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SUNY CORTLAND
ENVIRONMENTAL HEALTH
AND SAFETY OFFICE

CONTRACTOR SAFETY PROGRAM

PROGRAMS, POLICIES, AND PROCEDURES

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Contents

Contractor Safety Program

1 Introduction

This document is the Contractor Safety Program for SUNY Cortland and serves as notification of campus safety programs and practices to contractors, subcontractors, and vendors who perform work at SUNY Cortland or any other facilities owned and operated by the college.

The purpose of the program is to provide contractors who work on college properties with safety-related information, policies, procedures, emergency plans, and protocols. These range from College and SUNY specific policies to State and Federal regulations.

The college recognizes that services provided by contractors vary widely from brief consultant visitations, deliveries, and service calls to construction. The Contractor Safety Program applies to all contractors and the overall applicability of the program's components will depend on the type of services that contractors are retained to provide.

Contractors should not assume that this program covers all applicable safety, health, and environmental laws. Furthermore, those regulatory programs that are covered in this program are presented in summary form with the emphasis and citation of key safety related elements.

2 References

SUNY Cortland EH&S Policies and Procedures
SUNY Procedure 7554, Form 7554-06 Information for Bidders, Jan. 2017
OSHA Permit-Required Confined Spaces (29 CFR 1910.146)
NYS Code Rule 753, Protection of Underground Facilities
OSHA, Trenching and Excavation (29 CFR 1926 650-652)
OSHA, Occupational Noise Exposure standard (29 CFR 1910.95)
OSHA, Fall Protection (29 CFR 1926 Subparts L and M/29 CFR 1910 Subparts D, F, I, R)
OSHA, Hazard Communication Standard (29 CRF 1910.1200)
OSHA, Respiratory Protection (29 CFR 1910.134)
OSHA, Bloodborne Pathogens (29 CFR 1910.1030)
OSHA, Asbestos in Construction (29 CFR 1910.1101)
OSHA, Reporting Fatality, Injury & Illness Information to the Government (29 CFR 1904.39)
OSHA, Electrical (29 CFR 1910 Subpart S)
OSHA, Electrical (29 CFR 1926 Subpart K)
NYSDOL 12 NYCRR Part 56 Asbestos
OSHA Lead in Construction Standard (29 CFR 1926.62)
SUNY Cortland 2018 Public Access to Defibrillation program
OSHA, "Welding, Cutting and Brazing" (29 CFR 1910.252)
ANSI, American National Standards Institute

NIOSH, National Institute for Occupational Safety & Health
NESC, National Electric Safety Code
NEC, National Electric Code
Fire Code of New York State, Chapter 26
National Fire Protection Association NFPA 70E, Standard for Electrical Safety in the Workplace
NRTL Nationally Recognized Testing Laboratory
NYSDEC Spill Program
NYSDEC SPDES (State Pollutant Discharge Elimination System)
Hazardous Waste (40 CFR 260 – 282)
NYS Hazardous Waste Regulations (6 NYCRR Subparts 370-376)
Universal Wastes (40 CFR 273)
Fluorescent Bulbs, Batteries, Pesticides, Mercury Thermostats (6 NYCRR Subpart 374-3)

3 Definitions

College – Refers to SUNY Cortland and includes all buildings, structures, roads and land located on the main SUNY Cortland Campus and at other off-campus properties and facilities owned by the college

Competent Person – A competent person, as defined by OSHA, is one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Confined Space – A space that meets all of the following conditions: 1) is large enough and configured so that an entrant can bodily enter and perform assigned work; 2) has limited means of entry or exit; and 3) is not designed for continuous occupancy.

Contractor – The person, partnership or corporation, other than an employee of the college, that provides goods or services to the college. For the purposes of this program contractors include construction companies, vendors, consultants, professionals, maintenance & repair services or any other contractor who visits college property to perform work. Subcontractors are also included under the definition of "Contractor"

Excavation - The movement or removal of earth, rock or other materials in or on the ground by use of mechanized equipment or by blasting, and includes, but is not limited to auguring; backfilling; drilling; grading; plowing in; pulling in; trenching and tunneling. Tools manipulated only by human or animal power and the tilling of soil for agricultural purposes shall not be deemed excavation.

Hazard - A hazard is the potential for harm. In practical terms, a hazard often is associated with a condition or activity that, if left uncontrolled, can result in an injury or illness.

Lockout – The placement of a lock on an energy isolating device in accordance with an established procedure to insure that the energy isolating device cannot be operated until the lock is removed.

NFPA – National Fire Protection Association

Permit Required Confined Space – A permit required confined space is defined as a confined space that has at least one of the following additional characteristics:

1. Contain or have a potential to contain a hazardous atmosphere;
2. Contain a material that has the potential for engulfing an entrant;
3. Internally configured such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or
4. Contain any other recognized or serious safety hazard (e.g., fall hazards; unguarded machinery; extreme heat or cold; steam pipes or chemical lines; electrical hazards; high dust levels).

OSHA – Occupational Health & Safety Administration

Qualified Person - is an individual who by possession of a recognized degree, certificate or professional standing, or by extensive knowledge, training and experience, has successfully demonstrated their ability to solve or resolve problems relating to the subject matter, the work, or the project

Tagout – The placement of a warning tag on an energy isolating device in accordance with an established procedure to indicate that the energy isolating device must not be operated until the tag is removed.

Work Site – The place(s) as defined in the Contract where the Contractor, Sub-Contractor and their employees are required to perform the task(s) specified in the Contract.

Work Zone – A work zone is an area of roadway with construction, maintenance, or utility work activities. A work zone is typically marked by signs, channelizing devices, barriers, pavement markings, and/or work vehicles

4 Responsibilities

Contractors – Contractors are responsible for: 1) conforming with the policies and procedures outlined in this contractor safety program; 2) performing their work in accordance with applicable regulations, codes, standards, and specifications; 3) ensuring that their employees (and subcontractors) are properly trained in safety protocols and procedures and are provided with the necessary safety and personal protective equipment specific to the work they perform; 3) ensuring that their tools and equipment are in good working order and meet regulatory requirements; 4) conducting their own job hazard analysis (JHA) and exposure assessments; 5) representing themselves in a professional, civil and respectful manner while working at the college.

EH&S Office – The EH&S Office is responsible for: 1) reviewing and updating this program; 2) evaluating this program's effectiveness; 3) evaluating project-specific hazards and indicate project requirements and safe work practices; 4) providing assistance and support to FOS and FPDC on contractor safety-related issues; 5) maintaining records.

Facilities Operations and Services Office (FOS) - The Facilities Operations and Services Office is responsible for: 1) Providing contractors with the SUNY Cortland Contractor Safety Program; 2) Providing contractors with information on the presence of hazardous materials and inherent dangerous conditions known to be present in or on the areas of buildings where contractors will be working: 3) Informing the EH&S Office of upcoming projects involving the use of outside contractors 4) Requesting that an EH&S office representative attend pre-construction meeting(s) to provide a review of the college's policies on contractor safety.

Facilities Planning Design and Construction Office (FPDC)- The Facilities Planning Design and Construction Office is responsible for: 1) Providing contractors with the SUNY Cortland Contractor Safety Program; 2) Providing contractors with information on the presence of hazardous materials and inherent dangerous conditions known to be present in or on the areas of buildings where contractors will be working; 3) Informing the EH&S Office of upcoming projects involving the use of outside contractors; 4) Requesting that an EH&S office representative attend pre-construction meeting(s) to provide a review of the college's policies on contractor safety.

5 Applicability

This contractor safety program applies to contractors who conduct work on college properties.

SUNY Cortland properties include:

- SUNY Cortland main campus (Cortland, NY)
- West Campus Apartments (Rte. 281, Cortland)
- McDonald Building (Tompkins Street, Cortland NY)
- Hoxie Gorge Property (Cortland, NY)
- Antlers and Camp Huntington (Raquette Lake, NY)
- Brauer Field Station (Selkirk, NY)

The overall level of applicability of components of this contractor safety program will depend on the type of work contractors are hired to perform. The program highlights a wide range of programs and policies including specific college or SUNY related policies as well as regulatory safety and environmental policies enforced by OSHA, EPA and New York State.

6 Key Contacts

- University Police Department (UPD): 607-753-2111 or 911
- Dig Safely New York: 811
- Environmental Health & Safety (EH&S): 607-753-2508
- Facilities Planning Design & Construction (FPDC): 607-753-2214
- Facilities Operations Services (FOS): 607-753-2100
- NYSEG (1-800-572-1111)
- NYSDEC Spill Response (1-800-457-7362)
- Guthrie Cortland Medical Center (607-756-3500)
  - 134 Homer Avenue
  - Cortland, NY 13045

7 SUNY and SUNY Cortland Policies & Practices

7.1 General

- All work is to be conducted in such a manner as to cause a minimum degree of interference with the College's operation and academic schedule.
- Safe and direct entrance to and exit from the existing buildings shall be maintained at all times during regular hours while construction is in progress.
- No construction work will start in any area until the Contractor has all the required materials & safety equipment on-site.
- The Contractor and its employees shall comply with College regulations governing conduct, access to the premises, and operation of equipment.
- Buildings shall not be left "open" overnight or during any period of inclement weather. Temporary weather tight closures shall be provided for/by the Contractor to protect the structure and its contents.

7.2 Zero Tolerance, Mandatory Reporting & Tobacco Policies

- SUNY Cortland strictly enforces a **Zero Tolerance** policy regarding workplace violence and sexual harassment. Violations will not be tolerated and will be subject to disciplinary action, including immediate removal from campus, and, if appropriate, shall be prosecuted to the full extent of the law. Incidents of workplace violence, sexual harassment, threats of workplace violence or sexual harassment (either explicit or implied), or observations of workplace violence or sexual harassment are not be ignored by any member of the College community. Any employee, representative, contractor, consultant or vendor, who believes that a violation exists, or that an imminent danger exists, must contact the University Police Department at 607-753-2111 or 911 immediately.

- SUNY has a policy on **mandatory reporting** and prevention of child sexual abuse. This policy requires ALL SUNY employees, contractors, vendors, students, and volunteers to report incidents of child sexual abuse that occur on SUNY property and at SUNY sponsored events. Anyone who witnesses or has reasonable cause to suspect any sexual abuse of a child (defined as a person under the age of 17)

occurring on SUNY Cortland property or while off-campus during official College business or College-sponsored events is REQUIRED to immediately report such conduct to the University Police Department at 607-753-2111 immediately, or if appropriate 911. Any person found in violation of this policy will be subject to disciplinary action, including immediate removal from campus, and, if appropriate, shall be prosecuted to the full extent of the law. Please note, to report an incident, it is not required to have proof – or even to be absolutely certain – that sexual abuse has occurred. Rather, someone reporting abuse needs only to SUSPECT abuse based on his or her observations.

- The entire SUNY Cortland campus is tobacco-free. There will be no smoking or any tobacco use within buildings or on the grounds owned or leased by SUNY Cortland as well as in any vehicle on SUNY Cortland Property. Contractors need to communicate this policy to all of their employees and subcontractors.

7.3 Occupant Interruptions, Building System Shutdowns and Notifications

Due to the complexity of campus activities and uses, any construction, service or maintenance related activity that impacts campus services or functions require at least five (5) working days advance notification. This notification should be relayed to the contractor's primary college contact so that the proper communications can be made with campus groups and the administrator of the building where the work is to occur. The exception to this would be an emergency and, in that case, advance notice may either not be possible or be of short notice. Notification should include any shutdowns to water, power, emergency systems, HVAC shutdowns, detours, excessive noise, or any other impact that could cause interruptions or disturbances of building operations.

In all cases, FPDC and EH&S should review the proposed shutdowns and interruptions in order to communicate and discuss these with campus groups and the building administrator to determine the nature and extent of potential impacts. Once assessed FPDC will coordinate a reasonable advance notice to campus groups, UPD, and other applicable departments and agencies.

Some regulations require specific advanced postings and notifications to building occupants and regulatory agencies. These include projects involving asbestos abatement. Contractors performing abatement activities should make the necessary regulatory notifications and work with their primary college contact to ensure that required building occupant postings are in place before the start of such work.

