

Policies, Programs and Procedures

ENVIRONMENTAL HEALTH AND SAFETY

Contractor EHS Manual

Environmental, Health, and Safety (EHS) Requirements for Construction, Service, and Maintenance Contractors

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GLOSSARY OF TERMS

ACRONYMS

ACM Asbestos-Containing Material—any material containing more than 1 % asbestos

ANSI American National Standards Institute

CBYD Call Before You Dig

CFR Code of Federal Regulations

ConnDOT Connecticut Department of Transportation

ConnOSHA Connecticut Department of Labor's Division of Occupational Safety and Health

CT DEEP Connecticut Department of Energy and Environmental Protection

CT DPH Connecticut Department of Public Health

DOT United States Department of Transportation

EHS Environmental, Health, and Safety—a category of topics that relates to and

encompasses all of these issues

EPA United States Environmental Protection Agency **FMBIO** UConn Fire Marshall and Building Inspector's Office

HASP Health and Safety Plan
LSO UConn Laser Safety Officer

MUTCD Manual on Uniform Traffic Control Devices (23 CFR 655, Subpart F)

MSDS Material Safety Data Sheet

NFPA National Fire Protection Association
NEC National Electrical Code (NFPA 70)
OEP UConn Office of Environmental Policy

OSHA Occupational Safety and Health Administration

NIOSH National Institutes of Occupational Safety and Health

NRC United States Nuclear Regulatory Commission

PACM Presumed Asbestos-Containing Material

PCBs Polychlorinated biphenyls
PIV Powered Industrial Vehicle
PPE Personal Protective Equipment
PRCS Permit-Required Confined Space
RSO UConn Radiation Safety Officer

SPCC Spill Prevention, Control and Countermeasure

UConn The University of Connecticut -- Storrs-based campuses and Law School

UConn EHS UConn Division of Environmental Health & Safety

WPCF UConn Water Pollution Control Facility

I. INTRODUCTION

PURPOSE AND SCOPE

The Contractor EHS Manual contains performance expectations applicable to all contractors and their personnel regarding environmental, health, and safety responsibilities while working at UConn. To ensure the protection of UConn's students, faculty, staff, visitors, and property, contractors are expected to provide a safe and secure workplace and operate in an environmentally sound manner. Strong Environmental, Health, and Safety (EHS) programs will prevent injuries, control losses, and minimize environmental impacts. We expect contractors to join us in providing a workplace free of uncontrolled hazards to people, the environment and our campuses.

This Contractor EHS Manual has been prepared for contractors, their subcontractors, visitors, delivery persons and their vehicles, and other vendors servicing the following University of Connecticut (UConn) campuses: Storrs, Depot, Law School (Hartford), West Hartford, Avery Point, Waterbury, Stamford, Torrington, All Extension Centers, other UConn Storrs-based campus locations.

All Construction, Service and Maintenance Contractors must comply with all federal, state and local laws, as well as UConn's EHS-related policies and procedures, UConn's Code of Ethics, and UConn's Policy Against Discrimination, Harassment and Inappropriate Romantic Relationships. The UConn requirements in this manual may be stricter than government regulations. This document is a summary of EHS performance expectations. It is not intended to replace or limit the requirements of government regulations or standard industry practice. It is the Contractor's obligation to meet applicable EHS requirements, whether or not they are addressed in this document.

UConn Contractor Safety Program does not directly manage the safety of contractors or their personnel. UConn will communicate known hazards. Contractors are expected to manage Environmental, Health, and Safety hazards, risks and programs for their employees and subcontractors. This manual has been published to communicate UConn's EHS philosophy and expectations to all Construction, Service and Maintenance Contractors that do business with the University.

UCONN EHS-RELATED POLICIES

Health and Safety Policy Statement

The University of Connecticut is committed to providing a healthful and safe environment for all activities under the jurisdiction of the University. Accordingly, the University has developed the following Health and Safety policy statement:

The health and safety of all faculty, staff, students and visitors shall be a principal consideration in the planning and conduct of all University activities and programs, and in the design, construction, modification, or renovation of all University buildings and facilities.

This broad policy requires that health and safety regulations of Federal, State and local authorities, appropriate consensus standards of recognized organizations, and University specific policies are met.

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Environmental Policy Statement

In fulfilling its mission as Connecticut's land grant, public research university and its corresponding obligation to protect and preserve natural resources for an environmentally sustainable future, the University of Connecticut commits to the following principles of environmental leadership:

Performance: The University will institutionalize best practices, comply with environmental laws, regulations and standards, and continually monitor, report on and improve its environmental performance.

Responsible management and growth: The University will endeavor to design, construct and maintain its buildings, infrastructure and grounds in a manner that ensures environmental sustainability and protects public health and safety.

Outreach: The University will promote environmental stewardship in Connecticut and embrace environmental initiatives in partnership with its surrounding communities.

Academics: The University will advance understanding of the environment through its curriculum, research and other academic programs, and will employ an ethic of environmental stewardship in all intellectual pursuits.

Conservation: The University will conserve natural resources, increase its use of environmentally sustainable products, materials and services, including renewable resources, and prevent pollution and minimize wastes through reduction, reuse and recycling.

