pounding.** This will prevent injury to helper if pounder does fall.
 - Top of post should be about 8 feet off of the ground.
 - Attach sign using nuts, bolts and spacers working from truck deck.
 - Make sure nuts are tight.
- **New Sign Construction:**
 - May be either treated wood 4" x 6" posts or 3" square metal tubing posts.
 - Holes are drilled at 4 foot spacing depending on width of sign (metal or wood). Holes are 9" diameter and 36" deep. A tractor-mounted auger is used to drill holes. Helpers are to stay well back from rotating PTO shafts and auger during drilling operations. If extra weight is needed to drill in hard ground, helpers may insert 6' long steel bars under hinge pin on top of auger and lean their weight on the end of these bars. Do not go closer to auger than the end of these bars.
 - Posts are placed in these holes / braced up and concrete mix poured to provide solid support for these posts.
 - After concrete sets, 2" x 6" cross pieces are screwed to wooden posts. Make sure cross pieces are level.
 - Sign panels are then screwed to these cross pieces.
 - Usually metal post signs will only have 2 posts, which will be drilled so sign panels can be bolted to the 2 posts. These metal posts will each be constructed in 2 pieces with attachment plates, which can be bolted together. This makes aligning posts in cement easier and allowing signs to be taken down for repairs or easy replacement if damaged.
 - All high work on signs will be done from a secured ladder or from the tractor bucket safety cage. **Worker must be secured to cage with safety belt.**

SOD CUTTING

GENERAL / BRIEF DESCRIPTION OF TASK:

- Cut sod and roll up so that it is re-used.

FREQUENCY OF TASK PERFORMED:

- As needed.

HAZARDS IDENTIFIED:

#5 – Light Radiation

#7 – Noise

P.P.E. REQUIRED:

- Gloves
- Safety Boots
- Hearing Protection

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect area for possible hazards.
- Check equipment for fluid levels and blade sharpness.
- Refer to Safe Work Practice for **Re-fuelling** as found in University Vehicles document located in this manual.
- **All blade sharpening is to be done by permanent staff members only.**
- Plan exact area to be cut.
- Ensure no one is close by when blades are engaged.
- Watch for any underground sprinklers.
- Cut area of sod and roll up.
- Cut sod must be stored in a shady, cool area and must be kept moist for 2 – 3 days maximum.

SPORTFIELD LINE PAINTING

GENERAL / BRIEF DESCRIPTION OF TASK:

- Line marking on grassed areas using latex paint on the soccer grassed fields.

FREQUENCY OF TASK PERFORMED:

- Done weekly – (May to October)

HAZARDS IDENTIFIED:

#2 – Chemical Exposure
#8 – Eye Injury

P.P.E. REQUIRED:

- Safety Boots
- Hearing Protection – when power tools used
- Gloves
- Disposable Coveralls
- Safety Goggles
- Sun Protection

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for hazards.
- Refer to MSDS and WHMIS label when using and mixing chemicals.
- Keep equipment and tools in good repair.
- Refer to Safe Work Practice for “**Use of Cleaning Solvents and Flammables**” as found in Appendix ‘A’.
- Refer to Safe Work Practice for “**Toxic and Flammable Materials**” as found in Appendix ‘A’.
- Identify locations of the four corners of the field.
- Fill with marking paint.
- Ensure goal lines and sidelines are at 90 degree angles to one another.
- Mark each corner kick with an arc of a radius of one yard.
- Measure along sideline – mark centre of line.
- Identify centre point of centre line - mark in a ten yard radius.
- Identify centre point of two goal lines as all measurements for the goal are a penalty area and penalty shots can be taken from this point.

SPORTFIELD MAINTENANCE

GENERAL / BRIEF DESCRIPTION OF TASK:

- Aerate playing field, top dress, and fertilize yearly. Repair goal mouths yearly.
- Rototill sandpits when required for track meets and change garbage bags in containers.

FREQUENCY OF TASK PERFORMED:

- The sports field is aerated and top dressed yearly in the spring with fertilization done monthly throughout the summer.
- Rototilling is done when needed throughout the summer.
- The sand pits are raked or rototilled before all scheduled track meets

HAZARDS IDENTIFIED:

#2 – Chemical Exposure
#5 – Light Radiation
#7 – Noise

P.P.E. REQUIRED:

- Safety Boots
- Hearing Protection – when power tools used
- Gloves
- Sun Protection
- Dust Mask

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for possible hazards.
- Use caution if people are present.
- Watch for obstacles.
- Keep equipment / tools in good repair.
- Use caution when handling garbage / debris.
- Refer to Safe Work Procedure for “**Campus Cleanup – Litter Pickup**” as found in this section.
- Aerate field in spring. Refer to Safe Work Procedure for “**Aerating Turf**” as found in this section.
- Top dressing is then done with a soil / sand mix.
- Fertilization is done immediately afterwards (20-10-10-5 fertilizer) and then monthly after the first application. Refer to Safe Work Procedure for “**Fertilizer Application**” as found in this section.

SAFE WORK PROCEDURES

- If there is a trackmeet then the sand pits will need to be rototilled, and all garbage containers placed out with new bags. Refer to Safe Work Procedure for "**Garbage Collection**" as found in this section.

STORM SEWER CLEANUP

GENERAL / BRIEF DESCRIPTION OF TASK:

- Control of vehicular and pedestrian traffic for cleaning out roadway storm drains of sand and debris.
- Vacuum truck is brought on campus for execution of cleanup

FREQUENCY OF TASK PERFORMED:

- Yearly in the spring.

HAZARDS IDENTIFIED:

#22 – Pedestrian / Vehicular Traffic

P.P.E. REQUIRED:

- Safety Boots
- Safety Gloves
- Safety Vest
- Coveralls
- Sun Protection
- Hearing Protection

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for possible hazards.
- Extreme caution is necessary working around an open hole.
- Place out pylons around storm drain to divert foot and vehicle traffic.
- Safety vest must be worn at all times.

STREET SWEEPING

GENERAL / BRIEF DESCRIPTION OF TASK:

- Properly maintain equipment, and clean all gutters and roadways on campus.

FREQUENCY OF TASK PERFORMED:

- A thorough cleanup is done in the spring and during the winter when there is a buildup of sand on the roads and the weather permits. Street sweeping is also done when there is a road race and the specific area is cleaned.

HAZARDS IDENTIFIED:

#4 – Dust / Vapours

P.P.E. REQUIRED:

- Coveralls
- Safety Boots
- Hearing Protection
- Welder's Dust Mask

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for possible hazards.
- Make sure machine is properly greased and all fluid levels are checked prior to starting.
- Refer to Safe Work Practice for **Re-fuelling** as found in University Vehicles document located in this manual.
- Inspect gutter brooms and main brooms; change if needed.
- Plan route that is to be swept.
- Sweep area, always being alert for vehicular and pedestrian traffic, as the dust from sweeping will impair your vision.
- Dump the sand in a pre-determined site. Sand will be moved to the shed in the boneyard and recycled for the following year.
- After each use thoroughly wash the machine and report all repairs to supervisor and mechanic.

SUPERVISION OF SUMMER STAFF

GENERAL / BRIEF DESCRIPTION OF TASK:

- Oversee maintenance activities of summer staff, organizing work / allocating resources / monitoring performance / assigning work to summer staff / organizes and conducts training sessions for equipment operation / maintenance and job safety.

FREQUENCY OF TASK PERFORMED:

- 5.5 hours daily for 16 weeks each summer.

HAZARDS IDENTIFIED:

- #2 – Chemical Exposure
- #4 – Dust / Vapours
- #5 – Light Radiation
- #7 – Noise
- #8 – Eye Injury

P.P.E. REQUIRED:

- Safety Boots
- Work Gloves & Rubber Gloves
- Hearing Protection
- Coveralls
- Organic Vapours Face Mask.
- Safety Goggles

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Comply with OH&S regulations.
- Do not have untrained summer staff apply pesticides.
- Do not have summer staff use portable grinders to sharpen mower blades.
- Make sure new employees are trained in operation of each piece of equipment before allowing them to use it.
- Ensure that summer staff takes adequate precautions to protect themselves from exposure to sunlight.
- Begin season by conducting equipment operation and safety training session.
- Organize / oversee spring campus litter pickup.
- Introduce summer staff to work area / work duties and responsibilities.
- Hand out and collect time sheets / daily work reports.
- Check on each area person at least twice per day.

SAFE WORK PROCEDURE (cont.):

- Provide staff with tools and materials as required.
- Ensure all summer staff members comply with safety guidelines.
- Repair and maintain tools assigned to summer staff as required.
- Wear 2-way radios.

TORO BROOM SWEEPING (ROADWAYS)

GENERAL / BRIEF DESCRIPTION OF TASK:

- Clean gravel from areas that are inaccessible by street sweeper. Clean gravel off of shoulder 12 feet back from curb onto street

FREQUENCY OF TASK PERFORMED:

- Spring.

HAZARDS IDENTIFIED:

#4 – Dust / Vapours

P.P.E. REQUIRED:

- Gloves
- Safety Boots
- Welder's Dust Mask
- Hearing Protection

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for possible hazards.
- A clean welders dust mask must be worn.
- Be alert to all traffic where you are working as you are throwing rocks.
- Check equipment and report any damage / repairs to supervisor.
- Slowly sweep towards street, constantly checking for pedestrian or vehicular traffic. Stop if any, and proceed when traffic has passed.
- Meridians also need to be swept off into roadway.
- Clean machine after each use and check for any repairs that are needed.

MOWING – TORO MOWER

GENERAL / BRIEF DESCRIPTION OF TASK:

- To mow designated areas around campus. This machine is used to mow large open area.

FREQUENCY OF TASK PERFORMED:

- Daily from the end of April until October. All areas mowed 2 to 3 times per week.

HAZARDS IDENTIFIED:

#3 – Exposure Heat / Cold

#7 – Noise

#15 - Cuts

P.P.E. REQUIRED:

- Safety Boots
- Hearing Protection
- Dust Masks
- Sun Protection

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for possible hazards.
- Do not mow wet areas in which you may become stuck or damage turf.
- Visually inspect machinery to ensure it is in safe operating condition. Ensure all guards are properly in place. Repair any defects as necessary.
- Make sure mowing blades are sharp and securely fastened to machine before operating.
- **All blade sharpening is to be done by permanent staff members only.**
- Check oil & fuel level and add if necessary.
- When re-fueling, this should be done in a well-ventilated area.
- Refer to Safe Work Practice for **Re-fuelling** as found in University Vehicles document located in this manual.
- Remove any debris from area prior to mowing.
- This machine has a closed cab but operators must still take precautions to prevent over exposure to sun and heat.
- Have grass discharge away from sidewalks and roadways.
- Always be aware of pedestrians in area.
- Clean machinery and re-fuel at the end of the day.

TRAIL / PATHWAY MAINTENANCE

GENERAL / BRIEF DESCRIPTION OF TASK:

- Removal of all weeds, litter / debris, glass, cans, bottles, and sweeping hard surface trails free of sand / soil buildup occurring on trails.
- Surface repair / raking of shale when washout / wear occurs.
- Weed whipping / spraying around confined areas / signage.

FREQUENCY OF TASK PERFORMED:

- The trails should be checked weekly.

HAZARDS IDENTIFIED:

#2 – Chemical Exposure

#5 – Light Radiation

P.P.E. REQUIRED:

- Gloves
- Safety Boots
- Sun Protection
- Chemical Application Safety Equipment when Spraying – Refer to **Pesticide Application** Procedure.

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for possible hazards.
- Inspect trails according to schedule.
- Remove all debris.
- Use caution on all inclines / steep grades.
- Beware of moving deadfall – cover for wildlife and snakes.
- Keep tools and equipment in good working order. Report all damage / repairs to supervisor.
- Proper clothing for weather conditions should be worn.
- Empty Garbage Receptacles.
- Refer to Safe Work Procedure for “**Garbage Receptacle Collection**” as found in this section.
- Check all rest stops.
- Fill holes with soil.
- Prune any protruding branches.
- Refer to Safe Work Procedure for “**Pruning - Shrubs**” as found in this section.
- Weed whip along trail.
- Refer to Safe Work Procedure for “**Weed Whipping**” as found in this section.
- Keep pathways free of weeds / plant material.

TREE MOVING

GENERAL / BRIEF DESCRIPTION OF TASK:

- Moving a tree from one area to another with the use of the tree spade.

FREQUENCY OF TASK PERFORMED:

- As needed.

HAZARDS IDENTIFIED:

P.P.E. REQUIRED:

- Gloves
- Safety Boots
- Safety Glasses

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for possible hazards.
- Thoroughly inspect equipment prior to use to ensure it is in proper working condition. Any problems shall be reported to supervisor and mechanic.
- Tree spade hydraulic hoses are under extreme pressure and should be checked regularly for cracks or ruptures.
- Dig a hole with tree spade for new tree site.
- Use spade to carefully dig out tree.
- Immediately take tree to pre-dug hole.
- Carefully place tree in hole ensuring tree is vertically straight.
- Fill hole with soil and make sure it is well compacted.
- Build a tree well large enough to retain water.
- Take soil from pre-dug hole, to fill up the original hole where the tree came from.
- Always ensure there are no open holes before leaving areas.

VEGETATION CHEMICAL CONTROL

GENERAL / BRIEF DESCRIPTION OF TASK:

- Chemical weed control - selecting the chemical that will give best control of the identified weed / vegetation, or specific problems that are in violation of the Alberta Weed Control Act or the City of Lethbridge Weed Control bylaw. Application of chemical and monitoring of problem areas.
- Chemical to be mixed by a Licensed Pesticide Applicator, applied by a Licensed Applicator or a Licensed Assistant Applicator.

FREQUENCY OF TASK PERFORMED:

- May – September as needed

HAZARDS IDENTIFIED:

#2 – Chemical Exposure

#4 – Dust / Vapours

#8 – Eye Injury

P.P.E. REQUIRED:

- Disposable Coveralls
- Safety Goggles
- Rubber Gloves
- Rubber Safety Boots
- Hearing Protection
- Organic Filter Mask or Welder's Mask
- Respirator

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- ***Notify OH&S 48 hours prior to spraying of areas that will be treated.***
- Visually inspect worksite for possible hazards.
- **Check weather conditions / forecast – NO spraying is to be done in windy conditions.**
- Check area for weeds and hazards.
- Select chemical for type of weed control desired.
- Read all labels carefully for necessary precautions to take. Follow directions EXACTLY as given on the label. Refer to MSDS for further information.
- All personal protective equipment must be worn during mixing, application, and cleaning.
- Fill tank with chemical – water mix.
- Check for any leaks.
- Adjust spray of nozzle.
- Set flags / warning signals while proceeding as required.
- Work back and forth along work area.
- Keep checking pressure gauges / tractor speed.
- Spray away from trees / shrubs.
- Fill / Stop sprayer away from desirable turf / plant material.

MOWING – WALK BEHIND

GENERAL / BRIEF DESCRIPTION OF TASK:

- To mow designated areas on campus that the larger mowers are unable to get at.

FREQUENCY OF TASK PERFORMED:

- These machines will be used 2 to 3 times per week during the growing season (May – October).