Campus groups should also be informed that they should contact the EH&S office with any ongoing concerns about potential hazards that arise during projects.

7.4 Worksite Nuisances and Occupant Disturbances

Worksite nuisances and disturbances are most commonly associated with noise, odors, vibrations or fugitive emissions. These can be disruptive to the building occupants as well as the college community and campus operations.

Many worksite nuisances and disturbances are covered by OSHA regulations. It is not acceptable for a contractor to generate, emit or expose college employees and students to noise levels and airborne contaminants above permissible exposure limits. The college reserves the right to conduct testing outside work areas to determine compliance with OSHA regulations. Even if a contractor is found to comply with OSHA with regards to noise, odors, vibrations and fugitive emissions the college may intervene if worksite conditions are impacting building occupants, the college community or campus operations.

The majority of complaints of contractor related nuisances and occupant disturbances can be avoided or minimized through proper planning and communications before the start of a project. Project managers, contractors, and building administrators should review the various stages of the project and identify those activities that could be problematic and take appropriate actions before the start of the project.

7.4.1 Noise

Worksites frequently produce noises through the use of various tools and equipment during both demolition and construction phases of projects. These noises can be loud and disruptive and often travel well beyond the boundaries of work areas. Loud, repetitive and constant noises can create a nuisance to building occupants and affect classroom operations. In the event of complaints of excessive noise, regardless of the decibel level, it may be necessary to stop work if the noise is adversely affecting building occupants or classroom activities.

Contractors are required to conform to OSHA's Occupational Noise Exposure standard (29 CFR 1910.95). This standard establishes permissible exposure limits for noise levels and sets the criteria when hearing conservation programs are necessary.

The college has implemented a Hearing Conservation Program which is specific to college employees and the campus community. Although the program does not specifically apply to the employees of contractors, noises emanating from the established confines of work sites are subject to the provisions of the program.

It is not acceptable for noise decibel levels to exceed regulatory limits (85 dBA) beyond the confines of work sites. Contractors shall take actions to keep noise decibel levels at work sites as low as possible through the use of muffling devices, sound barriers, separation distances, etc.

The college has evaluated spaces in college buildings that generate elevated noise due to equipment located within those spaces. These are primarily mechanical type spaces. Signs have been posted on entry doors to these spaces warning entrants of "High Noise Area" and "Hearing Protection Required". Contractors who enter these spaces are advised to don

ear protection. Earplug dispensers are installed on the wall just inside the entry to these spaces with disposable earplugs available for use by individuals entering these areas.

The college is not responsible for employees of contractors hearing conservation program. Contractors shall be responsible for complying with the OSHA noise standard and developing and implementing their own hearing conservation program.

7.4.2 Air Quality and Fugitive Emissions Control

Construction sites and other contractor related activities can produce odors and air emissions that can be offensive, and sometimes hazardous, to building occupants and the campus community. Some emissions can contain irritants as well as OSHA regulated toxic and hazardous substances. These include, but are not limited to, nuisance dust, chemical odors, vapors, gases, fumes, silica, asbestos, lead, and exhausts from fossil-fueled equipment containing carbon monoxide, soot, and other offensive odors.

It is not acceptable for a contractor to emit airborne concentrations of OSHA regulated toxic and hazardous substances (29 CFR 1926 Subpart Z) in excess of permissible exposure limits. Contractors shall take all reasonable precautions necessary to control odors and fugitive air emissions from work sites by employing work procedures and engineering controls to minimize air emissions emanating from work sites.

The following represent commonly applied methods for controlling worksite air quality:

- Isolate work areas located adjacent to occupied areas with airtight hard wall partitions.
- Use HEPA filtered air scrubbers inside work areas to control dust and other particulates. Exhaust HEPA scrubbers to the outdoors when possible. This will assist in creating a slight negative pressure in the work area thus further containing emissions to the work area
- Protect and isolate HVAC ductwork so that dust and debris and other worksite emissions are not spread to other areas of the building
- Avoid operating fossil fuel powered equipment near building air intakes that can generate carbon monoxide and noxious fumes
- Utilize water dust suppression on masonry cutting tools
- Apply water to parched ground surfaces to control windblown dust on outdoor worksites and work zones.

7.5 Stop Work Orders

The College reserves the right to order the contractor to stop work at any time the following conditions are observed:

- The contractor is in violation of zero-tolerance policies for workplace violence or sexual harassment

- The contractor observed working in a manner that poses an imminent danger to the life and health of their employees or the campus population
- The contractor commits a serious, willful violation of regulations
- Work is being conducted in a manner that is exposing the college community to an unsafe situation.
- Worksites are not controlled, secured or properly posted with warnings or notifications
- OSHA or other Environmental regulations and requirements are not being followed, met or adhered to.

7.6 Site Visitations

During the course of a project authorized personnel from the college (UPD, FPDC, FOS or EH&S) and applicable Federal and State agencies (OSHA, NYSDOL) shall be permitted to visit worksites and monitor any work conducted at the college. In some cases, a college representative from the FOS office may be requested to visit a worksite to provide building system support. Authorized site visitors will be required to don appropriate PPE during their site visits as mandated by the contractor's safety program.

8 Emergency Action Plans, Protocols & Programs

An Emergency Action Plan (EAP) is a written document to facilitate and organize employer and employee actions during workplace emergencies. A well-developed emergency plan and proper employee training will result in organized evacuations and emergency response, in fewer and less severe employee injuries, and less structural damage to the facility during emergencies.

The college has developed an Emergency Action Plan to address procedures, policies, alarms, emergencies, fire, and notifications. The college plan covers the college community as well as visitors. Since contractors are considered campus visitors, the EAP would apply to contractors working at the college. Contractors are responsible for observing evacuation procedures and protocols outlined in the emergency action plan.

There may be some cases where contractors take over control of a building or site where construction is taking place. In those cases, contractors should develop their own written emergency action plans specific to the site they are under control of.

8.1 Alarms and Police Notifications

Contractors shall call the University Police Department (UPD) in the event of:

- Alarms triggered by the contactor
- Emergencies
- Accidents
- Elevator malfunction requiring rescue
- Natural and other disasters

- Fires
- Requests for emergency medical services
- Police issues (theft/property damage)

8.2 Evacuations

If a contractor is working in a building and an alarm sounds, the contractor and their workers should immediately exit the building and proceed to the designated assembly space for the building. Evacuation routes are posted in hallways on every floor. If you cannot exit the building go to an area of refuge or stairwell and call UPD. Areas of refuge and assembly spaces for specific buildings are listed in tables provided in Appendix A.

If a contractor is working in an area or at a vacant building, where alarms and other systems are either disabled or not yet installed, they must develop and implement their emergency action plan that includes:

- Evacuation procedures, communication systems, evacuation routes, refuge and assembly areas for their workers
- Key college and emergency services contact information
- Fire Watch

The contractor shall establish emergency evacuation areas for all work sites and workers shall be directed to proceed to this area in the event of an emergency. Personnel accountability is critical to emergency responders and the contractor shall have a have system in place for documenting the whereabouts of workers on a job site (headcount) in the event of an emergency.

8.2.1 Evacuation Procedures

- Know the evacuation routes and assembly space(s) for your building. Evacuation routes are posted in the hallways on every floor.
- If you hear a building alarm, immediately leave the building. If it is necessary, alert others about the alarm.
- As you exit the building, remember to close doors behind you and do not use elevators.
- If you are not able to exit the building, go to an Area of Refuge or a relatively safe area such as a stairwell. Once you are in an Area of Refuge, activate the alarm box. Areas of Refuge for specific buildings are listed in Table provided in Appendix A.
- If you observe someone who is not able to exit the building, assist them in getting to an Area of Refuge or a relatively safe area if you are able.
- Once you exit the building, go to the assembly space. If someone you know is within an Area of Refuge or unaccounted for, report this information to a University Police officer or other emergency response personnel. Be prepared to indicate a person's location if it is known.

8.3 Reporting Fires

If you discover or suspect a fire, activate a pull station. Pull stations are located in hallways, and near stairway doors and exits. While activating a pull station is the primary means of initiating a building alarm, you can also report a fire to University Police by calling 911 or 607-753-2111. If the area or building does not have pull stations then call 911 or UPD.

8.4 Fire Extinguishers

Fire extinguishers are present in college building hallways, offices, classrooms, laboratories, kitchens, mechanical rooms, and other high hazard areas. College buses, maintenance vehicles, and emergency response vehicles are also equipped with fire extinguishers.

Fire extinguishers should be present on all work sites. If a contractor is working in a building where they have control they should have their own fire extinguishers.

Fire extinguishers are mandatory for all hot work operations and shall be on-site and in the immediate vicinity of the workers performing such activities.

Contractors are not expected to put out fires and fire extinguishers should only be used when a fire obstructs one's ability to exit the building. If it is necessary to use a fire extinguisher, contractors should use the fire extinguisher in accordance with their training program.

8.5 Other Campus Emergencies

Other than fires, campus emergencies also include bomb threats; civil disturbances; hazardous material spills; medical emergencies; personal safety (e.g., suspicious packages); severe weather; and utility failures.

Modes of communication to convey campus emergencies include the IP phone system; campus message screens; campus and Cortland radio stations; cell phone voice messages; cell phone text messages; fire alarms; loudspeaker/siren; and the SUNY Cortland web page. The type of emergency will dictate the mode(s) of communication that is used to convey information.

Note: A siren will only be sounded for life-threatening situations. You should listen carefully for a message over the loudspeakers. Additionally, if possible, turn on your cell phone, check the SUNY Cortland web page, view a campus visual message screen, or check your IP office or department phone for further information. If these options are not available, immediately seek a secure location.

8.6 Medical and First Aid

The college's on-campus emergency medical service (EMS) responds to student only related medical emergencies. In the event of a contractor related emergency requiring EMS, a local EMS service will be dispatched to the college upon being contacted by UPD or a 911 call.

The exact response time for an EMS service to respond is estimated to be less than 5 minutes but is not guaranteed. Therefore contractors are encouraged to consider having a trained, designated first-aid responder at worksites

For situations where self-transportation of an injured worker is elected, Guthrie Cortland Medical Center is located "near proximity" to the main campus (approximately 1 mile from campus). The address and contact information for the hospital is provided in Section Vl, Key Contacts.

The college does not provide first aid to contractors and adequate first aid supplies shall be present and readily available at worksites if the need arises. Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use. Many of the colleges building mechanical spaces are equipped with eyewash and shower stations and contractors are permitted to use those in the event of an emergency. It is recommended that contractors familiarize themselves with the locations of these safety devices before the start of work activities.

8.7 Bloodborne Pathogens

Bloodborne pathogens are disease-causing microorganisms in human blood or other potentially infectious material (OPIM), and include, but are not limited to, hepatitis B virus, hepatitis C virus, and human immunodeficiency virus. The concerns with bloodborne pathogens are exposures to blood and OPIM as a result of injury or other bodily secretion that contains blood.

The Bloodborne Pathogen Standard (29 CFR 1910.1030) prescribes safeguards to protect workers against the health hazards caused by exposure to bloodborne pathogens. The requirements address items such as exposure control plans, universal precautions, engineering, and work practice controls, personal protective equipment, housekeeping, laboratories, hepatitis B vaccination, post-exposure follow-up, hazard communication and training, and recordkeeping. The standard places requirements on employers whose workers can be reasonably anticipated to contact blood or other potentially infectious materials (OPIM).

The college has developed an exposure control plan for bloodborne pathogens. This plan is specific to the college campus community. Contractors are considered visitors and the college's plan could apply in the event that a contractor has an injury resulting in the release of blood or OPIM to an area or surface that is accessible to the general college community (indoors or outdoors). In the event of such an occurrence, the contractor should contact UPD. If the injury is serious and the contractor is unable to make the call they should seek assistance and request responders to make the call to UPD. Trained college employees will be dispatched to clean up the blood using proper procedures and protocols, and if deemed necessary, emergency medical services will be contacted.

The college bloodborne pathogen exposure control plan does not apply to work sites under the control of contractors. On work sites under the control of a contractor, a bloodborne pathogen program must be developed and implemented if they determine their employees can be reasonably anticipated to contact with blood or other potentially infectious materials (OPIM).

8.8 Automated External Defibrillators

The college has a defibrillation program (SUNY Cortland 2018 Public Access to Defibrillation program) and all campus buildings have been equipped with automated external defibrillators (AED).

If a person is found to be unconscious, responders should immediately call the University Police Department (UPD) by dialing 607-753-2111, or dial 911 or 2111 on any campus phone. UPD can also be notified by using a Blue Light call box or by opening the cabinet door to any wall mounted AED unit where the call will be placed automatically. The dispatcher will immediately dispatch available officers to the scene with a portable AED. The 911 Emergency Services and SUNY Cortland EMS squad will subsequently be notified.

In the event of an emergency, AED's located within buildings are available for general public use. The college has many employees who are trained responders in AED use. However, anybody is permitted to use an AED in an emergency situation if a trained responder is not present. AED units contain easy to follow instructions within the unit.

On larger college construction projects AED devices will be made available to contractors. Coordination for the temporary installation of AED devices on construction sites will be made by the college's Facilities Planning, Design, and Construction representative.

8.9 Fatalities & Catastrophes Reporting

UPD or 911 should be contacted immediately in the event of a fatality or other catastrophe.

Contractors are required to notify OSHA when an employee is killed at a job site at the college (within 8 hours) or suffers work-related hospitalization, amputation or loss of an eye (within 24 hours).

9 Safety Protocols, Accident Prevention & Environmental Awareness

9.1 Safety and Protective Facilities

- The Contractor shall provide the necessary safeguards to prevent accidents, to avoid all necessary hazards and protect the public, the staff, students, the work and property at all times, including Saturdays, Sundays, holidays and other times when no work is being done.

- The Contractor shall erect, maintain, and remove appropriate barriers or other devices, including mechanical ventilation systems, as required by the conditions of the work for the protection of users of the project area, the protection of the work being done, or the containment of dust and debris. All such barriers or devices shall be provided in conformance with all applicable codes, laws and regulations, including OSHA and National Fire Prevention Association 241 for the safeguarding of structures during construction.

9.2 Traffic Safety

Roadways on and around the SUNY Cortland campus consist of both college-owned roadways as well as the City of Cortland owned roads. Traffic safety is taken very seriously by the college and failure to comply with driving laws can result in ticketing and fines by either the University Police Department or City of Cortland Police Department.

Contractors traveling on campus roadways are expected to:

- Possess appropriate valid license for the vehicle they are driving
- Drive at or below posted speed limits (25 MPH on campus roads)
- Observe NYS Safety Belt Law
- Observe NYS Distracted Driving Law (Texting/Phone)
- Yield the right of way to pedestrians in crosswalks
- Yield the right of way to cyclists
- Be alert for people acting unpredictably, crossing at non-crosswalk locations.
- Pay particular attention when approaching buses unloading passengers; pedestrians often cross in front of the bus, particularly at a crosswalk.
- Yield to and provide common courtesy to campus vehicles (snow plows, facilities vehicles, lawn maintenance, GEM Cars, etc.)
- Follow indicated directions of work zone flag persons, UPD or other persons directing traffic.

9.3 Work Zone Safety

Work zones on campus roadways or rights-of-way where the University Police Department (UPD) must be contacted prior to starting work to ensure that adequate campus notification can be made as well as being properly laid out. When vehicle traffic control is needed, the contractor is responsible for providing trained flag persons and reflective clothing for all workers in addition to providing proper signage and cones to delineate work zones.

9.4 Work Site Control, Security and Housekeeping

Maintaining site control and security is critical to prevent and protect the college community and public from exposure and safety hazards on worksites. All worksites must be planned out and approved by the college prior to the start of work. The planning process should include the establishment of worksite boundaries, barriers, traffic patterns, pedestrian walkways, building occupant access, emergency response access, detours, emergency exits, and building systems control access.

Contractors are required to assign the responsibility of worksite control to a competent individual at the worksite.

Sites where construction, excavation, demolition or other activities will take place over more than a single workday need to be properly cordoned off by use of substantial barricades or fencing to secure the site from non-worker entry. Access doors or gates should be lockable and secured upon completion of the day's work. Small scale short-duration work sites wherein the work can be completed in a single day can be cordoned off with cones or barrier tape while the work is being conducted, provided the site is not left unattended.

All worksites involving hazardous materials abatement (asbestos, lead paint, etc.) shall be properly posted and secured as required by regulations.

Warning signs should be in place providing additional warning to pedestrians.

The perimeter of the worksite shall be established to meet regulatory requirements for separation distance as well as to meet threshold distances for flying or falling debris that could be ejected from the worksite.

Work sites shall have established entry and exit areas where control can be maintained.

Materials, equipment, chemicals, compressed gases, fuels shall be staged or stored in controlled locations that provide security and protection from unauthorized persons, accidental contact and the effects of weather.

No equipment, materials or debris are permitted to penetrate or break the plane of the work site perimeter into areas where the college community, visitors, pedestrians or vehicles can make physical contact with such items.

Worksites with poor housekeeping can create unsafe working conditions resulting in significantly higher risks of slip, trip & fall injuries. OSHA Walking-Working Surfaces Standard (29 CFR 1910.22) mandates that all places of employment, passageways, storerooms, service rooms, and walking-working surfaces are to be kept in a clean, orderly, and sanitary condition. Contractors shall institute good housekeeping practices on worksites and maintain sites as clean and orderly as feasible.

9.5 Sanitary & Hygiene Facilities

Sanitary and hygiene facilities are important features of a safe workplace.

Where possible the college will permit contractors to use the toilet, janitor closet facilities, and potable water services as designated by the college provided existing facilities and utilities are not misused, defaced or left in unsanitary condition. If the college deems that

the sanitary facility privilege has been abused the contractor will be informed and caused to install and maintain (at their own cost) temporary sanitary facilities at approved locations.

In the absence of college sanitary and hygiene facilities, or loss of privilege, it is the contractor's responsibility to provide adequate hygiene facilities for their workers. The level of hygiene facilities will depend on the nature of the work and can include portable toilets, handwash stations, first aid kit, eyewash & shower stations, changing areas and decontamination units.

9.6 Weather Safety

Outdoor worksites and open buildings under construction can be subject to the effects of weather. Extreme heat or cold, rain, hail, fog, snow, wind, and lightning can all pose significant hazards on worksites and, in some cases, those hazards can affect the college community. Weather related safety hazards include:

- Heat Stress (Heat)
- Heat Stroke (Heat)
- Frostbite (Cold)
- Slip, Trip & Fall Hazards (Rain, ice, snow, hail)
- Flying or falling objects (High wind, Icicles)
- Poor Visibility (Heavy snow or rain, fog)
- Unstable equipment (High wind)
- Airborne debris (Wind)
- Dust and particulate (Wind during dry conditions)
- Excavation slump/collapse (Rain)
- Electrocution (Lightning)

Contractors should properly train their employees on weather safety and institute contingency plans directing their employees on protocols and safe work practices in the event of adverse weather conditions.

Contractors working in extreme temperature conditions (hot or cold) should take the necessary measures to protect employees from the effects of extreme temperatures by providing weather-appropriate PPE, hydration, breaks, or climate control to prevent the onset of heat and cold related injuries and conditions. The contractor's on-site competent person should be able to recognize the signs and symptoms of heat stress, heatstroke, and frostbite.

Rain, ice and snow events can create slippery conditions, cause runoff and flood conditions. Care should be taken when working in excavations during and after rain events due to the elevated risk of slumping or cave-ins. Work on elevated platforms, ladders, lifts, and roofs should be avoided during rain, snow, icy and wet conditions. Ground-level pathways should be kept clear and treated with salt in cold weather.

Lightning & thunderstorms pose a threat of electrocution and should be taken very seriously by contractors working outdoors or at open work sites. Both the National Weather Service and National Severe Storms Laboratory have guidelines for lightning & thunder and recommend seeking shelter and not resuming outdoor activities until 30 minutes after the last lightning or thunder. Contractors are expected to follow these guidelines and avoid seeking shelter beneath trees or under open metal structures during lightning & thunderstorms.

Windy conditions can create a host of safety-related hazards at job sites including flying debris, falling objects & equipment, and airborne dust. Contractors are advised to take necessary precautions when working in windy conditions on elevated work platforms, ladders, lifts, and roofs. Frequent clean-up of lightweight packaging type materials can reduce the chance of windblown debris from leaving work sites. Loose tools and equipment should not be stored on elevated surfaces during high wind events. During dry periods, winds can cause airborne dust to leave job sites becoming a nuisance to the college community resulting in complaints. In some cases, water may be applied as a dust suppression measure on parched ground surfaces.

Contractors should be aware of icicles and snow buildup on roofs when working near buildings in the winter season. Falling ice and snow can pose a significant threat for bodily harm and shall be removed before conducting work directly below such conditions.

Fuel containers and other vessels containing chemicals should be closed and protected from rain to prevent the release of contaminants to the environment.

9.7 Spills, Discharges and Environmental Reporting

The SUNY Cortland campus is geographically located on the Cortland Homer Preble aquifer. This sole-source aquifer provides drinking water to the college, the City of Cortland and surrounding towns. Protection of the aquifer from pollution is of paramount importance to the college and municipalities to which the aquifer provides drinking water. Spills and discharges of chemicals, petroleum-based fuels, oils, lubricants, raw sewage, and other hazardous materials are of particular concern in that small quantities can adversely affect the environment and potability of the aquifer's water.

Chemical spills to the environment and discharges to sewage systems are regulated by the Environmental Protection Agency and the New York State Department of Environmental Conservation. The college has a spill response program that requires contractors working at the college to report any spill or discharge of chemical, fuel, oil, lubricant or other hazardous material on college property according to the campus Spill Prevention Countermeasure and Control Plan (SPCC Plan).

9.7.1 Spills

Whenever spills occur, regardless of size, the health and well-being of those involved or others in the immediate vicinity are the primary focus. In the event of an accidental release

of petroleum, chemicals, or other hazardous material as a result of a spill or other accident such as a ruptured pipe or vessel, the Contractor shall:

- Immediately take action as appropriate to contain the spill and stop the flow (provided this action can be taken without jeopardizing the health or safety of employees);
- Notify UPD 607-753-2111;
- Contact EH&S at 607-753-2508 (or via calling 911 after hours);
- Contact the college Project Manager (FOS or FPDC);
- All petroleum or chemical spills that occur within New York State (NYS) must be reported to the NYS Spill Hotline (1-800-457-7362) within 2 hours of discovery, except spills which meet **all** of the following criteria:
    1. The quantity is known to be less than 5 gallons; and
    2. The spill is contained and under the control of the spiller; and
    3. The spill has not and will not reach the State's water or any land; and
    4. The spill is cleaned up within 2 hours of discovery.
- Complete a spill incident form (Appendix B); and
- If the spill is deemed "reportable" the contractor shall remain on-site for an interview by the NYSDEC spill response representative.

All university costs associated with responding to, or remediation of, a chemical or hazardous material spill or release may be assessed to the Contractor.

9.7.2 Discharges to Storm or Sanitary Sewers

Contractors are prohibited from intentionally discharging chemicals, hazardous materials, rinse waters, or other materials into sanitary or stormwater sewer systems unless they have obtained proper State Pollution Discharge Elimination System (SPDES) permit from the NYSDEC. In addition, SPDES permit may be required for certain construction projects wherein there are soil disturbances. The need to obtain a SPDES permit for such work depends on the size of the project, and other factors, and may require a stormwater pollution prevention plan (SWPPP) to address runoff, erosion and sediment control

Contractors should pay close attention to rainfall flow patterns and storm sewer locations and avoid staging or storing anything that could result in an unintentional discharge.

All wastewater from asbestos abatement operations (decontamination unit shower drains) shall be filtered in accordance with NYSDOL regulations prior to discharge to the sanitary sewer. No other waste from asbestos abatement operations (liquid, solid or otherwise) is permitted to be discharged to sewer systems on college property.