HAZARDS IDENTIFIED:

#3 – Exposure Heat / Cold
#5 – Light Radiation
#7 – Noise
#11 – Slips / Falls
#15 - Cuts

P.P.E. REQUIRED:

- Safety Boots
- Hearing Protection
- Gloves
- Goggles
- Dust Masks – if dusty, heavy pollen count, or dandelion fluff.
- Sun Protection

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for possible hazards.
- Do not operate machine on wet inclines.
- Always watch out for gopher holes while walking.
- Let go of the machine if you are unable to control it, as it will automatically stop.
- Do not use sulkeys to ride on while mowing slopes.
- Check oil level, gas level, and sharpness and security of blade.
- **All blade sharpening is to be done by permanent staff members only.**
- Operate machine at a comfortable walking pace while mowing.
- Use extreme caution when operating on an incline.
- Have grass discharge away from sidewalks or roadways.
- Clean and re-fuel machine after use.
- Refer to Safe Work Practice for **Re-fuelling** as found in University Vehicles document located in this manual.

WATERING – KEYLOCKS MANUAL

GENERAL / BRIEF DESCRIPTION OF TASK:

- To manually place in keylocks at designated areas, in order to water grassed areas for scheduled amount of time.

FREQUENCY OF TASK PERFORMED:

- Twice weekly – (May to October).

HAZARDS IDENTIFIED:

P.P.E. REQUIRED:

- Gloves
- Safety Boots

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect area for possible hazards.
- On scheduled watering day, put keylock into receptacle.
- Never stand directly above keylock.
- Turn it in until it is in place.
- Adjust spray diameter if needed.
- Remove after scheduled amount of time.

WEED WHIPPING

GENERAL / BRIEF DESCRIPTION OF TASK:

- To trim grass along sidewalks, roadways, around signs, trees, fence lines and all other areas that are inaccessible to cutting with the mowers.

FREQUENCY OF TASK PERFORMED:

- Most areas will need to be weed whipped on a weekly basis during the summer. Other less visible areas will be done monthly.

HAZARDS IDENTIFIED:

#5 – Light Radiation

#7 – Noise

#8 – Eye Injury

P.P.E. REQUIRED:

- Safety Boots
- Hearing Protection
- Full Face Guard
- Gloves
- Long Pants
- Sun Protection

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for possible hazards
- Ensure long pants are worn.
- All safety equipment must be worn at all times.
- Inspect trimmer to ensure that equipment is in safe reliable operating condition. Report any equipment damage to mechanic.
- Change string if necessary.
- Top up fuel.
- Remove debris or broken glass from area to be trimmed prior to commencing.
- Caution to be taken when trimming on sidewalks as debris and rocks can be thrown.
- Caution to be taken while trimming in parking lots and around buildings to protect people that are walking by.
- Do not remove protective shields while trimmer is in operation.
- Always wear harness to support the tool.

WELDING, CUTTING, BURNING

GENERAL / BRIEF DESCRIPTION OF TASK:

- Welding, cutting, and burning tasks are generally carried out in our welding shop. From time to time these tasks may be performed in other locations (this includes areas in the garage not designated as the welding area ie. welding on a vehicle on the hoist).
- **If so, a Hot Work Permit is required.**

FREQUENCY OF TASK PERFORMED:

- Approx. 5 hours per week – year round.

HAZARDS IDENTIFIED:

#4 – Dust / Vapours

#5 – Light Radiation

#6 – Electrical

#8 – Eye Injury

#17 - Fire

P.P.E. REQUIRED:

- Welder's Helmet
- Welder's Gloves
- Safety Work Boots
- Fire-proof Welders Smock or Coveralls
- Hearing Protection
- Welder's Fume Hood or Vacuum System
- Protective Curtain

SPECIAL TOOLS REQUIRED (if any):

SAFE WORK PROCEDURE:

- Visually inspect worksite for possible hazards.
- Refer to Safe Work Practice for "**Welding, Cutting, and Burning**" as found in Appendix 'A'.

UNIVERSITY OF LETHBRIDGE
FACILITIES

HEALTH & SAFETY PROGRAM

ORIENTATION & TRAINING

EMPLOYEE TRAINING OVERVIEW

Grounds Maintenance is committed to properly training its employees to safely, and effectively perform the duties required from each employee according to their job designation.

ORIENTATION

Every employee that starts with Grounds Maintenance is oriented within their first week. It is during this time, that the employee is familiarized with the campus, specific department policies and procedures, and is introduced to the various people within their own department, as well as other personnel within Facilities that they will be dealing with in direct relation to their job.

The guideline on the following pages is used to orient the new employee. Once the orientation is complete, the last page must be signed and dated by both the new employee and the supervisor. A copy of this sheet must be kept in the employee's file as part of the Employee Training & Tracking program.

EMPLOYEE TRAINING & TRACKING PROGRAM

Groundsworkers

The Groundsworkers within Grounds Maintenance are trained in the operation of all of the Grounds Department Equipment. Each employee is responsible for the duties related to their shift, however, all employees are trained in performing all of the duties with the Grounds Department. In addition to job specific training, all Operators are trained in various safety courses required for the conditions of their job.

The Manager of Grounds Maintenance conducts yearly evaluations on each employee to ensure that any problem areas that may exist for the employee are identified. Additional training can then be provided as required.

Summer Students

Summer Students are hired each spring to help with Grounds Maintenance work throughout the summer. Each summer student is formally trained in the safe operation of small implements / equipment as well as hand tools. Summer Students are restricted from operating larger equipment as well as sharpening of tools.

The training matrix used for tracking of employee progress can be found in this section.

ON-GOING TRAINING

From time to time employees are sent on various training courses to keep up with industry trends and job demands. A complete updated list including any expiration dates of the courses taken by each employee is kept on the employee's individual file for record purposes.

ORIENTATION INDEX

- Campus Map
- Mission Statement
- Appearance & Dress
- Keys
- Security of Buildings
- “Talk Abouts”
- Cell Phones
- Lateness / Absenteeism
- Illness
- Campus Tour
 - Boneyard
 - Apartments
 - Anderson Hall
 - Student’s Union
 - Parkway Service Complex & Greenhouse
 - North Tree Beds
 - Nursery
- Bus Service
- Parking
- Food Services
- Security
- Introduction to Employees
- Time Sheets
- Safety Manual / Program
- MSDS Binder
- Work Alone Policy

Review Mission Statement

- The Grounds Department of the University of Lethbridge strives to maintain the lands surrounding all University buildings and structures. This includes roadways, building entrances, parks, walkways, trees, shrubbery, turf, reservoir, nursery, natural coulee lands, athletic field, etc. This property and all organic matter on it, is an investment in the future of the University and requires year round care and attention.

Appearance and Dress

- As the majority of the work conducted by the Grounds department is outdoors, employees are expected to dress appropriately for seasonal work and show up equipped with sufficient clothing for climatic changes throughout the shift.
- While performing outdoor job related duties, University of Lethbridge employees and contractors are to adhere to the protective clothing policy where no muscle shirts, tank tops, or mesh shirts are to be worn. Sleeves must measure a minimum of 4" in length.
- Refer to "Info Sheet" for Sun Protection located in the Safety Manual.

Keys

- Keys are issued to employees for access of buildings corresponding with their jobs.

Security of Buildings

- Under no circumstances should an employee unlock a door upon request. Explain that under University policy you are not authorized. Refer the individual to Security.

"Talk-Abouts"

- Summer employees are issued a two way "talk-about" radio.
- Ensure you are on the same channel as other Grounds employees and your Supervisor.
- Cell phones may be used in place of these radios.
- All employees must carry a radio or cell phone to comply with Working Alone Policy.

Cell Phones

- Full time employees will be assigned a cell phone as they constantly work alone.
- Some employees purchase their own phones and use for work as well as personal use.
- A list of all phone numbers will be provided and may be keyed into the cell phone.

Lateness / Absenteeism

- High priority is placed on your being at work consistently and on time. However, if for some valid reason you will be late or absent it is your responsibility to inform your Supervisor.
- Call Vern, 331-3614 at the beginning of your shift.

Illness

- If you are absent from work for more than 3 consecutive days, you will require a doctor's certificate in order to return.

Campus Tour

- The new employee will be taken on a tour of the campus. Points of general interest will be addressed, making reference to the various buildings on campus.

The following points of specific interest to Grounds will be addressed:

Boneyard

- Cold Frame Area
- Irrigation Storage Shed
- Equipment Storage

Apartments (Housing)

- Irrigation Clocks

Anderson Hall

- Irrigation Clock

Valley Road

- Irrigation Clock

Student's Union

- Irrigation Clock

Parkway Service Complex & Greenhouse

North Tree Beds

Nursery

Bus Service to the University

When performing snow removal duties, the bus drop / pick up areas are attended to first.

- Bus drop off / pick up areas are as follows:
 - SU Level 2, South door
 - North entrance to the University Campus (Intersection of University Drive and Valley Road)
 - Along Valley Road.
 - Refer to campus map for locations.

Parking

- Parking is available in the West, Far West, Exploration Place, and Northwest lots upon purchase of a U of L Parking Permit (Plug or Non-Plug). Permanent Full Time and Permanent Part Time Employees are eligible for payroll deduction of parking permits.
- Vehicles must be parked in the applicable areas. The East, North, and South lots are for special permit parking. Applications for parking in these lots can be made at the Security Office.
- Temporary permits are available at Security (L911), Facilities Service Centre (TH101), and dispensers in the Far West Lot, Exploration Place Lot and the main entrance to the campus along Valley Road.

Food Services

- UH – Cafeteria, Fresh Express
- SUB – Food Court
- LINC – The Station

Security

- Office located in LINC – L911
- Emergency phone 2345
- Lost & Found office located in L911; Local 2549

Introduction to Employees

- Introduction to co-workers and welcoming to take place during coffee break or lunch time.

Time Sheets

- Time sheets are filled out to track the daily activities of each employee. These are to be handed in to the Superintendent at the end of each day.

Introduction to Safety Manual / Program

- Location of Manual and how to reference the contents.
- Review Info sheets for PPE proper use and care, and issuance of PPE.
- Review of Safe Work Procedures & Practices.
- Review how to conduct a Hazard Assessment.
- Review Vehicle Policies and Guidelines.
- Review Incident Reporting Procedures.

MSDS Binder

- Show where to find the MSDS binders and how to read the MSDS sheets.

Work Alone Policy

- Refer to department Work Alone Policy ensuring that the employee understands the policy and the importance of the compliance.

EMPLOYEE ORIENTATION

This is to recognize that the employee listed below has completed the Orientation Process for Grounds Maintenance. The employee is aware of Department and University Policies and has been provided with the necessary information to proceed with the Job Training Program.

Supervisor

Date

Employee

Date

GROUNDWORKER TRAINING MATRIX

Developed By: Vern Leckie Date: April 26, 2010

Employee Name: _____

Employment Start Date: _____ Orientation Date: _____

Task	Training Date	Proficiency Date	Employee	Supervisor
WHMIS				
Personal Protective Equipment (PPE)				
Proper Use				
Care / Maintenance				
Safety Manual				
Location				
How to Reference Information				
Safe Work Practices				
Info Sheets for PPE				
Accident / Incident Reporting				
Hazard Assessments				
Worksite Inspections				
Equipment Inspections				
Safe Work Procedures				

**** Upon successful completion of training for individual tasks the matrix is signed and dated by the employee and the supervisor.***

ORIENTATION & TRAINING

Task	Training Date	Proficiency Date	Employee	Supervisor
Tractors				
John Deere:				
PPE Required				
General Safe Operation				
Fluids Check / Refill				
Front End Loader Operation				
Forklift Operation				
PTO Driven Equipment :				
Rototiller Operation				
Bearcat Chipper Operation				
Skid Steer:				
PPE Required				
General Safe Operation				
Fluids Check / Refill				
Loader Operation				
Snow Removal Broom Operation				
Stump Grinder				
Post hole auger				
Broom				
Forks				
Trencher				
Back hoe				
Blade				
John Deere mower				
PPE Required				
General Safe Operation				
Fluids Check / Refill				
Front Mower Deck Operation				
Snow Removal Broom & Blade Operation				

ORIENTATION & TRAINING

- *Upon successful completion of training for individual tasks the matrix is signed and dated by the employee and the supervisor.*

Task	Training Date	Proficiency Date	Employee	Supervisor
Small John Deere:				
PPE Required				
General Safe Operation				
Fluids Check / Refill				
PTO Driven Equipment:				
Snow Removal Broom				
Snow Blower Operation				
Rototiller				
Pruning Tools:				
Pole Saws				
Chain Saws				
Line Painter:				
Mixing Paint				
Painting				
Cleanup				
Snow Plow:				
Plow				
Sander				
Dump				

ORIENTATION & TRAINING

Upon successful completion of training for individual tasks the matrix is signed and dated by the employee and the supervisor.

Task	Training Date	Proficiency Date	Employee	Supervisor
John Deere 48" Walk Behind Mower				
Z trak mower				
Push Lawn Mower				
Kubota RTV 1100				
Walk Behind Rototiller				
Gator Operation				
Weed Whipper Operation				
Pro Vac 1060 vacuum				
Fork Lift Operation				
Blower Vac				
Tree Spade Operation				
Pesticide Sprayers Operation				
Fertilizer Spreader Operation				

ORIENTATION & TRAINING

Upon successful completion of training for individual tasks the matrix is signed and dated by the employee and the supervisor.

Task	Training Date	Proficiency Date	Employee	Supervisor
Irrigation:				
Pump Operation				
Clocks				
Installation				
Repairs				
Location of Zones				
Greenhouse:				
Indoor Plants:				
Starting of Plants				
Care for Plants				
Outdoor Plants:				
Starting of Plants				
Care for Plants				
Pruning:				
Determine Where/What/When				
Disposal of Clippings				
Snow Removal:				
Routes:				
Regular				
Callouts				
Ice Maintenance:				
Varying Area Requirements				

ORIENTATION & TRAINING

Upon successful completion of training for individual tasks the matrix is signed and dated by the employee and the supervisor.

Task	Training Date	Proficiency Date	Employee	Supervisor
Watering				
Areas				
Equipment				
Signs & Flags (Placing & Removal):				
Convocation				
Roadway				
Parking				
Barricades				
Snow Fence:				
Placing				
Removal & Storage				
Tennis Court Windscreens:				
Placing				
Removal & Storage				
Welding Shop Fabrication:				
Welding / Cutting / Burning				
Grinding				
Grounds Construction:				
Paving Stones				
Retaining Walls				
Cement work				

UNIVERSITY OF LETHBRIDGE
FACILITIES

HEALTH & SAFETY PROGRAM

FORMAL INSPECTIONS

FORMAL INSPECTIONS

INFORMAL INSPECTIONS

Currently within the Facilities Departments an effective ongoing informal inspection program is carried out on a daily basis by all employees.

All Facilities employees are responsible for reporting any visible deficiencies that they come across while performing their regular assigned duties.

Deficiencies that are reported using the on-line service request form. The Administrative Support in the Service Centre and in Utilities, process the requests into work orders. The departments Managers schedule the work orders to their employees.