9.7.3 Sub-Surface Contamination

There are no documented "Open" NYSDEC spills locations on the properties of SUNY Cortland. In addition, there are no known former dumping sites or areas of historic contamination on college-owned property. All known underground petroleum bulk storage

tanks (UST) have been removed from the SUNY Cortland Main Campus and the only remaining UST is located at the Antlers property. The possibility exists that a contractor might encounter a previously unknown condition during an excavation activity.

All contractors performing excavations on college properties are required to immediately report any evidence of subsurface contamination or other suspicious condition to the EH&S office. Typical evidence of subsurface contamination or suspicious conditions include:

- Soils with fuel, chemical or foul like odors;
- Stained or discolored soils (gray to black);
- Soils with oily sheens;
- Groundwater with oily sheens, foams or free product;
- Sediments comprised of unnatural composition such as ash, slag, tar, sludge, or other debris; and
- Buried pipelines, tanks, drywells, drums or other containers, or other suspicious conditions.

The presence of any of the above conditions may pose a significant threat to the safety of contractors working in and around such conditions. Work activities should stop immediately and the situation reported. The discovery of such conditions may require notification to the NYSDEC, Health Department, and other regulatory agencies. Investigation, testing, and clean-up may be required or warranted depending on the nature of the situation.

In the event of a discovery of such conditions, a spill incident form shall be completed.

9.7.4 Waste Management

All wastes generated onsite are managed in accordance with federal, state, and local regulations governing Hazardous and Universal Wastes. Contractors are responsible for the management and disposal of wastes in accordance with these regulations, which include proper labeling of containers, segregation of incompatible wastes, inspections, maintenance of work and storage areas, and removal of wastes from the campus at the end of a job or project.

Wastes consist of the following items: Construction debris, Universal Waste, Hazardous Waste, and Asbestos Waste. SUNY Cortland encourages recycling, reusing, and reclaiming materials as practicable as possible. Some best practices would involve:

- Purchase only enough raw materials to complete the projects;
- Reuse and recycle any salvageable materials;
- Use roll-off dumpsters for waste removal; and
- Landfills are not the best answer.

9.7.5 Hazardous Waste

Hazardous Waste generated by contractors is to be disposed of in accordance with federal, state, and local regulations unless specific instances utilize other management methods. When hazardous wastes generated on the SUNY are disposed of, it is necessary to contact EH&S for a representative to sign off on the Waste Manifest, and other related paperwork for proper record-keeping purposes and to ensure proper management of the hazardous waste.

The following requirements and guidelines must be observed for hazardous waste:

1. Containers must be in good condition.
2. Containers must be compatible with the waste.
3. Containers must be labeled accurately to indicate contents. Labels must: a) indicate "Hazardous Waste"; b) identify the name of the waste or the waste's constituents; c) indicate the date the waste container became full. Abbreviations, chemical symbols, or "nicknames" are not to be used. A hazardous waste label is pictured in Figure 2 of Appendix A on page 7.
4. Containers must be kept closed at all times except when adding or removing contents.
5. Incompatible wastes must be segregated. The EH&S Office should be contacted at extension 2508 for guidance on segregating incompatible wastes.
6. Containers must be placed in secondary containment while within a satellite accumulation area (see requirements in this section for Satellite Accumulation Areas).

Spills of hazardous waste must be cleaned up promptly. For small spills of 1 liter or less, use an appropriate spill kit. For large spills (greater than 1 liter) call University Police at extension 2111. Additional guidance on handling spills involving hazardous chemicals is provided in SUNY Cortland's Integrated Contingency Plan, Spill Prevention Control and Countermeasures Plan, and Spill Clean-up Policy.

9.7.6 Universal Waste

Universal Wastes consist of Lamps, Batteries, certain Mercury-containing devices, and certain pesticides. These wastes shall be managed and disposed of in accordance with EPA and DEC regulations. All manifests generated from the disposal of Universal Wastes shall be managed by EH&S.

The following requirements and guidelines must be observed for universal waste lamps:

1. Store in closed containers that are structurally sound and adequate to prevent breakage. These containers must lack evidence of damage or leakage.
2. Label or mark each container with the following phrase: "Universal Waste-Lamp(s)".

3. Immediately clean up and place in an approved container any lamp showing evidence of breakage, leakage or damage that could cause the release of mercury or other hazardous constituents.

9.7.7 Batteries

Batteries are recycled through local programs and regulated companies. Prior to disposing of a battery, remove the leads and tape or cap the contacts to prevent shorting and potential fires. Batteries that are damaged or leaking are disposed of as hazardous waste.

Battery Containers – Battery containers must be labeled or marked to indicate:

1) "Universal Waste";
2) "Batteries"; and
3) the date the first battery was placed within.

9.7.8 Mercury and Mercury-Containing Devices

1. When disposing of a thermostat with an ampoule that contains mercury: 1) place the ampoule within a containment vessel; and 2) exercise care to prevent breakage.
2. Ensure that a mercury clean-up system is readily available to immediately transfer any mercury resulting from spills or leaks from the containment device to a suitable container.
3. Ensure that workers handling mercury are thoroughly familiar with proper waste mercury handling and emergency procedures, including the transfer of mercury from containment devices to appropriate containers.
4. Store mercury-containing devices in closed containers that do not leak and are in good condition.
5. Containers must be labeled or marked to indicate: a) "Universal Waste"; 2) "Mercury/Mercury-Containing Device"; and 3) the date the first device was placed within.

9.7.9 Asbestos

In accordance with EPA NESHAP regulations, all asbestos waste generated from abatement activities must be appropriately bagged, containerized, labeled, handled, transported and disposed of. The College does not perform any of the aforementioned waste disposal activities as they are handled by a contractor; however, the College ensures that after abatement activities, the asbestos waste is managed in accordance with the following regulations: 6 NYCRR Part 364 (Waste Transporter Permits); and 6 NYCRR Part 360 (Solid Waste Management Facilities).

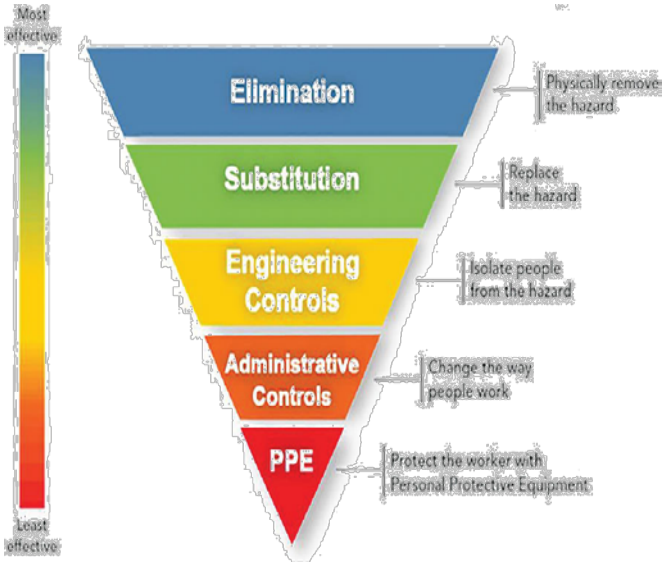
All manifests for asbestos waste must be sent to the EH&S Office. The EH&S Office will maintain these records, and verify asbestos waste is properly managed and disposed of in a designated landfill.

10 Regulatory Programs & Practices

Contractors working at the college are responsible for conforming to all local, state, and Federal safety, transportation, health and environmental regulations while working at the college as governed by the NYSDOL, OSHA, EPA, NYSDEC, NYSDOT or any other applicable regulatory agency. Although this contractor safety program cites and provides a brief overview of key regulations, it does not represent or replace those regulations.

10.1 Hazard Control and Elimination – Hierarchy of Hazard Controls

Controlling or eliminating hazards is key to maintaining a safe workplace. The following diagram depicts the hierarchy of hazard controls and contractors are encouraged to apply this system.



Contractors should note that the purpose of the hierarchy of hazard controls is not to encourage the elimination of all personal protective equipment (PPE). Most regulations and company safety programs require some level of baseline PPE for worker protection. PPE represents the last line of defense to a hazard and should only be used where other hazard controls cannot effectively eliminate the hazard.

10.2 Hazard Communication

The OSHA Hazard Communication Standard (29 CRF 1910.1200) mandates that employees have the "Right-to-Know" what hazardous chemicals are present and used in their workplace. Many contractors use chemicals or products that contain chemicals, as part of the routine services they offer. All contractors working at the college who use chemicals while working at the college shall have a company-specific hazard communication program. The program should conform with the requirements of the OSHA standard and, at a minimum should: 1) inform employees of hazardous chemicals used in the workplace that

have a potential for exposure; 2) provide employees with information on the hazards associated with using such chemicals; 3) provide training on proper handling and use of hazardous chemicals; 4) provide training on reading and understanding chemical labels and labeling requirements using the globally harmonized system (GHS system); 5) provide safety data sheets (SDS) for all hazardous chemicals used by employees; 6) provide employees training on the HazCom standard and 7) assign responsibilities to ensure the program is properly instituted.

10.2.1 Safety Data Sheets

Safety Data Sheets (SDS) for all chemicals used by contractors shall be kept on-site and be available for review on request by their workers, college representatives, regulatory and emergency personnel. Products containing highly toxic chemicals, carcinogens, asbestos or lead are not permitted without prior approval from the EH&S office.

10.3 Competent and Qualified Persons

From a regulatory perspective, there are distinct differences between “Competent” and “Qualified” persons. The majority of OSHA standards reference the need for competent and/or qualified persons as part of an employer’s demonstration of conformance to applicable standards. Contractors working at the college are responsible, and required, for having someone on staff who is the “Competent Person” of record. If the scope of service provided by a contractor mandates a “Qualified Person” contractors shall have someone on staff who meets the criteria of such an individual. The level of support needed by a contractor’s “competent person” or “qualified person” will depend on the requirements of the OSHA standard and type of work being performed at the college. Their presence at the site may be required on a full-time basis in the case of larger construction work sites. For brief visitations and projects of short duration, it may be deemed adequate to provide competent person support from an off-site location. When OSHA regulations indicate a “qualified person” contractors shall have such person(s) involved to the extent required by regulations.

The term "Competent Person" is used in many OSHA standards and is defined as "one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has the authorization to take prompt corrective measures to eliminate them". Employees of contractors must be working under the direction of a “Competent” person when working at the college if the OSHA standards they are working under require a competent person. This person can be a site foreman, supervisor, manager or health and safety representative but must retain the skills and knowledge necessary to represent themselves as a “Competent” person as defined by OSHA.

A “Qualified Person”, as defined by OSHA differs from a “Competent Person” and represents a different safety role. A “Qualified Person” is an individual who by the possession of a recognized degree, certificate or professional standing, or by extensive knowledge, training, and experience, has successfully demonstrated their ability to solve or

resolve problems relating to the subject matter, the work, or the project. Some OSHA standards require certain safety systems to be designed, overseen and possibly installed by a "Qualified Person".

Contractors working with high voltage must also be working under the direction of a "qualified electrical person" who is one who has received training in and has demonstrated skills and knowledge in the construction and operation of electric equipment and installations and the hazards involved.

10.4 Safety Training, Certification & Licensing

The contractor shall provide all necessary safety training and safeguards for safety and protection to their employees as set forth by OSHA. Certain work-related functions require a higher level of training and, in some cases certification and licensing may be required or recommended as follows:

- NYS Driver License;
- CDL Driver License (Commercial Motor Vehicle Safety Act of 1986);
- Certified Excavator (Dig Safely New York, 16 NYCRR Part 753 – As of May 4, 2019);
- Powered Industrial Trucks (Forklifts) (OSHA - NY Certified Operator);
- Asbestos Contractors (NYSDOL, Abatement supervisors, handlers);
- Asbestos Consultants (NYSDOL, Inspectors, Air and project monitors, designers);
- Mold Assessors (NYSDOL, Mold Assessors and Mold Remediators);
- Pesticide Agency Registration and Certified Pesticide Applicators (NYSDEC); and
- Hazardous Waste Hauler (CDL with "H" or "X" endorsement) (NYS Part 364)

Contractors shall have a written safety training and education program. The following are Recommended Certifications or Training Programs for the contractor's management and work staff.