A work order request form is accessible on the Facilities website under the Administration directory of the University of Lethbridge home page. This form allows all members of the University of Lethbridge to report deficiencies or request services in their respective areas.

All work orders are tracked in a data base system, which is accessible to Facilities Staff only. When an employee has corrected the deficiency, the work order is then returned to the support staff in their respective areas to be closed out.

FORMAL INSPECTIONS

Within Facilities, the employees in each of the departments carry out an effective formal inspection program on a monthly basis. This system is in the form of a preventative maintenance program.

Each month a series of Preventative Maintenance (PM) work orders are issued for various equipment, systems and areas of the University.

The Grounds equipment is regularly maintained (once a month), and complete engine servicing, is performed on the Grounds machinery once a year by the Mechanic in the Motor Vehicles Pool.

The Grounds Department conducts inspections on various exterior furniture, trees, plants, roadways, parking lots etc. around campus. A list of the Preventative Maintenance work orders issued to Grounds can be found on the following page with a brief description of the inspection.

Once a PM is complete, the form is returned to the Service Centre to be closed out.

If any deficiencies are found in the areas or equipment examined, a PM Repair (PMR) work order is then generated for the appropriate employee / department to correct. Any deficiency found that requires immediate corrective actions due to imminent danger to employees are corrected at this time and the information pertaining to the work is recorded on the form.

OUT-OF-SERVICE REQUEST

ITEM DESCRIPTION: _____ SERIAL #: _____

LOCATION: _____

EMPLOYEE: _____ DEPARTMENT: _____

EXISTING PROBLEM(S): _____

SIGNATURE: _____ DATE SUBMITTED: _____

SUBMITTED TO: _____ DEPARTMENT: _____

INSPECTED BY: _____ DATE: _____

IMMEDIATE ACTION: _____ Lockout / Tagout _____ Remove

CORRECTIVE ACTION: _____ Repair _____ Replace

WO ISSUED: _____ Yes _____ No WO #: _____

REPAIRED BY: _____ DEPARTMENT: _____

DATE: _____

COMMENTS: _____

REVIEWED BY: _____ DATE: _____

BACK IN SERVICE DATE: _____

UNIVERSITY OF LETHBRIDGE
FACILITIES

HEALTH & SAFETY PROGRAM

EMERGENCY RESPONSE PLANNING



Interoffice Memorandum

Date: August 05, 2010

To: APO Managers

From: B. Sullivan

Re: **Procedures for After Hour Occurrences**

From time to time a situation may arise that requires the notification and/or call out of management and/or staff of the Facilities Department.

Generally, the protocol for a routine after-hours incident would be for Security to call the manager of the affected department(s). From time to time however, there may be situations, which require notification of other senior Facilities staff or senior university administration.

Security Services usually receives the initial information concerning an incident. Routine incidents will be communicated via the immediate supervisor and up through the normal channels.

Significant incidents however, must be communicated to the Office of the President/Vice Presidents via telephone or personal contact. The actual notification will be done by Director of Security Services, Director Facility Operations & Maintenance, Associate Director of Facilities, or the Executive Director of Facilities, or in their absence, a senior Facilities manager. When determining whether or not the incident is "significant", the guiding principle is: **it is better to inform than not to inform.**

It is important that the senior administration of the University are apprised of major incidents. Significant incidents are those which:

- Seriously affect the safety of persons on campus
- Affect the integrity and reputation of the University
- Have the potential to attract the attention of the media

All media contact concerning any incident will be via the Communications Office, unless otherwise directed by the President or his designate.

The attached document outlines the process for notification in the event that the Director of Security Services, Director Facility Operations & Maintenance, Associate Director of Facilities, or the Executive Director of Facilities are not available.

Facilities managers have the discretion to call upon other department staff to deal with emergencies if they are unable to get a hold of the manager involved or the Associate Director of Facilities or Executive Director of Facilities.

The attached back up document also provides phone numbers of senior department staff that can be called upon in an emergency basis, to deal with situations that affect health and safety of campus users.

Brian Sullivan

Brian Sullivan
Associate Director
Facilities

BS:sh

Attachment: Emergency Response Callout List
 Emergency Contact Numbers

cc. **D. Parker**
 N. Walker

SPILL RESPONSE

Developed by: Bill Hudgins – Caretaking
Bill Platt – Grounds
John Federkeil – Utilities
Jayne Yates – Facilities

Date: September 2001

Throughout Facilities various chemicals are used for cleaning, and operational purposes, and the types of chemicals used vary from department to department.

Each department within Facilities is responsible for ensuring that the MSDS Sheets provided by the supplier for all of the chemicals used within their own department, are readily available to all of their employees. All employees must have WHMIS training.

Spills Within Facilities

Known Substance

- If the substance spilled is known, immediately obtain the MSDS.
- If the known substance is deemed to be **Non-Hazardous**, and conditions surrounding the spill do not pose any danger, follow the cleanup and disposal procedures as outlined on the MSDS.
- If the known substance is deemed to be **Hazardous**, or conditions surrounding the spill are hazardous (ie. can it become airborne; is there a source of spark nearby etc.) **immediately contact Security at local 2345.**
- The following information must be relayed to Security:
 - Your name.
 - There is a spill.
 - Location of the spill.
 - Location of spill kit.
 - Wait outside the location until Security arrives and do not let anyone else enter the area.

EMERGENCY RESPONSE PROCEDURES

Unknown Substance

- If a spill found is of an unknown substance **immediately contact Security at local 2345.**
- The following information must be relayed to Security:
 - Your name.
 - There is a spill.
 - Location of the spill.
 - Location of spill kit.
 - Wait outside the location until Security arrives and do not let anyone else enter the area.

Identifiable Area

- If a spill is found in an identifiable area (ie. Janitor Room, Grounds Shed) immediately contact the head of that department to attend the location of the spill. The department representative is then responsible for determining if the substance is known or unknown and to follow the necessary procedures.

Spill Kits

- It is the responsibility of each employee to know the location of the spill kits in their areas (if applicable).

Chemical Spills Report

- The employee finding the spill must complete the online Accident / Incident form located on the O.H. & S. website under Administration on the U of L home page.
- Once O.H. & S. receives the completed form and / or a phone call, if deemed necessary by O.H. & S., an investigation will commence.

Date: May 9, 2003
Revised: November 19, 2003

SPILL RESPONSE For Bio-Hazards

**Blood borne Pathogens
And
Other Potentially Hazardous Human Materials**

Definitions:

- BLOODBORNE PATHOGENS – pathogenic microorganisms that are present in human blood and cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV). Other examples include microorganisms that cause hepatitis C, i.e. Malaria.
- Other potentially Hazardous Human Materials – Human body fluids such as urine, vomit, saliva, semen and vaginal secretions.

**HEPATITIS “B” VACCINATION IS MANDATORY FOR ALL CARETAKING, SECURITY AND UTILITIES STAFF EMPLOYED BY THE UNIVERSITY OF LETHBRIDGE.
(NOTE: Building Maintenance and Grounds Staff do not require Hepatitis “B” vaccinations)**

Part of the job requirements of a Caretaker employed by the University when needed is to clean-up a blood spill or other human materials these are unknown hazards and must be treated as such. Grounds, Building Maintenance and Utilities staff and Security Officers may come in contact with these unknown hazards and must treat them as such.

Rules to follow:

- Always wear personal protective equipment in exposure situations.
- Remove PPE that is torn or punctured, or has lost its ability to function as a barrier to blood borne pathogens.
- Replace PPE that is torn or punctured.
- Remove PPE before leaving the work area.

Inspection of the job area is required prior to the commencement of the work to be executed.

- Check the area for blood borne pathogens and other potentially hazardous materials
- If this is the case, notify work control during normal work hours to arrange for Caretaking to clean up. Grounds staff will cleanup any Hazardous Materials found on campus outside of buildings.
- If cleanup is required outside normal work hours, contact your supervisor for guiding and assessment of the situation.
- Before you start the job, ensure you wear you PPE ie. Gloves, goggles, aprons and face masks should be worn when cleaning the sewage lift stations on campus with fall restraint when working over open pit areas.

EMERGENCY RESPONSE PROCEDURES

Clean-up Procedures for Blood borne Pathogens and Other Potentially Hazardous Human Materials:

- Inspect the area prior to commencement of clean-up.
- Ensure you wear P.P.E. 1- Gloves (disposable latex or vinyl)
2- Goggles
3- Apron (Optional)
- Ensure you have appropriate cleaning materials on hand.
1-Disinfectant solution (Bleach 1 in 10 dilution)
2-Absorbent cloths i.e. paper towel or disposable cloths
3-Garbage bags.
- Carefully apply bleach solution around the edges of the spill working to the center. Allow a twenty-minute contact time. Using paper towels or absorbent cloths, wipe-up spill working from the edges of the spill to the center.
- Clean the spill area again with fresh bleach solution place all materials used in double garbage bags for disposal, including disposable gloves used in the clean up.
- Immediately after spill is cleaned up you must wash your hands.
- Disposal of materials used will be at the direction of your foremen or manager.

OTHER POTENTIAL BIO-HAZARD MATERIALS

SHARPS

Far too frequently Facility workers are punctured or cut by improperly disposed of needles and broken glass. This, of course, exposes them to whatever infectious material may have been on the glass or needle. For this reason, it is especially important to handle and dispose of all sharps carefully in order to protect yourself as well as others.

Rules to follow:

- Look before you reach to empty garbage containers or where your vision maybe impaired i.e. under furniture or behind fixtures.
- Ensure you wear PPE (vinyl gloves).
- Check your gloves for punctures or tears. Replace if damaged.
- Remove PPE before leaving the work area.

Clean-up Procedures for SHARPS:

- If you suspect an object to be bio-hazardous (needles etc.) contact your immediate supervisor before attempting to pick it up.
- Ensure you wear PPE 1- Gloves (disposable vinyl)
2- Goggles
- Inspect the container you are emptying (do not reach inside container).
- Before picking up any object ensure you are able to identify it is not a hazard.
- Ensure you have appropriate disposal container on hand for (sharps) objects. i.e. needles. (Your supervisor will supply appropriate disposal container.)

EMERGENCY RESPONSE PROCEDURES

PROCEDURE FOR CUTS OR STAB WOUNDS FROM NEEEDLES

- Report the incident to your supervisor immediately.
- Save the needle to give to medical personnel.
- You must go to your doctor or emergency for treatment.
- You will be required to fill out an accident incident report form.

YOU MUST KNOW AND UNDERSTAND THE FOLLOWING

- Ensure you know Safe Work Procedure for clean up of Blood borne Pathogens or other potentially Hazardous Human Materials.
- All Appropriate PPE must be worn.
- Remember to use universal precautions and treat all blood or potentially infectious body fluids as if they were contaminated. Avoid contact whenever possible, and whenever it's not wear personal protective equipment.

IN CASE OF FIRE – R.E.A.C.T.

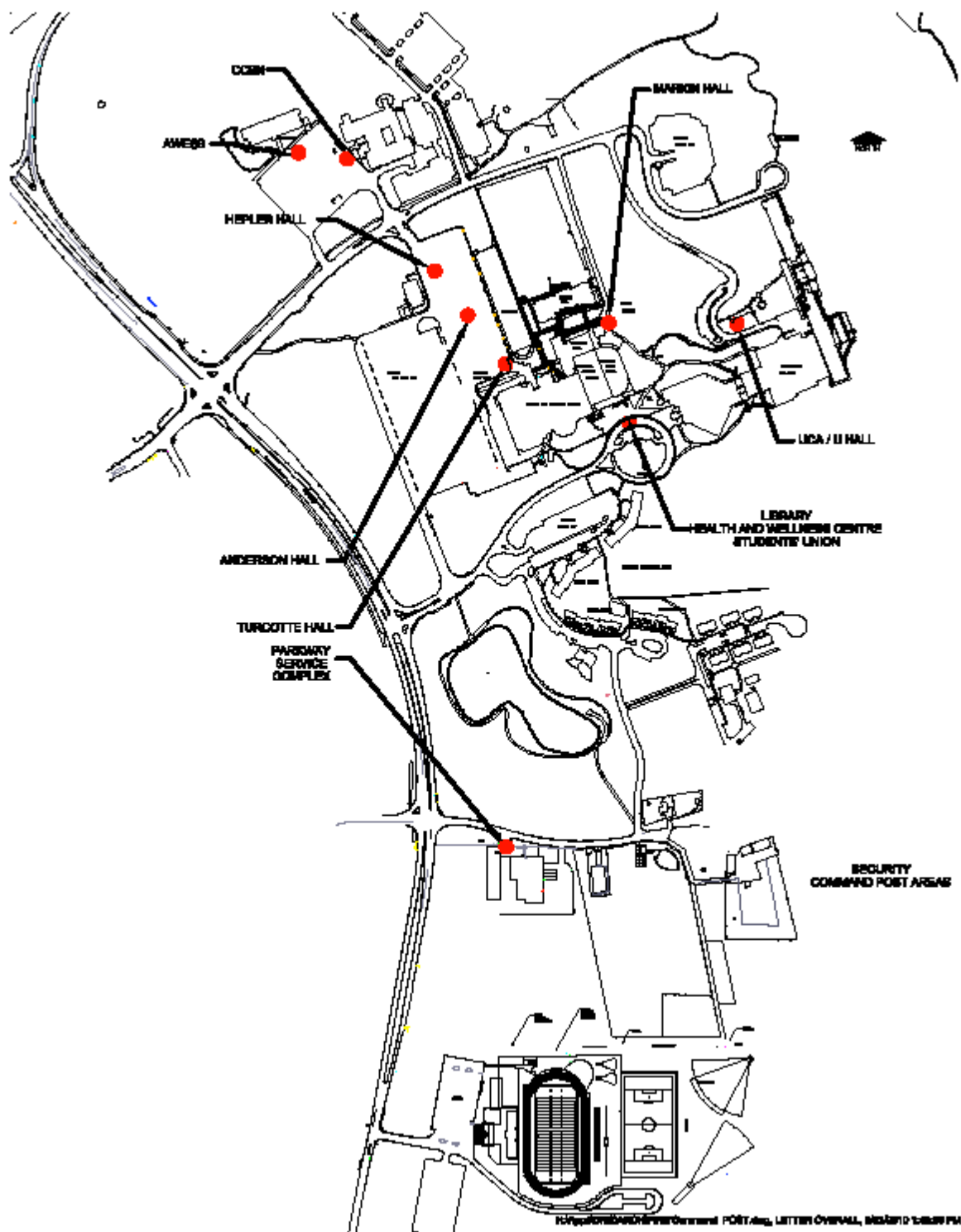
REMOVE THOSE IN IMMEDIATE DANGER

**ENSURE DOORS ARE CLOSED
(PARTICULARLY THOSE IN THE IMMEDIATE FIRE AREA)**

ACTIVATE THE FIRE ALARM SYSTEM

CALL THE FIRE DEPARTMENT 9-1-1

TRY TO EXTINGUISH (IF SMALL)



FIRE PREVENTION DUTIES OF FIRE WARDENS

FIRE WARDENS WILL CHECK THEIR AREA(S) FOR:

- a) Accumulation of combustible material, rubbish, or flammable liquids in excess of quantities allowed.
- b) Dangerous ignition sources, i.e. worn extension cords, oily rags, overheating equipment.
- c) Exit lights in good working order and adequate lighting in public corridors and stairwells.
- d) Fire and exit doors and their self closing hardware in good operating condition (Doors should not be wedged open under any circumstances).
- e) Exit routes unobstructed.
- f) Fire hose and portable extinguishers not obstructed, in good working order and ready to use.