- Certified Industrial Hygienist (CIH) (American Board of Industrial Hygiene);
- Certified Safety Professional (CSP) (Board of Certified Safety Professionals);
- 10 Hour Worker Safety Training (OSHA Outreach Training Program);
- 30 Hour Supervisor/Foreman Safety Training (OSHA Outreach Training Program);
- Asbestos Awareness (recommended for contractors who perform construction, renovation or remodeling on projects where ACM could be encountered); and
- First Aid & CPR (Red Cross, American Heart Association, National Safety Council and other credible certifying entities). Recommend a minimum of adult layperson CPR/AED certification.

New York State has several programs that either recommend or mandate various levels of training, certification or licensing in order to perform certain functions. These programs are governed by state departments including the NYSDOL, NYSDOH, NYSDOT, NYSDEC, and Department of Public Service.

All contractors performing asbestos-related functions at the college shall be licensed by New York State in accordance with NYSDOL and NYSDOH requirements. These functions include inspections (sampling, surveys), project design, abatement, air, and project monitoring. Asbestos contractors providing these services shall retain a company handling license and all abatement workers shall be certified in the role they are representing.

All contractors hired specifically to perform mold remediation shall be licensed by New York State in accordance with NYSDOL and NYSDOH requirements.

All contractors who apply pesticides and herbicides at the college shall be licensed to perform such tasks and their workers (NYS pesticide license).

Contractors working on longer-term projects are encouraged to conduct and document daily toolbox safety discussions with their workers that reinforce or refresh workers on health and safety-related topics. These discussions should also include a review of the work planned for the day, task assignments, responsibilities, hazard recognition, and specific safety issues associated with the scheduled work.

10.5 Job Hazard Analysis (JHA), Exposure Assessments & Medical Monitoring

Contractors working at the college are responsible for performing their own job hazard analysis, exposure assessments and medical monitoring of their workers. Records of these should be available for review by regulators who might visit work sites.

10.6 Personal Protective Equipment (PPE)

Personal protective equipment (PPE) is designed to protect the wearer's body from injury or infection. According to the hierarchy of hazard controls, PPE represents the last line of defense to exposure of a hazard.

Various Federal and State regulations mandate that employers provide various forms of PPE to their employees depending on the type of work and work environment, therefore, contractors working at the college shall provide the necessary PPE to their employees. Although some forms of PPE are mandatory due to inherent hazards associated with certain work-related tasks and settings, contractors are encouraged to employ the hierarchy of hazard controls as opposed to defaulting directly to PPE where feasible.

The most common forms of PPE used by contractors include: hand protection (gloves); hearing protection (earplugs, muffs); foot protection (steel toe boots); eye and face protection (safety glasses, goggles, face shields); head protection (hard hats); respiratory protection; PPE related to electrical, & hot work; and other applicable protective clothing or garments.

Where exposures to airborne contaminants cannot be controlled by engineering controls respiratory protection may also be necessary. Where respiratory protection is required contractors should have a written respiratory protection program that complies per OSHA

29 CFR 1910.134 and workers shall be cleared to wear respiratory protection via medical evaluation and successful fit test per OSHA regulations. Contractors are responsible for conducting their own negative exposure assessments to determine the proper level of PPE necessary to protect their workers for exposures.

The contractor's competent person shall ensure that proper PPE is on-site and workers are trained to know at least the following:

- When PPE is necessary;
- What PPE is necessary;
- How to properly don, adjust, wear and remove PPE;
- The limitations of the PPE; and
- The proper care, maintenance, useful life, and disposal of the PPE.

Additional information on task-specific PPE requirements is provided in other applicable sections of this program.

10.7 Safety Equipment & Engineering Controls

All safety equipment needed and used by workers shall be provided by the contractor including GFCI, fall protection equipment & systems, dust suppression, lock-out/tag-out, fire extinguishers, flashback arrestors, hoists & harnesses, equipment guards and shields, shoring, ladders, scaffolding, lifts.

Engineering controls are designed to protect workers by removing hazardous conditions or by placing a barrier between the worker and the hazard. Common examples include local exhaust ventilation systems that capture and remove airborne emissions or machine guards that shield the worker. Although such controls are generally preferred over bodily worn PPE, engineering controls can fail and their presence does not eliminate the need for PPE.

The contractor's competent person shall ensure that the necessary safety equipment is on-site and, that the equipment is in good working condition, meets safety standards and is properly used by their workers. Where applicable the contractor's qualified person shall ensure that safety systems and engineering controls are properly designed and installed.

10.8 Energy Isolation/Lockout-Tagout

Machinery & equipment can contain many hazards to workers including electrical, mechanical, pneumatic or hydraulic energy sources as well as natural gas services. Disconnecting or making the equipment safe to work on involves the removal of all energy sources and is known as isolation. The safest and preferred form of isolation is the complete physical disconnection of the energy source prior to initiating the work. If complete disconnection is not feasible energy isolation by de-energizing in conjunction with lockout-tagout procedures should be employed to make the equipment safe to work on.

Isolation by de-energizing includes electrical circuit breakers, disconnect switches, ball or gate valves, blind flanges, and blocks. Push buttons, e-stops, selector switches, and control panels are not considered proper points for energy isolation.

10.8.1 Lockout/Tagout

Lockout-Tagout refers to an energy isolation safety procedure that ensures the proper shut-down of dangerous machines, equipment, and services rendering them incapable of being started up prior to the completion of maintenance or servicing work. It requires that all hazardous energy sources have been:

- Identified
- Isolated, and
- Rendered inoperative to prevent the release of potentially hazardous energy prior to the start of any repair or maintenance procedure.

This is accomplished through the locking and tagging of all energy sources.

Lockout-Tagout should be done by qualified persons who have been trained in safe lockout procedures as follows:

- Lockout devices shall be properly designed and be specific to the equipment applied.
- Homemade or make-shift lock-out devices are not permitted unless provisions are not present on the equipment that needs to be locked-out for the installation of commercially available lockout devices.
- No two locks on a singular lockout device should be keyed alike.
- One individual lock and key should be issued to each worker authorized to lockout and tagout a particular piece of equipment.
- If multiple persons are involved with the repair of a given piece of equipment at the same time each person should lockout with their own lock.
- Only authorized workers should be permitted to remove locks

10.9 Walking-Working Surfaces and Fall Protection Standards

Workplace falls represent the leading cause of worker deaths and is a serious safety hazard. Contractors working at the college are required to adhere to applicable OSHA statutes regarding fall protection and know which standard applies to their scope of work (Construction or General Industry). Contractors must have their own fall protection program and provide their own training and fall protection systems, engineering controls, PPE and equipment to their employees.

Working surfaces that can require fall protection measures include roofs; excavations, floor holes & openings; shafts; catwalks; skylights: elevated work platforms; pits; manholes; scaffolding; aerial lifts; and all other walking or working surfaces where personnel can possibly fall to a lower level.

The fall height threshold is 4 feet or more to a lower level for general industry and 6 feet or more to a lower level for the construction industry. Contractors working at the college must apply the proper fall height threshold criteria to the classification of their work (construction or general industry).

The contractor shall implement fall protection measures for the following additional types of working surfaces:

- Working within 6 feet of unprotected sides or edges of a walking/working surface
- Working on fixed ladders over 24 feet
- Working on portable ladders to a height of 60 feet
- Working on an unprotected flat or low sloped roof within 15 feet of the roof edge
- Working on any steep roof
- Working near open windows where the bottom of the window is less than 3 feet above the floor or platform
- Working on or near skylights, hatchways, chutes
- Working at the edge of an excavation with a depth greater than 6 feet
- Working on scaffolds over 6 feet
- Aerial lift devices over 6 feet
- Working adjacent to or above dangerous equipment or operations (at any height)

Contractors shall also identify areas and activities where falling object protection is needed and employ appropriate work practices, PPE or engineering controls to protect workers from falling objects.

Prior to initiating any work on projects that might require fall protection contractors must first assess the workplace to determine if walking or working surfaces have the necessary strength and structural integrity to safely support the workers. Once it is determined that the work surfaces will safely support the work activity, the contractor must determine if fall protection is required.

Minimum safe approach distance (M.S.A.D.) to energized power lines of ten (10) feet shall be maintained at all times. If there is a need to work within the 10 feet range the local utility company must be contacted to insulate the power line.

10.10 Ladders

Contractors working at the college are required to provide their own portable ladders where needed. Where permanently fixed ladders are present in or on buildings contractors are permitted to use those for accessing areas provided load weights do not exceed the rating of the ladder. Ladders use must comply with OSHA 29 CFR 1926.1053. Non-OSHA compliant ladders are not permitted.

10.11 Powered Industrial Trucks and Material Handling Equipment

Powered industrial trucks and material handling equipment are frequently used by contractors on construction projects and are commonly called forklifts or lift trucks Powered industrial trucks can either be ridden by the operator or controlled by a walking operator.

OSHA CFR 29 1910.178 requires all forklift operators to be trained and certified. Contractors must ensure that each powered industrial truck operator is competent to operate a powered industrial truck safely, as demonstrated by the successful completion of the training and evaluation specified in OSHA regulations

Contractors must provide training records upon request. The use of powered vehicles shall meet the requirements of applicable OSHA standards and be in good working order and ensure that the aforementioned equipment is properly equipped for the intended usage, including, but not limited to, a warning device (horn, gong, or other audible device) for industrial vehicles that can be heard clearly above the normal industrial noise in the workplace, except those guided by a walking operator.

Operators of industrial vehicles on college roads must obey all campus traffic safety rules.

10.12 Hand and Power Tool Safety

Hand and power tools are commonly used by contractors and include a wide variety of tools that range from simple manual hand tools to those powered by electric (110V), battery, compressed air, hydraulic, liquid-fueled and powder-actuated.

Manual hand tools include axes, wrenches, knives, shears, hammers, chisels, scissors, drivers, saws, etc.

Power tools are categorized by their power source and include electric (110V or battery), pneumatic, liquid fuel, hydraulic and powder-actuated as follows:

- Electric & Battery powered tools (drills, saws, routers, sanders, grinders, buffers, tappers, etc.)
- Pneumatic tools (chipper and jackhammers, air wrenches, nailing/stapling guns, compressors, etc.)
- Hydraulic power tools (jacks, lifts, impact wrenches, breaker & hammer drills, post drivers, cutters, etc.)
- Liquid fuel powered tools (chainsaws, abrasive cutting, cut-off saws, pressure washers, etc.
- Powder actuated tools (nail guns)

10.12.1 Tool Hazards

Regardless of the power source, all tools can pose significant safety hazards to users and bystanders, particularly when used improperly, without proper personal protective equipment or without guards in place. These hazards include physical injuries (eye, cuts, flying objects, impacts),

The primary hazards associated with hand tools are physical injury (eye, cuts, flying objects, impacts) as a result of misuse or tools that have not been properly maintained. Contractors are responsible for instructing their workers on safe use as well as providing tools that are in good condition.

Power tools pose a significant physical injury threat as well as a host of other hazards including electric shocks, burns, explosion, and musculoskeletal disorders.

All tools may pose hearing loss hazards depending on the tool type and the noise generated by its use.

Some conditions may require that hand or power tools be spark-free or intrinsically safe to protect against fire or explosion.