ALL FIRE HAZARDS THAT ARE DISCOVERED MUST BE REPORTED TO THE BUILDING FIRE WARDEN OR DELEGATE IMMEDIATELY.

UNIVERSITY OF LETHBRIDGE
FACILITIES

HEALTH & SAFETY PROGRAM

INCIDENT INVESTIGATION

ACCIDENT / INCIDENT INVESTIGATION OVERVIEW

When an accident / incident occurs on the worksite, the Employee is responsible for reporting it immediately to their Supervisor. It is then the responsibility of the Supervisor to conduct an investigation with the help of the Employee.

The purpose of incident investigation is to determine direct and underlying causes, and implement immediate and long-term corrections in order to prevent re-occurrence.

There are four (4) essential steps in conducting an investigation. An overview of each of the four phases is presented here;

1. **Gather Facts** - Investigation techniques and methods are designed to discover facts. A fact is something that actually exists or has actually occurred; something known by observation or examination to be true or real. This is done mainly, by examining the scene and talking to people.
2. **Analyze and Evaluate the Facts** - This is a systematic and thorough study of the facts to determine causes and recommend corrective measures. (This is the step where we spend much of our time - applying the Incident Analysis Worksheet.)
3. **Document Findings** - A written report is necessary to communicate the findings of the investigation to management and affected employees and to ensure proper follow-up takes place.
4. **Follow -up** -This step is essential to ensure that the recommended corrective actions to prevent recurrence are actually implemented, and are working effectively.

These phases generally do not occur separately, or in a linear fashion. Rather the phases sometimes overlap: analysis and evaluation begins while the facts are being gathered (e.g. while getting an overview of the incident), and evaluation of the facts may well send you back to gather more information. The investigator must be careful not to let early analysis lead to premature conclusions.

Once an investigation is complete, the results and corrective recommendations must be shared with all Employees within that department. The report is to be signed off by the Executive Director of Facilities and returned to the department Supervisor. Copies of all reports are kept on file within the department for 3 years.

In cases where the result is a loss time claim, the Supervisor is then responsible for sending a copy of the investigation to the RSS Department on campus for review.

It should be noted that this investigation and report **does not replace** any required WCB or on-line reporting forms that are to be completed by the Employee and Supervisor, nor does it replace any investigations that need to be conducted by the RSS department on campus. This is for the department's own investigation and follow-up procedures.

On-line forms can be found at www.uleth.ca/hum/riskandsafety/services

PROCEDURES FOR RESPONDING TO AND REPORTING OF:

- I.** Injuries
- II.** Property Damage / Theft
- III.** Environmental Issues
- IV.** Automobile Accidents

I. INJURIES

Response To An Injury On-site U of L Campus:

- Call Security at **329-2345**

Transportation of Injured Persons Policy:

- Employees **cannot**, at any time, for any reason, drive an injured co-worker, visitor or student, to a clinic and / or hospital.
- Refer to the University Policy 'Transportation of Ill or Injured Persons'

Response To An Injury Off-site U of L Campus:

Calgary or Edmonton Campus:

- Call SAIT Security on Calgary Campus.
- In Edmonton, call Building Security
- Call ambulance, if necessary
- Follow U of L "Transportation of Injured Persons" policy

Anywhere else on U of L business

- Follow response procedures at location
- Familiarize yourself with the accident / incident response policies & procedures of that specific organization before working at any off campus location.

Reporting an Injury On-site U of L Campus:

- Security will investigate and formally document the accident / incident and will inform RSS on campus.
- Reporting of accident / incident must be done within 24 hours if the injury occurs to faculty or staff during work, or to a student during the course of study.
- The casualty and / or observers must also document the event using the Campus Accident / Incident Report. This form can be found at www.uleth.ca/hum/riskandsafety/services
- Send the completed Accident / Incident Report form to RSS.

INJURIES (cont.)

Reporting an Injury Off-site U of L Campus:

- Fax the completed Accident / Incident Report form to RSS at (403) 329-2685.
- Or call: RSS at (403) 382-7176.

II. DAMAGE / THEFT OF U OF L PROPERTY

Response to Damage / Theft of U of L Property On-site U of L Campus

- Call Security at **329-2345**

Response To Damage / Theft of U of L Property Off-site U of L Campus:

Calgary or Edmonton Campus:

- Call SAIT Security on Calgary Campus.
- In Edmonton, call Building Security

Anywhere else on U of L business

- Follow response procedures at location
- Familiarize yourself with the accident / incident response policies & procedures of that specific organization before working at any off campus location.

Reporting of Damage / Theft to U of L Property On-site U of L Campus

- Security will investigate and formally document the accident / incident and will inform RSS.
- No other formal report required at this time.
- In the event of U of L property loss, RSS will contact the relevant person / department to process a property insurance claim, if applicable.

Reporting of Damage / Theft to U of L Property Off-site U of L Campus

- Campus Accident / Incident report, found on the RSS found at www.uleth.ca/hum/riskandsafety/services , must be completed as soon as you return to campus or within 48 hours.
- Fax the completed form to RSS at (403) 329-2685.

III. ENVIRONMENTAL INCIDENT

Defined by:

- Chemical spills, odors
- Water (or something) leaking
- Slippery surfaces such as pathways, parking lots, stair
- Lack of airflow in offices (i.e. Evenings, weekends)

Response to Environmental Incident On-site U of L Campus

- Call Security at **329-2345**

Response to Environmental Incident Off-site U of L Campus

- Notify responsible persons, as appropriate.

Reporting of Environmental Incident

- Person finding the spill is to formally document the incident using the Accident / Incident Form on the U of L website.
- Once report is submitted, RSS will review and determine if a formal investigation is required.

IV. AUTOMOBILE ACCIDENT

Response to Automobile Accident On-site U of L Campus

- Call Security at **329-2345**

Reporting of Automobile Accident On-site U of L Campus

- Security will investigate and formally document the accident / incident and will inform RSS.

Reporting of Automobile Accident On-site U of L Campus

- Fax a completed Accident / Incident report form to RSS (403) 329-2685.

Reporting of Automobile Accident On-site and Off-site U of L Campus

Personal Vehicle – U of L Business

- If the accident occurs in your personal vehicle, call your personal insurance company immediately.
- Call RSS as soon as possible. Depending upon the severity and the circumstances, the U of L's non-owned auto insurer may respond in excess of personal coverage.

Rental Vehicle – U of L Business

- Call the auto rental agency immediately.
- Call RSS as soon as possible. The U of L's non-owned auto insurer must be notified in case required to respond in excess to rental agency insurance.
- Call MasterCard if vehicle was rented using Corporate Card (may provide collision coverage).

If an injury occurs as a result of the Automobile Accident follow Injury Reporting Procedures as outlined in this document.

INCIDENT INVESTIGATION

INCIDENT ANALYSIS WORK SHEET

Injury/Loss:

Incident:

Immediate Causes:

Underlying Causes:

Corrective Action (Controls/Management System):

INCIDENT INVESTIGATION

INCIDENT INVESTIGATION REPORT

Date of Incident: _____ Time: _____

Location: _____ Name of Person in Charge: _____

Name of Investigator(s): _____

Injuries - Persons Injured

Name: _____ Phone: _____

Address: _____

Description of Injury:

First aid given? ☐ Yes ☐ No By whom? _____

Transported to medical aid? ☐ Yes ☐ No By whom? _____

Where to? _____ Name of Doctor: _____

When was the accident reported to Occupational Health & Safety?

Date: _____ Time: _____

By Whom?: _____

Property Damage

Damage to property: ☐ Yes ☐ No Estimated Value: \$ _____

Damage to equipment: ☐ Yes ☐ No Estimated Value: \$ _____

Description:

Party(s) Responsible for cost of replacement / repair:

INCIDENT INVESTIGATION

Person(s) involved/Witnesses

Name	Address	Phone

Incident Reported by: _____ Reported to: _____

Date Reported: _____ Time Reported: _____

Conditions at time of incident (weather, status of job, housekeeping, etc.)

Description of incident (What was the job being done? What equipment, tools, materials, etc. were involved? What happened?) - Attach a diagram if necessary.

What were the causes of the incident?

Immediate? (Unsafe Practices/Conditions)

Underlying? (Personal/Work Environment Factors)

Recommended action(s) to prevent recurrence?

Short-term?

Long-term?

LOCATION OF FIRST AID KITS

- | | |
|-----------------------|---|
| 1. <u>AH</u> | AH1J2 |
| 2. <u>CCBN</u> | EP12J1 |
| 3. <u>HH</u> | HH1J01 |
| 4. <u>LINC</u> | L814
L9J1
L10J1
L11J1 |
| 5. <u>PE</u> | PE1J2
PE2J7 |
| 6. <u>PWSC</u> | SC1305
SC1320
SC1330
SC1360 |
| 7. <u>SUB</u> | SU062
SU1M2
SU2M1
SU3J1 |
| 8. <u>TH</u> | TH129
TH1J1
TH2J1
TH3E1 |
| 9. <u>UCA</u> | W4J15
W5J15
W6J15
W7J15
W8J15 |
| 10. <u>UH</u> | B424
C5J1
D6J1
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UNIVERSITY OF LETHBRIDGE
FACILITIES

HEALTH & SAFETY PROGRAM

POLICIES & GUIDELINES

WORK ALONE POLICY – FACILITIES

Under the guidelines of the work alone legislation, businesses that require employees to carry out work alone must conduct a hazard assessment of their worksite, to identify work alone situations.

Once situations are identified, preventative measures need to be taken to eliminate or reduce safety risks associated with working alone. An effective means of communication must be provided where possible to ensure employees can readily obtain help where necessary.

Each department within Facilities, conducted a hazard analysis for their area using the guidelines found in the booklet “Working Alone Safely: A Guide for Employers and Employees” as developed by Alberta Human Resources and Employment.

Once the assessments were complete, specific department policies were put into place to ensure risks were minimized for employees. These policies include one or a combination of the following:

- An effective means of communication by: Regular telephone, Cellular telephone, Portable Radios.
- Check in procedures when travelling away from U of L campus or to remote locations on campus.
- Regular visits by supervisors and checking in with fellow workers.
- Check in with Campus Security when working outside of regular scheduled shifts.

Department policies have been effectively communicated to all employees in regards to their responsibilities when working alone, and have been incorporated into the orientation procedures for all new employees within the various Facilities Departments.

GROUNDS MAINTENANCE WORK ALONE POLICY

Date of Submission: April 2009

PURPOSE

To ensure that Grounds Maintenance workers working alone can do so safely.

OBJECTIVES

To develop procedures that will minimize or eliminate risks associated with various work tasks.

DEFINITION

Working Alone - An employee is considered to be working alone if the employee works at a work site in circumstances where assistance is not readily available when needed.

WORKING ALONE SITUATIONS

Grounds Maintenance Employees carry cell phones as they may work alone under the following circumstances:

- Indoor planters / Greenhouse operations / University Hall outdoor grounds maintenance; This Grounds worker works alone most of the time Wednesday through Sunday weekly. This person carries a cell phone at all times.
- Summer staff maintain specific work areas working alone for the most part. Summer Staff Supervisor or the Manager of Grounds Maintenance checks on them 3 - 4 times throughout the day. They all return to the Parkway Service Complex at the end of shift.
- Pruning and equipment operation – Grounds workers frequently work alone pruning during winter and operating equipment or irrigating during summer. Returns to Parkway Service Complex at the end of shift.
- Grounds workers usually work in teams. However when performing snow removal duties from 5 am to finishing snow removal work they will be alone in trucks or tractors. Between 5 am and 7 am there are the only 2 Grounds employees on campus.
- Evening Shift Grounds worker works our evening snow removal general maintenance shift from October to March each year. This person works alone but carries a cell phone.

All Grounds employees work alone often when operating tractors or other Specialized Grounds equipment.

PROCEDURES:

- All permanent staff carry cell phones with them during their shift and while on call.
- Summer Staff all work alone, but are in public view most of the time. Summer Staff carry portable two-way radios, which are used to communicate with each other. From 5:00 am to 7:00 am, the Summer Staff Supervisor carries one of the two-way radios to ensure communication is available with the summer employee working this shift. The staff is also checked twice before noon plus coffee break and once again in the afternoon. All are accounted for at the end of shift when they return to the shop.
- Permanent staff is accounted for at the beginning of day shift (7:00 a.m.), 10:00 a.m., 12 noon and 15:00 p.m.
- The evening shift employee (13:00 p.m. to 21:00 p.m.) will check in by phone with Security at 19:00 p.m. and at the end of his shift (21:00 p.m.). This person is responsible for informing Security if they will be absent for any reason (illness, vacation, etc.) during their regular shift. This shift is in operation from November 1 to March 30 yearly.
- The weekend shift operates 7:00 a.m. to 3:00 p.m. year round. This employee will check with Security at 11:00 a.m. and 2:30 p.m. Saturday and Sunday. This person is responsible for notifying Security of any absences due to illness, vacation, etc. in order to prevent false alarms being raised.

UNIVERSITY OF LETHBRIDGE HOT WORK POLICY

HOT WORK INFORMATION AND RESPONSIBILITIES

Fires caused by hot work can have a significant adverse effect on our operations and our ability to do business. Consequently the hot work procedure has been established to help minimize any hazards.

As a contractor at the U of L, you are a partner in our continued success in preventing losses. The optimal goal is to avoid hot work whenever possible by using alternative measures. Suggestions as to avoiding hot work are welcomed. However, if hot work is necessary the hot work procedures will be strictly followed.

The Utilities Department will assist with hot work procedures. If appropriate, the U of L Project Manager will introduce you to other workers in the area to discuss unique conditions you should be aware of before work begins.

UNIVERSITY OF LETHBRIDGE HOT WORK RULES

A hot work permit is required for any temporary operation involving an open flame that produces sparks. This includes, but is not limited to: brazing, cutting, grinding, soldering, pipe thawing, torch-applied roofing and welding.

1. If there is a practical and safer way to do the job without hot work, that method is to be utilized.
2. A **fire alarm / protection system work request form** must be submitted to the Utilities Department **24 hours prior** to commencement of work. Written authorization will be valid for a maximum of **one shift, or 8 hours**, whichever is shorter. After that time period or at the start of a new work day, a new form must be submitted to the Utilities Department for authorization.
3. Written authorization, in the form of a signed **hot work permit**, is required from the Utilities Department prior to the commencement of any job.
4. The permit will be valid for a maximum of **one shift, or 8 hours**, whichever is shorter. After the time period, another permit must be obtained from, and signed by the Utilities Department before any hot work can continue.
5. A copy of the signed Hot Work Permit will be faxed to the U of L Fire Safety Officer.
6. Specific fire fighting equipment and protection material will be required at the hot work site before any work commences. Equipment needs should be discussed with the U of L Project Manager before arriving at the U of L as the Contractor must have their own fire extinguishers and protection material when completing hot work projects.
7. No hot work is permitted without a designated fire watch present. The Prime Contractor/Contractor will supply the employee to the fire watch role. The employee will have total control over the hot work area for fire prevention. If unsafe conditions are observed during the hot work operation, the work will be stopped until the hazard can be neutralized or eliminated.
8. After work is complete for the day, the U of L Fire Safety Officer will designate a Security Officer to complete the fire watch.
9. The Contractor or permit holder will verify that all hot work equipment is in proper working order and in a fire safe condition. An inspection of equipment may be conducted by the U of L Project Manager. Any unsafe equipment will be removed from the property.
10. Any contractor equipment or material that is to be stored at the U of L overnight must be properly secured in an area designated by the U of L Project Manager.
11. Upon completion of the work or at the end of the work day (**prior to 3:30 p.m.**), the Contractor must notify the Utilities Department in order to put the fire alarm system back to normal operating mode.

UNIVERSITY OF LETHBRIDGE
FACILITIES

HEALTH & SAFETY PROGRAM

PROGRAM ADMINISTRATION

PROGRAM ADMINISTRATION OVERVIEW

MONTHLY SAFETY MEETINGS

The departments of Building Maintenance and Grounds Maintenance (& Motor Vehicles Pool), conduct joint monthly safety meetings. These meetings take place the first Friday of the month, with the host of the meeting alternating between the departments.

The department hosting the meeting chooses the topic, conducts the presentation and records the minutes of the meeting. Each employee that attends signs the attendance sheet. A copy of the attendance sheet can be found in this section.

The meeting format ranges from presentation videos, to an overview of safe work practices in relation to current issues or seasonal work being carried out or coming up within the departments.

The minutes from the safety meetings must be forwarded to the Executive Director of Physical Plant to review. The Executive Director must sign the minutes and return to the appropriate department. The Executive Director of Physical Plant must also attend a safety meeting for each of the departments on a yearly basis, recognizing the safety achievements of the employees.

INCIDENT TRENDS

Each time an employee is involved in an accident / incident, a form must be completed and sent to the coordinator of OH&S, as outlined in the Accident / Incident section of this manual. A copy of the report must go in the employee's personal file for record purposes and retained for three years.

An Incident Trend spreadsheet has been developed to track the amount of incidents each individual employee has had over the past year as well as the number of each type of incident occurring within the department. This information is used to determine where more training is required on an individual basis, as well as for the entire group, in order to provide a safer workplace for all.

When a new incident occurs, the type of incident is recorded along the top of the spreadsheet and the date of the incident is recorded in the corresponding space for the Employee. A sample of the Trend spreadsheet can be found in this section. ***The results of these accidents / incidents are not accounted for on the Trends or Lost Time Days Spreadsheets or in the Lost Time Claims calculation as outlined in this section***

LOST TIME DAYS

For the accidents / incidents resulting in lost time, the number of days is recorded on the Lost Time Days (LTD) Spreadsheet in the corresponding month for the employee. A **Lost Time Day** is defined as any regular scheduled work day that is missed due to an accident / incident occurring on the job.

LOST TIME CLAIMS RATIO

At the end of each year the Lost Time Claims (LTC) ratio is calculated based on the number of Lost Time Days in comparison to the amount of manhours recorded for that employment year. When calculating the LTC ratio, all employee's manhours are accounted for ie. Full-Time, Part-Time, Temporary, and Casual employees. Any absence from work that is not a result of an accident / incident is not accounted for in the manhours or Lost Time Day values ie. vacation days, sick days, days missed as a result of an injury outside of regular scheduled work.

EMPLOYEE EVALUATIONS

Once a year, Employees are evaluated on their job performance. Included in this evaluation Employee safety comprehension and compliance is addressed. The results recorded on the Trends Spreadsheet, is taken into consideration for the evaluation on safety issues.

The evaluation is reviewed with the Employee so they are fully aware of the results. Any feedback, concerns, or suggestions that the Employee may have is discussed at this time. A copy of the evaluation is sent to Human Resources to be placed on the Employee's file, and the Supervisor keeps a copy on file in the department. Employees are also given a copy.

DISCIPLINARY PROCESS FOR VIOLATION OF SAFETY POLICIES & PRACTICES

In the event that a Union Employee's actions are found to be in violation of the safety policies and practices outlined in the Health and Safety Program, the disciplinary process will follow the process outlined in the AUPE Agreement as stated under Article 13 – *Personal Files and Discipline*.

In the event that an APO's actions are found to be in violation of the safety policies and practices outlined in the Health and Safety Program, the disciplinary process will follow the process outlined in the APO Agreement as stated under Section 10 – *Progressive Performance Improvement*.

LOST TIME CLAIMS – (LTC)

Lost time claims are a measurement of the number of lost time days in comparison with the amount of man hours logged over the claims year.

$$\text{LTC} = \frac{\# \text{LTC}(\text{days}) \times 200,000}{[\# \text{ Hours Worked} / \text{year}]}$$

ie.

17 lost time days
1,000,000 manhours / year

$$\frac{17 \times 200,000}{1,000,000} = 3.4 / 100 \text{ person years}$$

SAFETY MEETING

TOPIC: _____

DATE: _____

TIME: _____

NAME: (PLEASE PRINT)

SIGNATURE

DEPARTMENT

[illegible]

[illegible]

Meeting Coordinator / Department

TJ Hanson - Director
Facilities Operations & Maintenance

4/3/2008

UNIVERSITY OF LETHBRIDGE
FACILITIES

HEALTH & SAFETY PROGRAM

SAFE WORK PRACTICES

AERIAL BUCKETS

PRETRIP INSPECTION

- Hydraulic oil
- Leaks
- Hydraulic lines & hoses (fittings & condition)
- Hydraulic cylinders (condition, leaks)
- Hydraulic cylinders pins and retainers
- Boom pins and retainers
- Boom for cracks and damage
- Loose bolts (wire lies)
- Cable condition
- Hand contact boom waxed weekly, cleaned with static cloth daily (minimum)
- Boom cradle (condition & safety switch)
- Boom lock and mount (bolts, cracks)
- Pistol grip control (air lines)
- Condition of lower controls (turrent)
- Rotation motor
- Turrent (loose bolts, leaks, welds and cracks)
- Rescue pack
- Boom rescue strap and O ring
- Emergency power switches (torrent, boom outriggers)
- outriggers (pins, welds & cracks)
- Outrigger pads
- Bucket condition (liner, cover)
- Bucket attachments (bolts, pins, cylinders)
- Bucket tilt lever locked (lay down lever)
- Keep deck clean (good housekeeping)

JIB

- Controls (condition)
- Air lines to pistol control
- Jib and keeper pins
- Winch line
- Winch line pulleys
- Jib position cylinder (bolts & condition)
- Hydraulic lines
- Jib load chart and angle indicator

SET UP

- P.T.O.engaged
- Brakes applied
- Use outrigger and boom selector
- Lower outriggers raising unit slightly off ground (pads as required).

OPERATING PROCEDURES

- Unlock boom
- Raise unit to top of pole using lower controls
- Lower unit to allow entry into bucket
- Enter bucket and hook-up lanyard
- Raise up to over center
- Lower to ground while over center
- Raise and move side to side
- Return over center and stow properly

CHOP SAW

- Safety glasses and hearing protection must be worn at all times when operating Chop Saw.
- Keep working area clean at all times.
- Inspect saw to ensure all guards are in place and cords, blades and switches are well maintained and in safe operating condition.
- Pick a clean area, hopefully 20 to 30' radius area, so the pipe can be turned freely without obstructions.
- Set up Chop Saw on a level base.
- Set up blocks approximately 10' back of power vise also on a solid level base. This is to hold opposite end of pipe being cut.
- Make sure power supply is properly grounded.
- Mark location on pipe to be cut and place in Chop Saw. Place cutting wheel on mark and pull trigger to start saw.
- If pipe being cut extends more than approximately 3' in front of chop saw you should also have blocks in front.

USE OF CLEANING SOLVENTS AND FLAMMABLES

Cleaning solvents are used in the day-to-day construction work to clean tools and equipment. Special care must be taken to protect the worker from hazards, which may be created from the use of these liquids. Wherever possible, solvents should be nonflammable and nontoxic.

The foreman must be aware of all solvents / flammables that are used on the job, and be sure that all workers who use these materials have been instructed in their proper use, and any hazard they pose.

The following instructions or rules apply when solvents / flammables are used:

- Use non-flammable solvents for general cleaning.
- When flammable liquids are used, make sure that no hot work is permitted in the area.
- Store flammables and solvents in special storage areas.
- Check toxic hazards of all solvents before use. Refer to Material Safety Data Sheets (MSDS).
- Provide adequate ventilation where all solvents and flammables are being used.
- Use goggles or face shields to protect the face and eyes from splashes or sprays.
- Use rubber gloves to protect the hands.
- Wear protective clothing to prevent contamination of worker's clothes.
- When breathing hazards exist, use the appropriate respiratory protection.
- Never leave solvents in open tubs or vats - return them to storage drums or tanks.
- Ensure that proper containers are used for transportation, storage and field use of solvents / flammables.
- Where solvents are controlled products, ensure all employees using or in the vicinity of use or storage are trained and certified in the Workplace Hazardous Materials Information System (WHMIS). Ensure all WHMIS requirements are met.

DEFECTIVE TOOLS

Defective tools can cause serious and painful injuries.

If a tool is defective in some way, **DON'T USE IT.**

Be aware of problems like:

- chisels and wedges with mushroomed heads
- split or cracked handles
- chipped or broken drill bits
- wrenches with worn out jaws
- tools which are not complete, such as files without handles

To ensure safe use of hand tools, remember:

- never use a defective tool
- double check all tools prior to use
- ensure defective tools are repaired

Air, gasoline or electric power tools, require skill and complete attention on the part of the user even when they are in good condition. Don't use power tools when they are defective in any way.

Watch for problems like:

- broken or inoperative guards
- insufficient or improper grounding due to damage on double insulated tools
- no ground wire (on plug) or cords of standard tools
- the on/off switch not in good working order
- tool blade is cracked
- the wrong grinder wheel is being used
- the guard has been wedged back on a power saw

USE OF DISK SANDER

- Select correct grade of abrasive sheet.
- Table fence and guide must be correctly adjusted and tight. The clearance between sanding disk and table or rest should not exceed one-sixteenth of an inch.
- Goggles must be worn.
- Sand only on the downstroke side of disk.
- Do not hold small pieces in hand. They have a tendency to rotate, with the attendance danger of pulling your fingers against the revolving disk. A few small pieces should be sanded by hand. For a large number, devise a jig to hold them securely.
- If you must leave sander before finishing the job, turn off the power.
- Stop sander to make adjustments.
- Never touch a moving sanding disk.
- Stop the sander by shutting off power and sanding a scrap piece of wood.
- Never operate the disk sander if the paper is loose. Report the condition to Instructor.
- Move the work about to avoid heating and burning a section of the paper.

USE OF DRILL PRESS

- **Wear appropriate PPE (Safety Glasses & Hearing Protection).**
- Never attempt to use a regular auger bit on the drill press or in the hand drill. Auger bits for this machine have the lead screw cut smooth and the square tang cut off.
- Clamp small pieces in a drill vise or clamp them to the table.
- Keep the table clean, but clean it with a brush. (Not with your hands)
- Wear a shop cap or tie up the hair when working around whirling machinery. Rings, wristwatches, and gloves should not be worn.
- Check to see that the chuck key, drift, and all wrenches are removed before starting the machine.
- Be certain your drills are ground in balance so that they do not tend to whip the work.
- Beware of the coasting machine.
- In using a shaping or routing attachment for the drill press, be sure to study the safety rules for the shaper.
- On deep cuts back out frequently to clean and cool the bit.
- Center punch for drill point. Use only straight sharp drills.
- Drill easily without forcing the bit.

ELECTRICAL SAFETY

Electricity is a powerful form of energy. If abused or used improperly, it can be hazardous, cause shock, start a fire or even kill.

Follow these precautions when working with electrically powered tools and equipment:

- Electrical repairs to tools and equipment, should only be performed by qualified individuals.
- Never use metal ladders near electric power lines.
- Rubber or plastic coated tool handles should be regularly inspected for cracks, cuts and wear.
- Double insulated tools require only two-pronged connections and should be clearly marked.
- Never stand in water when operating electrical equipment. If you must work in damp areas, use a ground fault circuit interrupter (GFCI). If one is not available, insulate yourself by wearing rubber gloves and rubber boots or stand on insulated platforms or mats.
- Before you start cleaning or adjusting a power tool, disconnect it from the power source.
- If an electrical piece of equipment malfunctions, disconnect and lock out the power source immediately and report the trouble to your supervisor. Make sure the power source is positively locked out when the equipment is being worked on.
- Tag all defective or damaged tools and return them for repair.
- Do not overload electrical circuits; this can cause a fire.
- Never put water on an electrical fire. Use the proper type of fire extinguisher such as one with an "ABC" classification.
- Never cut or remove the grounding prong from a plug.

FIRE AND USE OF FIRE EXTINGUISHERS

Good housekeeping is essential in the prevention of fires. Fires can start anywhere and at any time. This is why it is important to know which fire extinguisher to use and how to use it.

Always keep fire extinguishers visible and easy to get at. Fire extinguishers have to be properly maintained to do the job. Where temperature is a factor, ensure that care is taken in selecting the right extinguisher.

Types of Fires

Class A: These fires consist of wood, paper, rags, rubbish and other ordinary combustible materials.

Recommended Extinguishers

Water from a hose, pump type water can, or pressurized extinguisher, and soda acid extinguishers.

Fighting the Fire

Soak the fire completely - even the smoking embers.

Class B: Flammable liquids, oil, and grease.

Recommended Extinguishers

ABC units, dry chemical, foam and carbon dioxide extinguishers.

Fighting the Fire

Start at the base of the fire and use a swinging motion from left to right, always keeping the fire in front of you.

Class C: Electrical equipment

Recommended Extinguishers

Carbon dioxide and dry chemical (ABC units) extinguishers.

Fighting the Fire

Use short bursts on the fire. When the electrical current is shut off on a Class C fire, it can become a Class A fire if the materials around the electrical fire are ignited.

FLAMMABLE & TOXIC MATERIALS

Flammable Products

Certain products in use may contain solvent components such as xylene or propanol. These solvents have relatively low flash points and will ignite when exposed to sparks or open flames. The following guidelines must be observed:

- No smoking in or near the work area. Post "No Smoking" signs throughout the work area.
- Type ABC fire extinguishers should be located in easily accessible stations in the work area.
- No open flames or welding torches should be in the work area.
- Enclosed areas create explosive conditions. Use of explosion-proof fans to disperse the vapors, and bring in fresh air.
- Ascertain ventilation requirements prior to using hazardous materials.

Toxic Materials

Toxic or poisonous materials can be transmitted either by the inhalation of vapors, or contact with bare skin. Caution should be exercised when handling uncurled material or solvents.