10.12.2 Tool Hazard Controls

The following hazard controls shall be followed by contractors using hand and power tools at the college:

- Contractors shall provide their workers with the necessary training in the proper use and operation of the tools they will be using.
- All tools (hand or power) must be periodically inspected and maintained in good working condition. Keep tools properly lubricated, clean and keep blades sharp for best performance.
- Do not use damaged, broken or worn hand or power tools.
- Mushroomed heads on cold chisels, star drills, etc. are unsafe and should not be used.
- Guards, shields, muzzle guards and safety switches must be in place and be operational as manufactured and required by OSHA regulations.
- All corded electric power tools shall have a 3 wire cord with a ground plugged into GFCI.
- All power tools should be turned off and power source disconnected when not in use and should not be left unattended.
- Adequate lighting must be present in all areas where tools are used (hand or powered).
- Avoid using electric-powered tools in wet conditions unless they are approved for that purpose
- Safe working distance should be observed by all workers
- Do not use liquid-fueled power tools indoors, inside temporary enclosures or in confined spaces and store gas or fuel in approved containers
- Fluids used in hydraulic power tools shall be of the approved type for the tool and load limits shall be prominently marked on all jack or lifting devices and not exceeded. Jacks should not be used to support a lifted load and loads must be blocked up upon lift.

- All pneumatically driven nailers, staplers, and other similar equipment provided with automatic fastener feed, which operates at more than 100 p.s.i. pressure at the tool shall have a safety device on the muzzle to prevent the tool from ejecting fasteners unless the muzzle is in contact with the work surface
- Explosive-activated fastening tools shall meet the design requirements in the "American National Standards Institute (ANSI), Safety Requirements for Explosive Activated Fastening Tool." A tool that does not meet these standards cannot be used.
- Use of powder actuated tools shall comply with OSHA 1915.135 and users should be trained by a competent person on the proper use of such equipment.
- Do not leave a powder-actuated tool or the charges unattended in a place where it could be available to unauthorized persons.
- In the event of a powder-actuated tool misfire, the tool shall remain in the operating position for at least 15 seconds and the operator shall continue to hold the muzzle against the work surface during disassembly or opening of the tool and removal of the powder load.
- Powder actuated tools shall not be used in an explosive atmosphere
- Use spark-resistant or intrinsically safe tools when working in areas that contain flammable gases, volatile liquids or other explosive substances.

10.12.3 PPE and Task Appropriate Apparel

Appropriate PPE must be donned by users of hand or power tools. Eye, hand, foot and head protection are mandatory. Hearing protection may be warranted if noise levels exceed regulatory levels. The use of anti-vibration gloves may be warranted for vibrating power tools. Other forms of PPE may be required depending on the tool and work environment.

Workers should wear appropriate apparel for the task. Avoid loose clothing and jewelry.

10.13 Compressed Gases & Cylinder Safety

Contractors frequently use compressed gases and compressed air for a variety of construction-related activities including pneumatic tools and hot work operations such as welding, torching, brazing, and other applications. OSHA regulates compressed gases and cylinders in both General Industry and Construction. Contractors performing work at college using compressed gases or cylinders should comply with OSHA regulations applicable to the work they are performing.

10.13.1 Hazards

Compressed gases and gases contained within pressurized cylinders can pose significant health and safety hazards to workers and the college community including:

- Explosion and Fire Hazards
- Oxygen Displacement
- Toxic Atmospheres
- Physical Hazards (Ruptured Cylinder)

Compressed gases have unique physical and toxicological hazards. Ruptured cylinders can become very destructive. Additionally, large volumes of toxic, corrosive, flammable, or explosive gases can also be quickly released from cylinders. Many gases are colorless and/or odorless which intensifies their potential hazard. Even compressed gases that do not present significant physical or health hazards may act as asphyxiants when they leak and displace oxygen. SDSs will indicate the toxicological and physical properties of compressed gases.

10.13.2 Hazard Controls

The following hazard controls shall be followed by contractors using compressed gas cylinders at the college:

- Contractors shall provide their workers with the necessary training in the proper handling and use of compressed gases.
- Know the contents of a cylinder and become familiar with all toxicological and physical properties by reading the SDS.
- Only use and store compressed gases in a well ventilated area or in area of local ventilation exhaust
- Keep protective caps on cylinders when they are being transported or not being used.
- All compressed gas cylinders shall be properly labeled (including empty bottles)
- Use of compressed gases while on hand trucks or carts is not permitted and cylinders must be removed and anchored securely using tank strap or chain
- Do not expose compressed gas cylinders to temperatures in excess of 125 °F.
- Segregate cylinders with incompatible contents.
- Segregate oxygen from flammable gases.
- Do not store flammable gases in areas where there are sources of ignition or excessive heat.
- Unless otherwise authorized propane cylinders are to be store outdoors.
- Do not use cylinders without pressure regulators.
- Do not use adaptors on cylinders.
- Appropriately tag cylinders "Full", "In Use" or "Empty".

10.13.3 Transporting Cylinders

All transport of compressed gases and cylinders in vehicles on college roads shall conform with NYSDOT part 365 regulations (transported open to atmosphere, in rack positioned upright, protective caps in place, and secured to prevent movement)

On college property cylinders shall be transported from the vehicle to the usage point using an approved hand truck or cart designed for cylinder transport as follows:

1. Always remove the regulator and cap a cylinder before you move it.
2. Make sure metal outlet cap/plug installed
3. Do not transport cylinders with regulators in place

4. Cylinders must always be transported using a hand truck or cart designed for that purpose.
5. Secure cylinder(s) in a cart or container designed to prevent the cylinder from falling over while being moved.

Transport of larger compressed gas cylinders to different levels within a building can be challenging due to the weight and size of such tanks. It is anticipated that contractors will use elevators to transport cylinders to other levels within a building.

If a building has a service or freight elevator that should be used as opposed to the pedestrian elevator.

If an elevator is used to transport compressed gases the following procedures shall be followed regardless of the elevator type:

1. The contractor's college contact shall be notified of their intention to transport compressed gases via the elevator.
2. The cylinder transport process is a 2 person operation (1 person at the starting point and the 1 person at the destination point)
3. Incompatible gases must be segregated and if possible transported separately
4. Cylinders must be secured in an approved (stable) hand truck for cylinder transport
5. Do not allow passengers in the elevator during transport.
6. To restrict passengers from entering the elevator, place cones or other barriers in the elevator with a sign that indicates "Do Not Enter".
7. Station compressed gas cylinders securely within the elevator
8. Person 1 presses the destination floor button and then immediately exit the elevator
9. Person 2 retrieves the chemicals at the destination floor.

10.13.4 PPE and Task Appropriate Apparel

Appropriate PPE must be donned by users and handlers of compressed gases. Eye, hand, foot protection are mandatory. Other forms of PPE may be required depending on the work environment.

10.14 Hot Work

The college has a hot work program that outlines requirements and guidelines for projects, processes, and tasks involving hot work. Hot work includes:

- Welding
- Cutting
- Brazing
- Torching and certain soldering and grinding operations
- Salamander or temporary heaters
- Tar Pots
- Torch applied roofing

Contractors are expected to observe the requirements and guidelines outlined in the college hot work program.

Contractors must obtain a hot work permit from the EH&S Office prior to performing hot work on campus. A copy of the hot work permit is provided in Appendix C.

Contractors who perform hot work under the State University Construction Fund and Dormitory Authority State of New York (DASNY) projects are expected to implement safe hot work practices consistent with agency-specific protocol. Campus expectations involving hot work will be conveyed to contractors through the campus Facilities Planning, Design and Construction Office (FPDC) or Facilities Operations and Services (FOS) supervisors.

Aside from DASNY projects, emergencies, and unexpected situations, contractors should obtain a hot work permit from the EH&S Office at least 24 hours before engaging in tasks and activities that involve hot work. A representative from the EH&S Office will meet with the contractor to gather information for completing hot work permits. At a minimum, contractors should be prepared to specify: 1) names of persons performing hot work and the fire watch; 2) the hot work location; 3) nature of the work to be performed; and 4) duration of the work. Once all of the relevant information is gathered and specified on the hot work permit, the EH&S Office or authorized representative will meet with the individuals performing hot work to conduct a pre-inspection. The pre-inspection will include evaluating:

- Hot work equipment (integrity and condition of equipment should be scrutinized);
- Flammable and combustible substances (these substances must be at least 35 feet away from hot work);
- Combustible surfaces;
- Floor, surface and ceiling openings and penetrations;
- Housekeeping (e.g., floors should be clean and free of combustible material and clutter);
- Fire detection and suppression equipment;
- Availability of a fire extinguisher (note: at least one fire extinguisher must be available during hot work activities);
- Tar pots are not allowed on roofs
- Salamanders and temporary heaters must be Factory Mutual or Underwriters approved, positioned away from all combustible material, be guarded to prevent them from being overturned, must have an approved fire extinguisher within 8 feet of a salamander, and a continuous fire watch must be provided.
- Availability of a person to conduct the fire watch;
- Personal protective equipment; and
- Signage.

For each of these items, hazards should be eliminated or appropriate controls should be implemented. It is important to remember that when smoke detection equipment is

exposed, arrangements should be made to cover the affected smoke detectors. Moreover, when hot work is performed close to automatic sprinklers, noncombustible barriers or damp cloths must shield individual sprinkler heads and must be removed when work is completed.

When the pre-inspection is completed, all controls and expectations will be specified on the hot work permit. In certain instances, pre-inspection responsibilities might be delegated to individuals who have: 1) adequate knowledge and training to recognize hazards associated with hot work and specify appropriate controls; and 2) the authority to discontinue work that becomes unsafe. The completed hot work permit will be signed and dated by a representative from the EH&S Office or a delegate.

In accordance with Section 2601.2 of the New York State Fire Code, hot work must not be conducted in the following areas unless approval has been obtained from the code enforcement official:

- Areas where the sprinkler system is impaired.
- Areas where there exists the potential of an explosive atmosphere (e.g., locations where flammable gases, liquids or vapors are present).
- Areas with readily ignitable materials (e.g., flammable and combustible chemicals, cardboard storage, excessive dust).

Representatives from the EH&S Office will investigate areas of this nature when hot work permits are requested. When potentially flammable or combustible atmospheres are present, the EH&S Office might conduct air monitoring prior to issuing a hot work permit.

Contractors are expected to observe safe work practices for hot work and implement requirements that are specified on the hot work permit. While the EH&S Office and other campus personnel will not specify to contractors how particular tasks should be executed or what personal protective equipment should be used, contractors are expected to implement safe work practices in accordance with Occupational Health and Safety Administration regulations and other regulatory requirements.

Contractors are to post hot work permits in the area where hot work is performed. It is preferred that the permits be placed near the equipment where hot work is performed. When the hot work area is accessible to persons who are not performing hot work, the following sign should be posted in the work area:

These signs can be obtained from the EH&S Office.

A fire watch is also required during hot work activities and must continue for a minimum of 30 minutes after the conclusion of work. If fire hazards merit special consideration, the fire watch might be extended. The duration of a fire watch will be specified on the hot work permit. At least one person will be assigned to a fire watch.

After completing the hot work, the signage and permit must be returned to the EH&S office.

10.15 Confined Spaces

Confined spaces are present both inside college buildings and outside the buildings on campus grounds. The college has inventoried and defined confined spaces and a Confined Space program has been developed and implemented. The confined space program applies to anyone entering confined spaces on campus grounds. The information included in this contractor safety program about confined spaces represents a summary of the college's confined space program and should not be used or interpreted as the confined space program in its entirety.

Each identified confined space has been evaluated and classified as either a permit required or non-permit required confined space based on OSHA criteria set forth in 29 CFR 1910.146. Procedures for entering confined spaces are indicated in the confined space program and vary by the type of confined space (permit or non-permit required). All manholes, sewers and sump pits on the campus are classified as permit required. In addition, certain excavations may be deemed as permit required depending on the depth and nature of the excavation.

Most permit required and non-permit confined spaces have been posted except for manholes, sewers and drop ceilings. Signage will appear as follows depending on the type and classification of the confined space:

10.15.1 Non-Permit Required Confined Spaces

Non-permit required confined spaces include fan rooms, drop ceilings, attics, under stairs closets and most crawl spaces and tunnels. Postings have been placed at the entries of most non-permit required confined spaces. Those not posted include drop ceilings, cooling towers, and stairwells.

Entry to non-permit required confined spaces requires a minimum of 2 persons including an entrant and an attendant. The attendant should be stationed at the confined space entry to monitor and maintain contact with the entrant in the event of an emergency. A line of

communication shall be established (phone, radio, etc.) when the separation distance between the entrant and attendant exceeds visual or audio contact. Contractors should plan site visits ahead of their entry to confined spaces to ensure that they have both an attendant and entrant.