- The specific vapor respirator required must be determined prior to starting.
- Wear goggles when mixing, or applying.
- Wear gloves, which extend 3/4 upwards the length of employee's forearm. Wear rubber gloves when washing tools with solvent.
- Wear long sleeve shirts and pants.
- Wear protective foot coverings, either rubber boots, or a plastic liner inside shoes.

GRINDING

- **Wear appropriate PPE (Safety Glasses and Hearing Protection).**
- Check the tool rest for the correct distance from the abrasive wheel: maximum 1 /8" or 3 mm.
- Replace the grindstone when adjustment of the rest cannot provide 1/8" or 3 mm clearance.
- If the wheel has been abused and ground to an angle or grooved, reface the wheel with the appropriate surfacing tool.
- Protect your eyes with goggles or a face shield at all times when grinding.
- Each time a grinding wheel is mounted, the maximum approved speed stamped on the wheel bladder should be checked against the shaft rotation speed of the machine, to ensure the safe peripheral speed is not exceeded. A grinding wheel must not be operated at peripheral speed exceeding the manufacturer's recommendation.
- The flanges supporting the grinding wheel should be a maximum of 1/3 the diameter of the wheel, and must fit the shaft rotating speed according to the manufacturer's recommendation.
- Bench grinders are designed for peripheral grinding. Do not grind on the side of the wheel.
- Do not stand directly in front of grinding wheel when it is first started.
- Acquire hot work permit

HANTAVIRUS

What is it?

- A virus carried by deer mice.
- The virus is in their urine and droppings.

How do people get Hantavirus?

- People may be infected- by contact with mouse droppings when cleaning out garages, sheds and cabins where mice lived over the winter.
- Sweeping or vacuuming droppings, releases the virus into the air and it is breathed in.
- It is not spread from person to person.

Do other animals carry Hantavirus?

- The only known carrier is the deer mouse (reddish-brown or grey with white fur on the belly and feet.)
- Other rodents may carry the virus so all rodents should be treated as carriers.
- Hantavirus has not caused illness in pets or spread from pets to people.

What signs and symptoms can you have?

- Early symptoms are flu-like: fever, body aches, chills and headache.
- They occur 1-2 weeks after being infected.
- Breathing problems leading to hospitalization occur 2-15 days after early symptoms.

Who is at risk for Hantavirus?

- Only a small percent of the people who come in contact with the virus get ill.
- Most cases have occurred in people with close contact to mice or mice droppings.
- Most cases occur in rural areas.

How do you prevent Hantavirus?

Keep mice / rodents away by:

- Storing food and pet food in metal or plastic containers.
- Sealing holes(anything over 6mm or ¼ in) with steel wool or cement to prevent entry.
- Hauling away trash, old vehicles, old tires where mice / rodents can nest
- Storing garbage in containers with tight fitting lids.
- When entering a building where mice / rodents may live wear a mask so as not to breathe in the dust in the building.
- If using traps or poisons to control mice beware of the danger to children and pets.
- Wild mice should not be kept as pets.

When cleaning mice/rodent infested areas:

- Air out the area for 30 minutes first.
- Wear rubber or plastic gloves.
- Also wear a mask so dust is not inhaled.
- When cleaning heavily contaminated areas a HEPA mask may be purchased at safety supply stores.
- Soak dead rodents, nests, droppings and contaminated items in proper dilution of disinfectant / water solution.
- Pick up debris and place in double plastic bags.
- Do not sweep or vacuum.
- When clean-up is done seal bags, and place with regular garbage for routine pickup. After bags have been removed mop floors with soap, water and then a proper dilution of disinfectant / water solution.
- Dirt floors can be sprayed with a proper dilution of disinfectant/ water solution.
- For heavily infested areas contact a pest control service or a public health inspector for detailed information.

After clean up:

- Wash hands well.
- Dispose of the gloves.
- Used traps should be rinsed with a proper dilution of disinfectant / water solution before being reused.

HOUSEKEEPING

- Keep aisles, walkways and stairs clear.
- Do not block fire exits and fire fighting equipment with materials.
- Materials should be stored with adequate room between for easy access.
- Tools and materials should be cleaned up and put away in designated storage areas after a job is done and at the end of each workday.
- Keep all articles to be disposed of in a designated location and remove regularly.
- Clean up spills immediately in order to avoid a slipping hazard use wet floor signs.
- Store flammable liquids in approved sealed containers away from open flame, sparks or sources of ignition.

USE OF METAL SCAFFOLDS

There are various types of metal scaffolds and they all have a right and wrong way to be erected.

The misuse of scaffolding is the cause of numerous serious injuries. Every worker who designs or constructs a scaffold should be competent and know what the manufacturer's specifications are for that type of scaffold.

The scaffold type, which will be the best suited for the job and capable of withstanding the loads to be imposed on it must be determined before the job begins.

Ensure that:

- The scaffold you intend to use is the correct one for the job.
- The location in which the scaffold is to be constructed is level or is capable of presenting secure footing by use of mudsills or some other device.
- The scaffold will be erected by a competent worker.
- Legislative and manufacturer's requirements have been complied with.
- Safe access and egress to both the scaffold and the general work area has been provided.
- Leveling adjustment screws have not been over extended.
- Tower scaffolds have outriggers or are guyed and have all component parts secured in place (i.e. cross braces, pins, lateral braces).
- Scaffold work platforms have a perimeter guardrail
 - Horizontal rail - 0.92 meters to 1.07 meters above the platform.
 - Intermediate rail - Horizontal rail midway between scaffold platform and top rail.
 - Toe board - Horizontal member at platform level no less than 140mm in height above the platform level.
- Scaffold planks are of number one grade materials with maximum spans of 3.1 meters on light duty and 2.3 meters on heavy duty with a maximum projection beyond the ledger of no more than 300 mm.

MOBILE AERIAL WORK PLATFORM

- *Employees may only operate machine if 'Mobile Aerial Lift Training' course has been taken.*

- *Pre-Use Inspections – Inspect or Test the Following:*
 - Operating and emergency controls
 - Safety devices and limit switches
 - Personal protective devices
 - Tires and wheels
 - Equipment structure
 - Air, hydraulic and fuel systems for leaks
 - Loose or missing parts
 - Cable and wiring harnesses
 - Placards, warning, control markings and operating manuals
 - Handrail systems including locking pins
 - Engine oil level
 - Battery fluid level
 - Coolant level
 - Propane bottle secured (if equipped)
 - Parking brake
 - Horn

- *Function Test:*
 - Base functions and operation
 - Basket function and operation
 - Height / speed limiter switch (put machine in low speed when platform is raised)
 - Motion alarm
 - Hydraulic function test
 - Emergency controls

- *Work Area Inspection:*
 - Manhole covers, grating or unstable surfaces
 - Ramps, inclines or rough surfaces.
 - Electrical hazards overhead
 - Underground utilities
 - Pedestrian / Vehicular traffic
 - Ground Condition

- *Use of Equipment:*

- Never modify or alter equipment unless approved by the manufacturer.
- Never extend work platform with planks or other equipment.
- Always wear fall restraint.
- Fall restraint should be a 4' lanyard.
- Keep platform clean and free of tripping hazards.
- Never operate equipment on incline.
- Do not exceed equipment's working load limit.
- Make sure weight stays centered on platform.
- Only use machine as it is intended.
- Do not exceed side loading on platform.

- *Operating Procedures:*

- Perform pre-use safety inspections (see pre-use inspection) before each use. The aerial platform shall be given a visual inspection and functional test. If any problems are encountered, the aerial lift shall not be used and reported immediately to the Supervisor and Mechanic.
- Do not exceed recommended weight capacity.
- A workplace inspection shall be performed for any hazards such as manholes, roadway problems, slopes, overhead obstructions, wind and weather conditions, inadequate surface and support to withstand all load forces imposed by the aerial platform in all operating configurations and presence of unauthorized persons.
- No one shall travel in a basket, platform or other elevated or aerial device that is moving on a roadway or worksite if road conditions, traffic, overhead wires, cables or other obstructions create danger to the operator or workers.
- Ensure all required PPE is worn when operating aerial lift (see Info Sheet for Safety Belts, Lanyards and Lifelines).
- Do not climb on outside of equipment.
- Do not move the machine while platform is in an elevated position.

USE OF NON-POWERED HAND TOOLS

Common hand tools, which many people take for granted, frequently are the most abused. Misuse of hand tools can become a habit that will cause accidents. Some of the basic rules governing the use of hand tools are as follows:

- Use the right tool for a job. Never use a makeshift or improper fitting tool. Refuse to use tools that aren't in first class condition and report those that give you problems to your supervisor.
- Use wrenches of the right size for the job. Face the jaws of an adjustable wrench in the direction of the pull.
- Make certain that pipe wrench jaws are sharp and chains in good condition so they will not slip.
- Use only tools in good condition. Clean all grease and dirt. Do not use tools with improper handles, including those that are cracked, broken or loose. Hammers or chisels with mushroomed or broken heads should not be used.
- Keep keen-edged blades sharp; store them safely when not in use. Store them with the sharp edge protected. This will help avoid cuts, as well as protect the sharp edge.
- Do not use a hammer with a hardened face on highly tempered tools such as a drill, file, die or jig. Chips may fly.
- Never apply a wrench to moving machinery; stop the machine, then remove all tools before starting it again.
- Never handle any tool in such a manner that you can be injured if it slips. Think about your movements and position your body accordingly.
- Always wear safety goggles when working with hand tools. You only get one pair of eyes.
- Don't carry hand tools in a way that will interfere with using both hands when climbing a ladder.
- Tools should not be put down on scaffolding, overhead piping, on top of step ladders, or other locations from which they could fall on persons below or into equipment.
- Workers carrying tools on their shoulders should pay close attention to clearances when turning so that they will not strike nearby fellow workers.

USE OF OXYGEN-ACETYLENE OR OXYGEN-PROPANE TORCH

Make sure you have access to a fire extinguisher before you start your cut.

- Open the valves of the cylinders slowly.
- Make sure the gauge of the acetylene cylinder does not exceed 15 psi. Drawing acetylene too quickly produces an unstable, explosive condition.
- The oxygen gauge should be set around 50 psi.
- Check the torch hoses and gauges for leaks, damage or deterioration. Never use a torch that leaks.
- Clear all combustible material away from the cutting area.
- Open the fuel valve on the torch (Propane or Acetylene). Light the gas.
- Slowly open the oxygen valve on the torch.
- Getting the right mixture of oxygen and fuel requires a little practice. Get help if you have never used a torch before.
- Before you start to cut, check the area once more.
- Make sure the hoses are clear of the cutting area.
- After the cut is complete, turn off the fuel valve on the torch first.
- After the flame is extinguished, turn off the oxygen valve on the torch.
- Close the cylinder valves.
- Keep the torch and hoses free from oil.

USE OF PORTABLE ARC WELDER

Portable arc welders are a piece of equipment that has to be treated like a vehicle. Do not operate them indoors.

- Be sure the machine is firmly attached to the transporting unit.
- Check all fluid levels, water, oil and gas to be sure they are at acceptable levels for operation.
- When fueling, DO NOT "lop off" the gas tank. Gasoline expands as the outside temperature rises. This may result in seepage and an ensuing fire.
- Do not fuel the machine while it is running.
- Be sure the radiator and gas caps are in proper working order and securely attached.
- Do a "walk around" to check for damage and obvious leaks.
- Any repairs should be done by qualified mechanics or technicians.
- Make sure all cables are wound securely when transporting.
- Ensure the side covers are kept closed to protect the machine from any damage from external objects and outside weather, as well as to protect the operator and others from the moving parts of the machine.

USE OF PORTABLE LADDERS

Ladders can be used safely if they are given the respect they deserve.

Before using any ladder, make sure that it is in good condition and is the right ladder for the job to be done.

- When setting up a ladder, secure the base and "walk" the ladder, up into place.
- The ladder should be set at the proper angle of one (1) horizontal to every four (4) vertical.
- Before using a ladder, make sure it is secured against movement.
- When in position, the ladder should protrude one (1) meter above the intended landing point.
- Workers shall not work from the top two rungs of a ladder.
- Don't overreach while on a ladder. It is easier and safer to climb down and move the ladder over a few feet to a new position.
- Always face the ladder when using it. Grip it firmly and use the three-point contact method when moving up or down.
- The minimum overlap on an extension ladder should be one (1) meter unless the manufacturer specifies the overlap.
- Keep both metal and wood ladders, away from electrical sources.
- Due to health and safety concerns, a step ladder is not loaned to any building occupant who has not received training approved by U of L Occupational Health & Safety department.

INSTRUCTIONS FOR USE OF PRESSURE WASHER

- ***Park vehicle away from bay doors and building to allow room to wash and for drainage.***
- ***Turn on water. (Ball valve behind washer)***
- ***Pull trigger on wand to release hose pressure. – Do not unreel or reel up hose under pressure***
- ***Reel out hose***
- ***Turn switch to PUMP (cool water) or BURNER (hot water)***
- ***If soap is needed turn on toggle switch for soap. – there may be a slight delay for soap & hot water***
- ***Turn soap off to rinse vehicle.***
- ***Turn burner off and let the unit run on pump for at least the last minute during rinsing - This will allow the burner to cool down and will use up any heated water.***
- ***When done washing turn off pump.***
- ***Pull trigger on wand to release pressure on hose.***
- ***Put wand in holder and roll hose up. Do not drag wand on ground when rolling up hose***
- ***Clean up mud and grass with shovel and broom.***

PROPER LIFTING TECHNIQUES

The three major causes of back injury are over-extension, poor lifting techniques and trying to lift too heavy an object. The following tips should help reduce the chances of injuring your back.

- Test the load. If too heavy ask for help!
- Keep your back straight.
- Get as close to the object as possible to avoid over-extension.
- Place one foot slightly ahead of the other in the direction you intend to move the object.
- Bend your knees and get a good grip on the object.
- Lift with your legs.
- Move forward in the direction of your most forward foot to avoid twisting your back
- Reverse the procedure when placing the object down.
- If at all possible, keep the objects off of the floor, to reduce the strain of lifting in awkward positions.

To reduce the strain on your back while standing.

- Whenever possible, stand with one foot elevated.
- Change positions often.
- Interrupt long periods of standing by sitting whenever possible.

REPORTING RATTLESNAKES

What should you do if you see a rattlesnake?

- Observe but do not attempt to capture the snake.
- Contact the phone number below in the order listed until contact is made.
- **RATTLESNAKE REPORTING CALL SECURITY**
- ***Phone/Cell Number 329-2603 or 329-2345***
- If you are unable to contact Security for removal, the snake still reflects as a safety hazard and must be removed by U of L personnel. Contact Ian Wells (317-0733) to capture the rattlesnake.
 - The container holding the snake must be kept in the shade after capture as rattlesnakes are very heat sensitive.

Relocation of problem rattlesnakes

During summer months the number of rattlesnake sightings on campus increases significantly. The U of L reports these sightings to Reg Ernst who conducts studies and control activities for the City of Lethbridge. Reg indicates the main campus is not a safe site for either the snakes or campus occupants to interact. The City of Lethbridge wants to relocate any problem rattlesnakes. A problem rattlesnake is defined as any rattlesnake found on roads, walkways, around buildings, or areas frequently used by people.