If at any time a contractor suspects that a non-permit required confined space is potentially hazardous entry to the space should not occur and entry protocols should revert to "permit required". Situations include the detection of smoke, any odd odors such as chemical, gas, sewer gas or other indicators.

If the work planned in a non-permit required confined space includes the use of chemicals, hot work or other activity that could generate a hazardous atmosphere or condition for physical harm in the space entry then entry protocols should revert to "permit required".

10.15.2 Permit Required Confined Spaces

Permit required confined spaces include sewers, manholes, pits or trenches greater than 4 feet in depth, boilers and other confined spaces posted as "Permit Required". These areas have been either confirmed or assumed to contain atmospheric, chemical and physical hazards above and beyond the base definition of a confined space. These hazards can include atmospheres containing oxygen-deficient or rich conditions, explosive gases or dusts, carbon monoxide (CO), toxic sewer gases (H_2S), chemicals, dusts, particulates, biological hazards, extreme temperatures, energy, hot work, inadequate lighting, mechanical hazards, slip/trip/fall/engulfment hazards, or internal configurations that could allow an entrant to become trapped or asphyxiated.

Pits and trenches are typically associated with construction and excavation projects and are confined spaces that are temporarily created as part of construction activities and are classified as permit required due to the potential for engulfment of the entrant and protocols need to be followed in order to enter.

Protocols need to be followed in order to enter permit required confined spaces. Contractors who need to enter permit required confined spaces need to:

- Observe all requirements and safe work practices as outlined in the OSHA Permit-Required confined spaces safety standard (20 CFR 10190.146)
- Have their own OSHA compliant confined space program and provide confined space training specific to their employees.
- Review and complete the SUNY Cortland Confined Space Contractor Agreement form. Execution of the form will not be considered complete until the form is signed and dated by the contractor and a representative of SUNY Cortland from either the EH&S office, Facilities planning & Design office or other campus designated personal.

A copy of the SUNY Cortland Confined Space Contractor Agreement form is provided in Appendix D.

10.16 Electrical Safety

Electricity can pose a serious workplace hazard with the potential for electric shock or arc flash/arc blast that can result in shock, burns, debilitating physical injuries or death. Fire and explosions may also result, affecting others not directly involved in an incident.

Contractors performing work at the college are very likely to be using electric-powered tools & equipment, repairing, installing or working around live electric services. Electrical safety is of paramount importance.

Electrical safety is covered extensively in OSHA regulations, NFPA 70E and other organizations & and programs such as the NESC and NEC. Electrical safety covers a wide range of conditions and situations from safe extension cord use to working in and around high voltage. Because of this, it is not feasible to cover all situations and scenarios to which a contractor will be working. Users of this program should be advised that the purpose of the electrical safety component of this contractor's safety program is to provide an overview of the regulations and programs related to working with and around electricity.

It is expected that contractors working at the college will have the proper training and retain the qualifications relevant to the level of electrical work they are performing. Contractors performing electrical work at the college shall provide a copy of their electrical safety and lockout/tagout programs to the college prior to the start of the work.

Anytime a contractor needs to shut down and lockout college equipment they shall notify their college FOS or FPDC contact to ensure coordination with building occupants and college electricians of disruptions.

Most electrical accidents result from the following factors:

- Unsafe work practices.
- Unsafe environment, or
- Unsafe equipment or installation,

10.17 Safe Work Practices

Electrical accidents are largely preventable through safe work practices. Examples of these practices employed for electrical work include the following:

- Ensure that workers are trained and familiar with the safety procedures for their assigned jobs and tasks.
- Ensure that workers are either qualified or working under the direct supervision of a qualified individual.
- Always use caution when working near electricity.
- De-energize electric equipment before inspection or repair (disconnect or shut down at source).
- Employ lockout and tag procedures to ensure that the equipment remains de-energized.

- Do not work in proximity to any part of an electric power circuit wherein one could contact the electric power circuit during the course of work unless that person is protected against electric shock by de-energizing the circuit and grounding it or by guarding it effectively by insulation or other means.
- Before beginning work determine if any part of an energized electric power circuit, exposed or concealed, is so located that the performance of the work may bring any person, tool, or machine into physical or electrical contact with the electric power circuit.
- If uncovered live panels, circuits or conductors exist in a space or work area the contractor shall limit and restrict access to authorized personnel.
- Use insulated protective equipment & tools.
- Recognize and adhere to approach boundary thresholds (separation distances) when working in proximity to energized electrical conductors or circuits and maintain minimum safe distances for arc flash, limited, restricted and prohibited approach boundaries as referenced in NFPA 70E.
- Keep electric tools properly maintained.
- In work areas where the exact location of underground electric power lines is unknown, employees using jack-hammers, bars, or other hand tools which may contact a line shall be provided with insulated protective gloves.
- Use appropriate personal protective equipment.

10.17.1 Safe Environment

- Never operate electrical equipment while you are standing in water.
- Have a qualified electrician inspect electrical equipment that has become wet before energizing it.
- Always use ground-fault circuit interrupter (GFCI).
- Never operate electrical equipment in a hazardous atmosphere.
- All electrical work with the potential for arc flash shall follow NFPA 70E safe work practices and appropriate PPE.
- Always ensure that work areas have adequate lighting.
- Barriers or other means of guarding shall be provided to ensure that workspace for electrical equipment will not be used as a passageway during periods when energized parts of electrical equipment are exposed.
- Working spaces, walkways, and similar locations shall be kept clear of cords so as not to create a hazard to employees.
- Contractors conducting servicing or installation of electrical equipment requiring entry to manholes or other confined spaces shall follow OSHA confined space entry protocols and must provide a copy of their confined space program to the college as well as complete the SUNY Cortland Confined Space Contractor Agreement form.

10.17.2 Safe Equipment and Installation

- All new & temporary power panels and associated equipment shall be secured and meet code.
- Inspect electric cords and equipment to ensure that they are in good condition and free of defects with the ground prong present. Worn or frayed electric cords or cables or cords missing ground prong shall not be used.
- All extension cords shall be of appropriate gauge wiring and be of 3 prong design.
- All electric corded power tools (non-battery) will have a 3 prong connector.
- Extension cords shall be protected from vehicular or pedestrian traffic and be protected from being pinched by doors or windows.
- Extension cords shall not be fastened with staples, hung from nails, or suspended by wire.
- Extension cords or cords on powered tools showing damage, repair, or missing ground prong shall not be used.
- In existing installations, no changes in circuit protection shall be made to increase the load in excess of the load rating of the circuit wiring.
- When fuses are installed or removed with one or both terminals energized, special tools insulated for the voltage shall be used.
- Temporary lighting shall have bulb protectors, be suspended to a height that does not pose a hazard, be GFCI protected, not stung on sprinkler system piping.
- Use listed or labeled portable power tools and appliances protected by an approved system of double insulation or its equivalent.
- Where possible new electrical equipment or electronic components installations should bear the mark of a Nationally Recognized Testing Laboratory (NRTL). The enhanced safety and reliability of using equipment tested and certified by an NRTL is considered an improvement in the safety rating of such equipment.

10.17.3 Arc-Flash Safety

An arc flash is an explosive burst of heat and light, caused by a sudden, uncontrolled electrical arc. Arc flash is caused by uncontrolled conduction of electrical current from phase to ground, phase to neutral, and/or phase to phase accompanied by ionization of the surrounding air. Large amounts of deadly energy and be released as a result including an accompanying arc blast and temperatures that can reach as high as 35,000 degrees Fahrenheit.

When an arc flash occurs, it can often cause an accompanying arc blast which is a type of highly dangerous electrical explosion. An arc flash and arc blast are actually two different things but can be viewed as the cause (arc flash) and effect (arc blast).

Arc flash it gives no warning and no time to escape. Pressure waves generated by an arc flash explosion can carry a force up to thousands of pounds per square inch, which is powerful enough to knock down or throw nearby workers, and cause damage to the eardrums, lungs, brain and other organs. Other effects of arc blast include:

- Searing high temperatures hot enough to vaporize metal components, as well as cause life-threatening (or even deadly) burns to personnel in the immediate vicinity.
- Release of high-speed shrapnel from exploded metal objects which threaten to seriously injure or kill workers in the general area of the explosion.
- Damage to eyesight. Arc blasts often create high-intensity light flashes that are capable of causing both temporary and long-term vision problems in individuals whose eyes aren't properly protected.

The most common cause of arc flashes are accidents caused by improper use of test probes (touching to the wrong surface) or a fallen or misused tool that makes undesired contact causing an arcing fault. Arc flashes can also be caused by dust, corrosion or other impurities on the surface of the conductor.

OSHA requires employers to protect employees from electrical hazards, including arc flash. OSHA, the NESC, and NFPA 70E require an arc flash hazard or incident energy analysis be performed before anyone approaches exposed energized electrical conductors or circuit parts that have not been placed in an electrically safe work condition. In addition, NFPA 70E requires arc flash boundaries (AFB) to be established. Arc flash studies are performed by qualified persons and AFB's are established based on these studies.

An AFB is a safe approach distance from energized equipment or parts. NFPA 70E establishes the default arc flash boundary at 4 feet for low voltage (< 600V) systems where the total fault exposure is less than 5000 amperes-seconds (fault current in amperes multiplied by the upstream device clearing time in seconds). NFPA 70E also allows the AFB to be calculated as part of an arc flash study. In some instances, calculations may decrease the boundary distance. Persons crossing into the arc flash boundary are required to wear the appropriate Personal Protective Equipment (PPE) as determined by calculating methods contained in NFPA 70E. In addition, a qualified person must accompany unqualified persons. The boundary is defined by NFPA 70E as the distance at which the worker is exposed to 1.2 cal/cm^2.

At the time this contractor safety program was initiated, arc flash studies (assessments) have been completed to each of the colleges main campus buildings main switch gear. Contractors working at the college should be advised that arc flash assessments have not been completed for components downstream of the switch gears. As new buildings come on line, or where full renovations of buildings occur, arc flash studies will be conducted from the switch gear through to the new sub panels in the buildings as mandated in the design standards for those projects.

There are several steps that contractors can take to reduce the risk of arc flash/arc blast injury to employees such as:

- Ensure that employees are thoroughly trained in safe work practices and procedures, in accordance with OSHA guidelines and NFPA 70E (Electrical Safety Requirements for Employee Workplaces).

- Where possible de-energize electrical equipment prior to working on or servicing such equipment.
- If de-energization is not feasible to conduct an Arc Flash Assessment/Analysis to determine threshold boundaries (safe separation distances) and PPE.
- One of the most important elements in battling arc flash is informing workers exactly where risks exist. Warning labels and signage on power panels, high-voltage machinery, and power lines are extremely important and can help to ensure that workers take the proper preventive measures before beginning working on or near potentially dangerous components.
- Equip workers with a level of Personal Protective Equipment (PPE) that is appropriate to the tasks they perform.

10.17.4 Overhead & Underground Wires

- Assume that all overhead or underground wires are energized at lethal voltages.
- Never assume that a wire is safe to touch even if it is down or appears to be insulated.
- Never touch a fallen overhead power line or an exposed underground wire. Call the electric utility company to report fallen electrical lines.
- Stay at least 10 feet (3 meters) away from overhead wires during cleanup and other activities. If working at heights or handling long objects, survey the area before starting work for the presence of overhead wires.
- Electrical contractors conducting servicing or installation of underground electrical equipment requiring excavation shall follow Dig Safely NY protocols and call in ahead of the work at 811.

10.17.5 Personal Protection Equipment - Electrical Safety

Depending on the job task to be performed, PPE for the working with and around electric generally includes safety glasses, face shields, hard hats, safety shoes, insulating (rubber) gloves with leather protectors, insulating sleeves, and flame-resistant (FR) clothing.

PPE selection for arc flash protection will be based on the arc flash rating of the equipment, which will determine its arc flash PPE category. All categories include some form of eye and face protection, hearing protection, gloves, and arc-rated clothing. Gloves will be either leather or rubber insulating gloves depending on the voltage.