Relocating rattlesnakes is a delicate issue, and considering the potential danger in working with poisonous snakes, it is necessary to have a professional do the removal. Proper relocation involves moving the snake to an area with a suitable wintering den.

Please exercise caution when walking around campus, particularly in the coulees, as snakes are occasionally sighted. Rattlesnakes are not aggressive and given a choice will retreat rather than strike.

Although some people may find them loathsome, rattlesnakes are a naturally occurring species in a properly functioning prairie ecosystem such as we have around Lethbridge. They are practically harmless and will only strike if extremely provoked or stepped on. They play a very important role in the control of rodents and thus reduce the spread of diseases such as hanta virus.

Rattlesnakes are the color of dry prairie grass and have a very well-defined, triangular-shaped head. They may or may not possess rattles. Lethbridge is also home to the bull snake which imitates the rattlesnake by coiling up and shaking its tail, but it does not actually have a rattle. Bull snakes are not poisonous.

If you see a rattlesnake, walk slowly away from it. Give the snake plenty of room to escape from you. Notify Security at 329-2345. They will have a specialist relocate the snake to a natural habitat.

SAFE WORK PRACTICES

In Alberta, rattlesnakes are blue-listed which means they have undergone declines in population or habitat and may be at risk.

Please remember, it is illegal to kill rattlesnakes, possess rattlesnakes or their parts or damage occupied den areas. Many people do not realize that there are significant charges and fines for killing a rattlesnake in Alberta.

RIGGING

General

Rigging looks like an easy operation that requires no particular skill or experience. But if you have an idea that just anybody can do it, you're on the wrong track. Too many men have lost fingers or hands or have suffered more serious injuries because they thought, "Anybody can do that".

Here are some do's and don'ts to remember:

- Name one member of the crew to act as a signalman, and instruct the equipment operator to recognize signals from that person only. The signalman must be careful not to order a move until he has received the "all ready" signal from each member of the crew.
- Each rigger must be sure he's in the clear before he gives an "all ready" to the signalman. When you have positioned the sling or choker you're using, release it, if possible, before you give the "all ready" signal.
- If you must hold the sling or choker in position, be sure your hand is clear of pinch points. In fact, your hand should be far enough away so there's no possibility of a frayed wire catching your glove and jerking your hand into a pinch point. (Of course, frayed cables should never be used.)
- Watch out for the roll or swing of the load. Since it's almost impossible to position the hook exactly over the load center, there will almost always be a swing or roll. Anticipate the direction of the swing or roll and work away from it.
- Never place yourself between material, equipment or any stationary object and the load swing. Also, stay away from stacked material that may be knocked over by a swinging load.
- Never stand under the load, and keep from under the boom as much as possible. Chances are that nothing will break, but something might.
- Look over the place where the load is to be set. Remove unnecessary blocks or other objects that might fly up if struck by the load.
- When lowering or setting the load, be sure your feet and all other parts of your body are out from under. Set the load down easily and slowly so that if it rolls on the blocking, it will be a slow shift that you can get away from.
- Identify the designated signalman by the use of distinctive vests, armlets, etc.
- Use tag lines to control the leads.

SAFE HANDLING OF COMPRESSED GAS CYLINDERS

Following are some of the recommended procedures for safe handling and storage of compressed gas cylinders:

- Never drop cylinders or permit them to strike each other.
- Avoid dragging or sliding cylinders - even for short distances. Use a cylinder truck.
- Do not use cylinders as "rollers" for moving material or other equipment.
- Cylinders should be kept in designated storage areas when not in use with protective cap screwed in place.
- No part of a cylinder should be subjected to a temperature more than 125°F.
- Cylinders should not be permitted to come in contact with sparks or flames, electrical apparatus or circuits.
- Never tamper with safety devices on cylinder regulating valves.
- Use a regulator when connecting cylinders to systems of lower pressure ratings.
- Use properly fitting wrenches to connect regulators to gas cylinders. Connections specified to be hand-tight should be made hand-tight only.
- Close the valve on empty cylinders to leave some positive pressure in the cylinder. Replace the protective cap and mark and label the cylinder "empty".
- Do not store full and empty cylinders in the same area.
- Make sure that cylinders are stored upright and secured with strap or chain.

USE OF STEP LADDERS

As with all ladders, make sure that the Step Ladder is in good condition, and is the right ladder for the job to be done.

- Step Ladders are to be used only on clean and even surfaces.
- No work is to be done from the top two steps of a Step Ladder, counting the top platform as a rung.
- No work is to be done from the back side of the Step Ladder.
- When in the open position ready for use, the incline of the front step section shall be one (1) horizontal to six (6) vertical.
- The Step Ladder is only to be used in the fully opened position with the spreader bars locked in place.
- Tops of Step Ladders are not to be used as a support for scaffolds.
- Don't overreach while on the ladder. Climb down and move the ladder over to a new position.
- Only CSA Standard ladders will be used.
- Due to health and safety concerns, a step ladder is not loaned to any building occupant who has not received training approved by U of L Occupational Health & Safety department.

TRENCHES & EXCAVATIONS

- Employees shall not enter trenches or excavations more than 1.5 meters in depth unless:
 - the walls of the excavation have been cut back to less than 1.5 meters in accordance with Occupational Health and Safety Regulation; or
 - Temporary protective structures such as an approved cage or proper shoring are in place.
- The site supervisor shall ensure that:
 - the spoil pile is kept a minimum of one meter from the edge of excavations deeper than 1.5 meters; and
 - heavy vehicles or objects are kept away from the excavation a distance equal to the depth of the excavation unless the shoring has been certified as being able to withstand such weights.
- Employees installing shoring, stringers or bracing shall use a ladder and work downward from the top of the excavation, installing each brace in descending order.
- Employees removing shoring, stringers or bracing shall use a ladder and work upward from the bottom of the excavation, removing each brace in ascending order.
- Employees shall not place or stack tools / material near the edge of the excavation where their falling could cause injury to the employees in the excavation.
- Near plant sites, monitor air quality including O₂ content and explosive limits before entering trenches.
- Within operating plants, treat as a confined space.

USE OF CHAIN SAWS

Chain saws are used for many jobs in construction. Since this tool was primarily meant for use in the logging industry, it can be an unfamiliar tool to some workers.

Workers must be trained in its safe use before using a chain saw.

This training must include a minimum of the following elements:

- The proper personal protective equipment to be worn is set out by the manufacturer and Occupational Health & Safety Legislation.
- Fuelling of the saw must be done in a well-ventilated area and not while the saw is running or hot.
- An approved safety container must be used to contain the fuel used along with a proper spout or funnel for pouring.
- The correct methods of starting, holding, carrying, or storage and use of the saw as directed by the manufacturer must be used.
- Ensure that the chain brake is functioning properly and adequately stops the chain.
- The chain must be sharp, have the correct tension, and be adequately lubricated.
- When carrying / transporting a chain saw the bar guard must be in place, the chain bar must be toward the back and the motor must be shut off.
- The chain saw must not be used for cutting above shoulder height.
- Chain saws will comply with CSA Standards 262.1-M-77.

USE OF COMPRESSED AIR

Air powered tools in construction range from stapling guns to jack hammers. If not treated with respect, these tools can become a powerful enemy rather than a servant.

- Compressed air must not be used to blow debris or to clear dirt from any worker's clothes.
- Compressed air must not be used to blow dust, chemicals, metal filings, etc. from work surfaces. Surfaces should be swept clean.
- Ensure that the air pressure has been turned off and the line pressure relieved before disconnecting the hose or changing tools.
- All hose connectors must be of the quick disconnect pressure release type with a "safety chain / cable".
- Wear personal protective equipment such as eye protection and face shields, and ensure other workers in the area are made aware of or have restricted access to the hazard area.
- Hoses must be checked on a regular basis for cuts, bulges, or other damage. Ensure that defective hoses are repaired or replaced.
- A proper pressure regulator and relief device must be in the system to ensure that the correct desired pressures are maintained.
- The correct air supply hoses must be used for the tool / equipment being used.
- The equipment must be properly maintained according to the manufacturer's requirements.
- Follow manufacturer's general instructions and comply with legislated safety requirements.

USE OF ELECTRICAL EXTENSION CORDS

Extension cords are one of the most abused and neglected items on the job site. They are run over, stretched, pulled, twisted and exposed to all the elements. They have been the cause of more accidents than the tools for which they are used.

The following recommendations should be observed whenever extension cords are used:

- Prior to use, inspect cords to ensure that:
 - The insulation is intact around the plugs at both ends of the cord.
 - The pins on the plugs are not broken or burned.
 - The outer jacket of the cable is intact along its entire length.
- Extension cords should be replaced or repaired when a defect is found.
- Do not assume that everyone is able to repair or replace plug caps. All personnel should be educated to recognize the importance of properly wired circuits.
- Use only cords that are rated for outdoor use on construction jobs. These industrial cables (types S, SO, SOW) are oil, water, and abrasion resistant.
- Never unplug any cord by pulling the cable.
- Never lay out a cord in any area where it could be damaged by vehicular or pedestrian traffic or where materials could fall or be piled on it.

USE OF HAND HELD POWER CIRCULAR SAW

This type of power hand tool is one of the most commonly used in construction. Because of this common use there are numerous accidents due to thoughtless acts.

The following are the minimum accepted practices to be used with this saw.

- Approved safety equipment such as safety glasses or a face shield is to be worn.
- Where harmful vapours or dusts are created, approved breathing protection is to be used.
- The proper sharp blade designed for the work to be done must be selected and used.
- The power supply must be disconnected before making any adjustments to the saw or changing the blade.
- Before the saw is set down be sure the retracting guard has fully returned to its down position.
- Both hands must be used to hold the saw while ripping.
- Maintenance is to be done according to the manufacturer's specifications.
- Ensure all cords are clear of the cutting area before starting to cut.
- Before cutting, check the stock for foreign objects or any other obstruction, which could cause the saw to "kick back".
- When ripping, make sure the stock is held securely in place. Use a wedge to keep the stock from closing and causing the saw to bind.

USE OF PORTABLE GRINDERS

Abrasive wheels can cause severe injury. Proper storage of new wheels, proper use of wheels and proper maintenance of wheels must be observed.

- Familiarize yourself with the grinder operation before commencing work.
- Ensure proper guards are in place and that, safety glasses, face shields, gloves and safety boots are worn when using portable grinders.
- Never exceed the maximum wheel speed (every wheel is marked). Check the speed marked on the wheel and compare it to the speed on the grinder.
- When mounting the wheels, check them for cracks and defects, ensure that the mounting flanges are clean and the mounting blotters are used. Do not over tighten the mounting nut.
- Before grinding, run newly mounted wheels at operating speed to check for vibrations.
- Do not use grinders near flammable materials.
- Never use the grinder for jobs which it is not designed for, such as cutting.

USE OF POWER TOOLS

All power tools are designed for unique applications, they have their limitations and can create potential hazards when improperly used. Here are some points to remember when using power tools:

- The operation and repair of any power tool must be restricted to experienced, trained, authorized personnel.
- Select the proper tool for the job. The size of the power tool to be used is based on both the limitations of the tools themselves and the amount of work to be done.
- Always be alert to potential hazards in the area such as debris, damp floors or combustible materials. In wet areas, use insulated platforms, rubber mats, rubber gloves and rubber boots for an additional factor of safety.
- Make sure all power tools are of the double-insulated type or they are properly grounded. If the tool is equipped with a three-prong plug, use it as it is meant to be used. Electrical circuits intended for power tools should be provided with ground fault circuit interceptors (GFCI's)
- Appropriate protective clothing should be worn at all times. Avoid wearing loose clothing or jewelry that can catch in moving-parts. Wear safety glasses, hearing protection, and / or a dust mask if the operation requires.
- Be sure not to handle a power tool in a manner that can injure you if it slips. Think about your movements and position your body accordingly. Keep proper footing and balance at all times. Avoid over reaching.
- Never rest a power tool against the body when loading or making adjustments. Use brushes, vacuuming equipment or special tools to remove chips or sawdust. Secure work using a clamp or vice when practical. Never apply a power tool to a moving object.
- Keep guards in place and in working order. Don't remove or wedge the guard out of the way. If the guard has to be retracted, use the handle on the guard.
- Beware of accidental start-up. Make sure the switch is OFF before plugging in the cord and before investigating a power loss. Do not carry a plugged-in tool with your finger on the switch.
- Have all power tools serviced by a professional if it shows the slightest defect or is not running properly.

USE OF POWER TOOLS (cont.)

- Clean your tools after you're finished with your work. Make sure keen-edged blades, drill bits, routers, etc. are sharp, regularly maintained and stored in a dry secure place where they won't be tampered with.
- Don't set the tool down or leave it unattended until all moving parts stop.

USE OF PROPANE

Since propane is heavier than air and invisible, it is a special concern when it is used on the job-site.

All installations and use of this product on the job-site must comply with the Government Legislation set out for its safe use.

Suppliers delivering the product or setting up the equipment at the site must be part of the safe work practice.

- Nylon slings must be used in a "choker" fashion when loading, off-loading or lifting propane tanks.
- "Lifting lugs" provided on tanks are not to be used. Slings are to be wrapped around the shell of the tank.
- Tank valves and regulators are to be removed from the tank prior to any movement of the tank.
- Crane hooks shall be equipped with a "safety latch".
- All trucks, cranes or equipment used to handle propane tanks must be equipped with a fire extinguisher appropriate for the size and type of tank being handled.
- Except in an emergency, any movement or repositioning of tanks, shall be performed by a competent worker.
- Tanks are not to be heated to increase flow.
- When in use, propane bottles are to be securely held in an upright position.
- Tanks are not to be hooked up and used without proper regulators.

USE OF TIGER TORCHES

Tiger torches, although valuable to a job-site, are sometimes misused in a manner that can make them dangerous.

Tiger torches are only to be used for preheating of piping etc. prior to welding.

- When a torch is used, an adequate fire extinguisher must be present.
- Torches are not to be used for heating of work areas or thawing of lines and equipment, etc., when not in use.
- Ensure that the propane bottles are properly shut off.
- Fuel lines are to have regulators.
- Propane bottles shall be secured in an upright position.

PROPER USE OF ROTATING EMERGENCY FLASHING WARNING LIGHTS ON VEHICLES

Why do we have these lights?

- Service vehicles that park on roadways or along curbs on campus, in order to do their work, often create a traffic hazard. Flashing warning lights have been installed on all service vehicles to help increase their visibility to oncoming vehicles.

When are flashing lights used?

Flashing lights must be used when:

- parking along any curbs on campus
- stopping/parking in the middle of roadways or parking lot lanes
- leading a slow moving vehicle when hauling trailers or materials

Flashing lights are not used when:

- driving off campus - It is illegal for U of L to use these lights off campus.
- parking in parking spots or when off roadways

WELDING IN AWKWARD POSITIONS

Make sure you have access to a fire extinguisher.

Before you start to weld, make sure you are not going to flash or burn anyone in the immediate area. Take precautionary measures with shields.