10.18 Excavations

Excavations frequently occur on college grounds and, in many cases, these are performed by contractors. Excavations cover a wide range of activities from very shallow earth disturbances such as grading, scraping, plowing into deep earth and intrusions such as boreholes, excavations and trenching. Demolition of structures are also considered excavations and are covered by the program.

10.18.1 Pre-Excavation Notification (Dig Safely New York)

Outside contractors are to be advised that the college is a member of Dig Safely New York and contractors performing excavation work on college grounds shall be responsible for complying with the Dig Safely New York program (NYS Code Rule 753). The program requires notification in advance of the start of the work. All excavation work must be called into Dig Safely New York by dialing 811 at least two (2) days, but not more than 10 days before any excavation or demolition starts. Unless otherwise arranged contractors must call 811

Contractors shall err on the side of caution when their work involves disturbance or intrusion of earth. If there is a question on whether the contractors' scope of work constitutes excavation, they should follow the Dig Safely New York protocols and procedures.

It is highly recommended that contractors performing excavations have Certified Excavators on staff certified through the Dig Safely New York Certified excavator Program (CEP).

10.18.2 Excavation and Trench Safety

Excavation and trenching activities pose a significant risk to workers. When performed safely these operations can reduce or eliminate the risk of collapses and cave-ins as well as worker exposure to other potential hazards including falls, falling loads, hazardous atmospheres, and incidents with excavation equipment.

Contractors performing excavations on college property shall comply with OSHA 29 CFR 1926.650-652. The Contractor shall ensure that a competent person is on-site to oversee such activities.

General guidelines for excavation and trench safety include:

- Never enter a trench until it has been deemed safe to enter by the competent person.
- Never work in trench or excavation without a means of exiting (ladder, stairway, ramp).
- Never work in a trench alone without an attendant present.
- All excavations and trenches must be protected by adequate barricades and identified as a safety hazard.
- Daily inspections, by a competent person, must occur at least daily, or as conditions change to ensure the elimination of excavation hazards
- If excavations or trenches are left open at the end of the workday warning lights must be present and operational during off-hours to provide sufficient warning of danger.
- Pedestrian walkways must always be protected.
- Excavations must be properly benched to prevent cave-ins or slumping of side walls.

- Trenches in unconsolidated earth five (5) feet deep or greater must have worker protective systems in the form of trench boxes or other types of shoring to prevent soil cave-ins.
- Trenches and excavations deeper than four (4) feet are automatically classified as "Permit-Required" confined spaces and the college permit required confined space protocols must be followed and atmospheric testing must be conducted prior to entry.
- Trenches 20 feet of greater in depth require a protective system designed by a professional engineer or based on tabulated data prepared and/or approved by a professional engineer.
- Trenches should have no more than 25 feet of lateral travel.
- Contractors should be aware of overhead power lines when using excavation equipment and use caution. Minimum safe approach distances (M.S.A.D.) to energized power lines of ten (10) feet shall be maintained at all times. If there is a need to work within the 10 feet range the local utility company must be contacted to insulate the power line.
- All excavations and trenches shall be backfilled and compacted as soon as practicable after work is completed and all associated equipment removed.

10.19 Excavation Environmental Issues

During excavation activities, environmental conditions may be encountered that were not previously known or present. Excavation activities should stop and the EH&S office contacted immediately if there is:

- A release of chemicals to the ground by the contractor (petroleum, hydraulic fluid, fuel or other),
- The discovery of chemical/petroleum contamination in an excavation
- The discovery of previously unknown underground tanks/drywells/vessels/piping/conduit
- The presence of fuel like odors or other unnatural condition such as construction debris, ash/slag, tar, discolored soil, etc.

These conditions may be an indication of a previous spill or represent a situation that may require NYSDEC spill response notification and special safety precautions. An evaluation of site conditions will occur and direction will be provided by either the college or the NYSDEC.

10.20 Masonry Cutting

Contractors working at the college should be in compliance with the OSHA Respirable Crystalline Silica rule (29 CFR 1926.1153). Masonry cutting operations shall be performed in a manner to minimize silica and dust exposure to workers and the campus community. Water suppression and HEPA vacuums shall be used for all cutting operations.

Contractors shall take all necessary steps to comply with the exposure limits for silica established in 29 CFR 1926.1153.

A written exposure control plan must detail how potential exposure to the college community in adjacent areas will be kept below allowable limits. A copy of this plan shall be provided to EHS and/or the Project Manager upon request.

Where tasks are performed indoors or in an enclosed area, exhaust shall be provided as needed to minimize the accumulation of visible airborne dust. If the exhaust is vented where building occupants or the general public may be exposed, the system must incorporate HEPA-filtration. When work is performed in occupied buildings, dust barriers shall be installed as necessary to isolate the restricted area.

If the building ventilation system provides air to an area where "restricted work" is being performed, the air returns shall be blanked or closed while such work is in progress.

A "temporary restricted area" must be established where tasks performed in accordance with OSHA regulations require that respiratory protection be used, or where tasks are performed that are not listed in Table 1, and where no historic or objective data exists to prove exposures will be below the action level. Temporary Restricted Areas must be designated with signs, barriers, or other effective means that will assure unauthorized persons do not enter.

Visible emissions observed from masonry cutting operations are prohibited and will result in a stop work order.

10.21 Fossil Fueled Combustion Equipment

Operation of fossil-fueled combustion equipment can generate carbon monoxide and other noxious odors and fumes. Such equipment includes generators, gasoline and diesel-powered tools, excavation equipment, lift equipment, trucks and vehicles.

Operation of such equipment inside occupied buildings or in close proximity to building air intakes is prohibited unless a job safety analysis is conducted and approved by the college that defines how carbon monoxide and associated noxious fumes will be mitigated and controlled through engineering controls. The contractor shall provide alarmed carbon monoxide monitoring devices in all areas of occupied buildings that could be potentially affected.

10.22 Asbestos

Many of the Colleges buildings contain asbestos containing materials (ACM) and contractors may be engaged in projects at buildings where ACM is present.

Asbestos is highly regulated by both State and Federal agencies such as OSHA, NESHAP, EPA, and the NYSDOL. Strict protocols address asbestos as they relate to renovation or demolition projects.

Asbestos surveys are conducted in advance of all renovation or demolition related work by the College in preparation for the start of the project. Any ACM that needs to be disturbed as part of the project must be removed by a licensed asbestos abatement contractor under controlled containment conditions.

Ignorance of asbestos regulations will not be tolerated. If a contractor performing work has any concerns about the following situations, stop work and consult the college project manager immediately:

- Uncertainty about the status of a building material to be disturbed.
- Encountering a suspect material that cannot be identified in the survey.
- Entering a wall cavity, chase or above ceiling space and there is no supporting documentation confirming the status of ACM in that space.
- A disturbance of a confirmed of suspect ACM occurs.

The primary concern with asbestos are disturbances of ACM in uncontrolled environments resulting in asbestos fiber release and the exposure of building occupants, workers and the campus community to the asbestos. Uncontrolled disturbances can be a result of a non-human caused emergency or an incidental disturbance involving contact with an ACM. Most incidental disturbances can be avoided and eliminated through planning and proper training.

To avoid uncontrolled disturbances of asbestos-containing materials contractors working at the College should:

- Communicate the results of asbestos surveys with their workers prior to the start of the project so they are familiar with the types, locations and status of the building materials that will be impacted or disturbed (ACM and non-ACM)
- Not disturb confirmed ACM materials
- Not disturb a material that has not been confirmed to be Non-ACM
- Stop work immediately and notify their supervisor if a confirmed ACM, material of uncertain nature or previously unidentified material is encountered. Work should not resume until the material has been confirmed to be Non-ACM or removed by an asbestos abatement contractor.

If an uncontrolled disturbance occurs of either a known ACM or a previously unidentified building material of unknown status, work should stop immediately. Workers should vacate the work area and the work area should be secured by locking doors and contacting the College project manager and the EH&S Office.

Contractors should take extra care when working in the vicinity of friable ACM such as sprayed on fireproofing. Some of the campus buildings contain friable ACM fireproofing and, even know the project might not involve contact with the ACM. Vibrations from

construction activities might cause the ACM to become dislodged, resulting in asbestos fibers to be released. This can be particularly true of the floor above and below the active work site where contractors might not know of the presence of the ACM.

10.22.1 Asbestos Abatement

Asbestos abatement projects may be conducted in conjunction with renovation projects. Contractors who perform asbestos abatement shall be licensed and certified by the NYSDOL and the work conducted in accordance with NYSDOL 12 NYCRR Part 56 and other applicable regulations.

Controlled abatement areas will be posted with danger signage warning those of the potential hazards of the work as follows:

Abatement work areas typically consist of negatively pressurized tent or containment areas with attached air locks or decontamination units. In most cases air monitoring is required and conducted during abatement activities.

Non-asbestos contractors who are working in buildings where active asbestos abatement is occurring should be aware of those activities and avoid any conflict or interference. All abatement operations require the presence of a certified abatement supervisor and any questions or correspondence should be directed through the supervisor.

The following should be followed by all non-asbestos contractors working in proximity to an abatement project:

- Do not interfere with abatement operations and provide those performing abatement with common courtesy
- Stay away from air monitoring equipment
- All correspondence should be with the abatement supervisor
- Do not create airborne dust in the vicinity of the abatement work area
- Do not enter a work area, decontamination unit, cross barrier fencing or breech caution taped areas
- Do not tamper with or shut down water or electrical services associated with an abatement project
- Do not interfere with negative exhausts or associated air tubing

10.23 Lead

Many of the College buildings and structures were constructed prior to 1978 when lead was a common additive to paint. In addition, other forms of lead can be found in and on buildings such as roof (flashings etc.), plumbing services (pipe, soft solder, brazing), poured lead anchors, various sheet liners, tank linings, windows, lab equipment and other applications. Most of the older campus buildings (pre-dating 1978) have been subject to renovations and, those renovations may have included partial or full removal of lead-based paints. Having said this it is still likely that contractors working at college buildings may encounter surfaces, fixtures and other items painted with lead-based paint or other componentry or equipment that contains lead.

The college does not have a comprehensive inventory of the presence and locations of lead in and on campus structures and surveys are conducted prior to the start of renovation projects to identify the presence of lead.

The primary concern with lead for contractors are airborne exposures to their workers of lead dust or fumes as a result of activities that involve the use of sanding, blasting, welding, cutting, or heating items that are coated with or contain lead. In addition, lead laden dusts can accumulate where paints are in poor condition or where paints have been subject to friction (window sash to frame, door to frame, etc.).

OSHA has promulgated regulations applicable to Lead in Construction (29 CFR 1926.62). The Lead in Construction Standard establishes various requirements related to worker protection such as work practices, engineering controls, personal protective equipment, respiratory protection, personal air monitoring, medical evaluations, record keeping, etc.

The OSHA standard is based on employee exposure to airborne lead. OSHA has established a Permissible Exposure Limit (PEL) of fifty micrograms per cubic meter (50 ug/m^3), and an Action Level of thirty micrograms per cubic meter (30 ug/m^3), for lead calculated as an 8-hour time-weighted average (TWA). It is important to note that OSHA does not recognize the lead-based paint 0.50% threshold limit (e.g. concentration of lead) and the Lead in Construction Standard is applicable to any amount of lead contained in a paint. OSHA has taken the conservative position that if any lead is present, there is an inherent potential for employee exposure to airborne lead during certain work activities.

Contractors working at the college should be advised of the potential for lead-based paint or other lead containing building fixtures and equipment. If their work involves the disturbance of lead, they should inquire before performing activities that could potentially expose their workers and the general college community to lead. If a contractor is involved in renovation or demolition project wherein lead is present, and those activities could result in the release of airborne lead (dust, fumes), then that work should be conducted under controlled conditions to prevent lead contamination and exposure.

Contractors are responsible for following and adhering to the provisions of the OSHA lead in construction standard when working at the college and preventing and controlling release of lead from their work areas.