Check the area often during welding to ensure no fire has started in the area.

Welding under vehicles:

- Always plan an escape route before you attempt to weld under a vehicle.
- Do not squeeze into tight spots with limited access without a spotter to help you out should a fire occur. Never weld in confined spaces without reviewing the proper procedure.
- Never lay directly under the weld area unless you are fully protected with welding leathers.
- Always be aware of the fuel tanks when welding under a vehicle.
- Make your position as comfortable as it allows avoiding unnecessary strains. For prolonged jobs, exit often to check for smoke or fire in the area.

Welding in high places:

- Always plan an escape route in case of fire. If an escape route is difficult, have a spotter available in case of an emergency.
- Always use a ladder or scaffold if the weld area is out of reach. Avoid having to hold on with one hand and welding with the other. Make sure you have a safe platform to work from.

WELDING, CUTTING AND BURNING

Work involving welding, cutting and burning can increase the fire and breathing hazard on any job, and the following should be considered prior to the start of work.

- Always ensure that adequate ventilation is supplied since hazardous fumes can be created during welding, cutting or burning.
- Where other workers may also be exposed to the hazards created by welding, cutting and burning, they must be alerted to these hazards or protected from them by the use of "screens".
- Never start work without proper authorization.
- Always have fire fighting or prevention equipment on hand before starting welding, cutting or burning.
- Check the work area for combustible material and possible flammable vapours before starting work.
- A welder should never work alone. A fire or spark watch should be maintained.
- Check cables and hoses to protect them from slag or sparks.
- Never weld or cut lines, drums, tanks, etc. that have been in service without making sure that all precautions have been carried out and permits obtained.
- Never enter, weld or cut in a confined space without proper gas tests and a required safety lookout.
- When working overhead, use fire resistant materials (blankets, tarps) to control or contain slag and sparks.
- Cutting and welding must not be performed where sparks and cutting slag will fall on cylinders (move all cylinders away to one side).
- Open all cylinder valves slowly. The wrench used for opening the cylinder valves should always be kept on the valve spindle when the cylinder is in use.

UNIVERSITY OF LETHBRIDGE FACILITIES

HEALTH & SAFETY PROGRAM

PERSONAL PROTECTIVE EQUIPMENT

“INFO SHEET” FOR EYE & FACE PROTECTION

GENERAL INFORMATION

This PPE is designed to protect the worker from such hazards as:

- flying objects and particles,
- molten metals,
- splashing liquids, and
- ultraviolet, infrared and visible radiation (welding).

This PPE has two types. The first type, "basic eye protection", includes:

- eyecup goggles
- monoframe goggles and spectacles with or without side shields

The second type, "face protection," includes:

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

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

Comfort and fit are very important in the selection of safety eyewear. Lens coatings, venting or fittings may be needed to prevent fogging or to fit with regular prescription eyeglasses.

Contact lens should NOT be worn at the work-site. Contact lens may trap or absorb particles or gases causing eye irritation or blindness. Hard contact lens may break into the eye when hit.

Basic eye protection should be worn with face shields. Face shields alone often aren't enough to fully protect the eyes from work hazards. When eye and face protection is required, advice from the OH&S office, Material Safety Data Sheet (MSDS) or your supplier, will help in your selection.

For more information, look at:

Alberta's O. H. & S. Act, Regulation & Code and
CSA Standard "Industrial Eye and Face Protectors" 294.3 - M1982.

PERSONAL PROTECTIVE EQUIPMENT

Do

- ensure your eye protection fits properly (close to the face)
- clean safety glasses daily, more often if needed
- store safety glasses in a safe, clean, dry place when not in use
- replace pitted, scratched, bent and poorly fitted PPE (damaged face/eye protection interferes with vision and will not provide the protection it was designed to deliver).

Don't

- modify eye/face protection
- use eye / face protection which does not have a CSA certification (CSA stamp for safety glasses is usually on the frame inside the temple near the hinges of the glasses)

Eye Protection For Welders

Welders and welders' helpers should also wear the prescribed equipment. Anyone else working in the area should also wear eye protection where there is a chance they could be exposed to a flash.

“INFO SHEET” FOR FOOT PROTECTION

General Information

Safety footwear is designed to protect against foot hazards in the workplace. Safety footwear protects against compression, puncture injuries, and impact.

Safety footwear is divided into three grades, which are indicated by colored tags and symbols.

The tag color tells the amount of resistance the toe will supply to different weights dropped from different heights.

The symbol indicates the strength of the sole. For example, a triangle means puncture-resistant sole able to withstand 135 kg (300 ft. lbs.) of pressure without being punctured by a 5 cm (2 inch) nail. For more information, look at Alberta's O. H. & S. Statute and Regulations or CSA Standard "Protective Footwear" 2195-M1981.

In construction, it is recommended that only the green triangle grade of footwear, which also gives ankle support, be used.

Your choice of protective footwear should always over protect, not under protect.

Do

- choose footwear according to job hazard and CSA Standards.
- lace up boot and tie laces securely; boots don't protect if they are a tripping hazard or fall off.
- use a protective boot dressing to help the boot last longer and provide greater water resistance (wet boots conduct current).
- choose a high cut boot to provide ankle support (less injuries).

Don't

- wear defective safety footwear (i.e., exposed steel toe caps).
- under protect your feet or modify safety footwear.

“INFO SHEET” FOR HEAD PROTECTION

General Information

Safety headwear is designed to protect the head from impact from falling objects, bumps, splashes from chemicals or harmful substances, and contact with energized objects and equipment.

In construction, the recommended type of protective headwear is the Class B hard hat which has the required "dielectric strength". There are many designs but they all must meet the CSA requirements for Class B Industrial head protection.

Most head protection is made up of two parts:
the shell (light and rigid to deflect blows)
the suspension (to absorb and distribute the energy of the blow)

Both parts of the headwear must be compatible and maintained according to manufacturer's instructions. If attachments are used with headwear, they must be designed specifically for use with the specific headwear used. Bump caps are not considered a helmet. In Alberta they can only be used when the only hazard is where a worker might strike his/her head against a stationary object.

Inspection and Maintenance

Proper care is required for headgear to perform efficiently. The service life is affected by many factors including temperature, chemicals, sunlight and ultraviolet radiation (welding). The usual maintenance for head gear is simply washing with a mild detergent and rinsing thoroughly.

Do:

- replace headgear that is pitted, holed, cracked or brittle
- replace headgear that has been subjected to a blow even though damage cannot be seen
- remove from service any headgear if its serviceability is in doubt
- replace headgear and components according to manufacturer's instructions
- consult OH&S or your supplier for information on headgear.

Don't:

- drill, remove peaks, alter the shell or suspension in any way
- use solvents or paints on the shells (makes shells "break down")
- put chin straps over the brims of Class B headgear
- use any liner that contains metal or conductive material
- carry anything in the hard hat while wearing the hard hat

“INFO SHEET” FOR HEARING PROTECTION

General Information

Hearing protection is designed to reduce the level of sound energy reaching the inner ear.

The "rule of thumb" for hearing protection is: use hearing protection when you can't carry on a conversation at a normal volume of voice when you are 3 feet apart.

Remember this is only a rule of thumb. Any sound over 80 dba requires hearing protection. Hearing loss can be very gradual, usually happening over a number of years.

The most common types of hearing protection in the construction industry are earplugs and earmuffs. If you choose to use the other types of hearing protection, ask your safety supplier or RSS office for further information.

It is important to have different styles of hearing protection available. Different styles allow a better chance of a good fit. Each person's head, ear shape and size is different. One style may not fit every person on your crew. If hearing PPE does not fit properly or is painful to use, the person will likely not use it. If the hearing protection is not properly fitted, it will not supply the level of protection it was designed to deliver.

Most earplugs, if properly fitted, generally reduce noise to the point where it is comfortable (takes the sharp edge off the noise).

If your hearing protection does not take the sharp edge off the noise, or if workers have ringing, pain, headaches or discomfort in the ears, your operation requires the advice of an expert.

Workers should have their hearing tested at least every year, twice a year if they work in a high noise area.

OH&S NOISE REGULATION – EXPOSURE LIMITS

TABLE 1
OCCUPATIONAL NOISE LEVEL EXPOSURE LIMITS
(Figures to be prorated if not specified)

<u>Exposure Level (dBA)</u>	<u>Duration</u>
82	16 hours
83	12 hours
84	10 hours
85	8 hours
88	4 hours
91	2 hours
94	1 hour
97	30 min
100	15 min
103	8 min
106	4 min
109	2 min
112	1 min
115 and greater	0

Where applicable, values have been rounded to nearest whole digit

TABLE 2
SELECTION OF HEARING PROTECTORS

<u>Maximum Noise Level (dBA)</u>	<u>CSA Class of Hearing Protector</u>
85-89	C
90-95	B
96-105	A
Greater than 105	A plug + A or B muff

TABLE 3
PERMISSIBLE BACKGROUND NOISE CONDITIONS
FOR AUDIOMETRIC TESTING

<u>Octave Band Centre Frequency</u>	<u>Maximum Levels (dBA)</u>
500	30
1000	30
2000	37
4000	47
8000	52

****For more information refer to Occupational Health & Safety Noise Regulation***

“INFO SHEET” FOR RESPIRATORY PROTECTION

General Information

Respiratory protection falls into two major categories. The first category is Air Purifying Respirators (APRs) which are particle (dust) chemical cartridges but NO visor plate. The second category is Atmosphere Supply Respirators, including self-contained breathing apparatus (SCBA), air line systems and protective suits that completely enclose the worker and incorporate a life support system.

Only APRs will be dealt with here. The second category of respirators requires much more specific information and training. If you need to use Atmosphere Supplying Respirators, you should get expert advice.

APRs

There are two basic types of APRs:

- disposable fibre type with or without charcoal or chemical filter "buttons" and
- the reusable rubber face mask type with disposable or rechargeable cartridges.

The choice depends on your job, labor, cost, and your maintenance facility.

It's Important to remember that APRs are limited to areas where there is enough oxygen to support life. APRs don't supply or make oxygen.

The service life is affected by the type of APR, the wearer breathing demand, and the concentration of airborne contaminants. When an APR is required, consult the Material Safety Data Sheet (MSDS), OH&S or supplier for the exact specifications for the APR.

Facial hair can prevent a good seal and fit of an APR: One to three days growth is the worst. Follow the manufacturer's instructions to the letter regarding the mask, filters, cartridges and other components. Workers who must use respiratory protection should be clean shaven.

An APR is only as good as its seal and its ability to filter out the contaminants it was designed to filter.

Combination Respirators

This type of APR combines separate chemical and mechanical filters. This allows for the change of the different filters when one of them becomes plugged or exhausted before the other filter (usually the dust filter plugs up before the chemical filter). This type of respirator is suitable for most spray painting and welding. For more information check the:

- Material Safety Data Sheet (MSDS)
- OH&S Act, Regulation & Code
- the local OH&S office
- the safety equipment supplier

For more information, look at:

Alberta OH&S Act, Regulation & Code
CSA Standards "Compressed Breathing AID" Z180.1 - M1978
"Selection, Care and Use of Respirators" 294.4 - M1982
Chemical Hazards Regulation (Alberta Reg. 8/82)

Do

- train workers very carefully in the APR's use, care and limitations
- ensure that respirators are properly cleaned and disinfected after each shift, according to the manufacturer's instructions
- dispose of exhausted cartridges and masks in sealed bags or containers
- keep new, unused filters separate from old, used filters
- monitor APR use; they are useless just hung around the neck
- replace filters when breathing becomes difficult.

Don't

- use for protection against materials which are toxic in small amounts
- use with materials that are highly irritating to the eyes
- use with gases that can't be detected by odor or throat or nose irritation
- use with gases not effectively halted by chemical cartridges regardless of concentration (read the cartridge label)
- use respirators or masks if the serviceability is in doubt ,
- use APRs where oxygen content in the air is less than 18 % or 18 kilopascals (partial pressure or greater)

“ INFO SHEET” FOR SUN PROTECTION

For the purposes of this manual and work performed on The University of Lethbridge campus, the guidelines for Sun Protection are defined by but not limited to the following:

- Shirts with sleeves of not less than 4” when measured from the underseam to the sleeve hem.
- Full length pants that cover the top of work boots.
- Eye protection with tinted lenses to reduce / block Ultraviolet (UV) rays.
- Hats with a brim that will provide adequate protection from the sun for neck, ear, and face areas. (*Recommended*)
- Sunscreen with a recognized Sun Protection Factor (SPF) of 15 or higher. (Note: Sunscreen should be applied at least 20 minutes before going out into the sun as recommended by Health Canada). (*Recommended*)

For more information on the effects of exposure to sunlight refer to the Health Canada website located at www.hc-sc.gc.ca.

“INFO SHEET” FOR FALL PROTECTION

General Information

As outlined in the AHRE Occupational Health and Safety Code; Part 9 Fall Protection;

- 139 (1)** An employer must ensure that workers use a fall protection system at a temporary or permanent work area if
- (a)** a worker may fall 3 meters or more, or
 - (b)** there is an unusual possibility of injury if a worker falls less than 3 meters.

Employers must develop a fall protection plan where the above is true, to include the following;

- 143 (2)** A fall protection plan must specify
- (a)** the fall hazards at the work site,
 - (b)** the fall protection system to be used at the work site,
 - (c)** the procedures used to assemble, maintain, inspect, use and disassemble the fall protection system, and
 - (d)** the rescue procedures to be used if a worker falls, is suspended by a personal fall arrest system or safety net and needs to be rescued.

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

A lifeline should never be used as a service line. The only time a lifeline becomes a load bearing line is in the event of a fall. At all other times it should be just slack enough to permit free movement on the service lines.

It is very important to get quality advice in the selection, purchase and maintenance of your fall arresting equipment.

Please refer to the following CSA and ANSI Standards when selecting equipment;

- 145 (1)** Harnesses: CAN/CSA-Z259.10-M90 (R1998), *Full Body Harnesses*
(3) Lanyards: CAN/CSA-Z259.1-95 (R1999), *Safety Belts and Lanyards*
(4) Shock Absorbers: CAN/CSA-Z259.11-M92 (R1998), *Shock Absorbers for Personal Fall-Arrest Systems*
(5) Connecting Components: CAN/CSA-Z259.12-01, *Connecting Components for Personal Fall Arrest Systems (PFAS)*

PERSONAL PROTECTIVE EQUIPMENT

Do

- obtain expert advice before purchasing a fall arresting device
- properly train and practice with the system you decide to use
- use webbing type harnesses instead of leather harnesses
- use only the manufacturer's components for replacement parts
- inspect carefully before each use (inspection to be performed by a trained worker)
- have the harness fitted snugly to the worker using the system
- ensure that the anchor points are secure and able to support the load In the event of a fall
- follow the manufacturer's instructions on care and use
- ensure all lines used with the systems have thimbles
- use only the proper safety rated fastenings with the system
- use a full body harness with shock absorber whenever possible

Don't

- modify, change or put additional holes in the harness or hardware
- jerry-rig the system
- use the system for any other than its intended use
- use the lifeline for a service line