Teamwork: The University will encourage teamwork and provide groups and individuals with support, guidance and recognition for achieving shared environmental goals.

CONTRACTOR EHS RESPONSIBILITIES

Contractors are responsible for awareness and full compliance with all applicable rules, regulations, laws, and practices applicable to their work and their Subcontractor's Work that are prescribed by UConn and any federal, state or local government or agency that governs the safety and health of employees, students, faculty, and the general public as well as protection of the environment. These include, but are not limited to, regulations promulgated by the following federal and state agencies: OSHA, EPA, DOT, DOE, NRC, ConnOSHA, CT DPH, CT DEEP and ConnDOT.

Before starting work at UConn, Contractors must contact the appropriate UConn Project Representative to exchange pertinent safety information and to review applicable EHS guidelines and standard operating procedures (SOPs).

CONTRACTOR INSURANCE RESPONSIBILITIES

The Contractor agrees that while performing Services specified in this agreement s/he shall carry sufficient insurance (liability and/or other) as applicable according to the nature of the service to be performed so as to "save harmless" the State of Connecticut from insurable cause whatsoever. Prior to commencing work, Contractor shall provide the UConn Project Representative with a Certificate of Insurance (COI) covering all contracted work and support activities. The COI shall name the University of Connecticut, State of

Connecticut, its officers, officials, employees, agents, boards and commissions as additional insured. The Contractor shall also provide confirmation of the insurance policy endorsement.

CONTRACTOR SAFETY ORIENTATION

Contractors may be required to attend an orientation session, which covers UConn Contractor Safety requirements. The orientation, if applicable, is conducted during project pre-construction job meetings and includes a review of UConn's EHS requirements. As part of this orientation, Contractors will be required to submit the following documents:

- 1. Mobilization Plan
- 2. Temporary Utility Plan
- 3. Schedule
- 4. Staffing
- 5. Daily Report Form
- 6. Health and Safety Plan
- 7. Asbestos Certification Form (certification to be submitted at conclusion of project)
- 8. Contractor Emergency Contact Information Sheet

Participants will receive a copy of this document. Contractors should use the orientation session as an opportunity to become familiar with UConn's EHS expectations and for questions about applicable UConn safety procedures.

EHS INSPECTIONS

Contractor work areas may be observed and inspected at any time to ensure compliance with this manual. UConn designated staff, including the UConn Project Representative, UConn EHS, FMBIO, UConn Fire Department, and OEP staff, may perform inspections. In addition, a neutral third party may be secured by UConn to perform these inspections. Any deficiencies noted during the inspection must be corrected immediately. Repeat or serious violations could result in disciplinary action and/or expulsion from UConn property.

CONTRACTOR RECEIPT ACKNOWLEDGEMENT FORM

Contractors shall evaluate the contents of this document as it pertains to the work to be performed on UConn properties. Contractors shall ensure that their employees and subcontractors understand these requirements. The information in this document should be communicated and jointly enforced by UConn personnel, Contractors and sub-contractors. In addition, Contractors shall implement a documented disciplinary process for all violations.

An authorized contractor representative and a representative of each of its subcontractors must sign and submit the receipt (Section VIII. CONTRACTOR RECEIPT ACKNOWLEDGEMENT FORM) found at the end of this document prior to commencing work, with a copy submitted to the UConn Project Representatives (this includes UConn project managers, project engineers and other designated UConn representatives). Signatures indicate an acknowledgement and understanding of the requirements of this document.

II. GENERAL REQUIREMENTS

EMERGENCY MANAGEMENT

In an emergency, whether it involves fire, personal injury, or utility, all Contractor personnel must know how to protect themselves and provide immediate notification to emergency response organizations (fire, police, medical, etc.). It is critical that all Contractor personnel know where to find emergency contact information, the location of the nearest phone, fire alarm pull station, fire extinguisher, emergency eyewash station, emergency shower, and exits from the worksite and building. In the event of an emergency, the Contractor must immediately report the emergency by calling 911. Contractors are required to post emergency response information and use the Contractor Emergency Response Information Sheet in Section VI.

Emergency situations may include, but are not limited to:

- 1. Accidents and injuries;
- 2. Observed smoke or fire;
- 3. Chemical or hazardous material spills;
- 4. Property damage;
- 5. Severe weather impacts, and
- 6. Security threats

When reporting an emergency, please provide the following:

- 1. Your name, phone number and location;
- 2. The location of the incident (building name, floor and room number);
- 3. Nature and extent of the incident (injury, accident, spill, smoke/fire, damage, etc.);
- 4. The name and amount of the material spilled (if applicable); and
- 5. The safest route to the spill (if applicable).

UConn emergency response personnel (UConn Fire Department) will be dispatched immediately. The Contractor shall wait at the nearest location deemed safe until emergency response personnel arrive.

ENTRANCES AND EXITS

Contractors may use only those entrances and exits designated for the work area. UConn posts emergency exits with appropriate signs and often equips them with exit alarms to discourage unauthorized use. Contractors who need to disable door alarms shall obtain prior approval from the UConn Project Representative. Exit doors shall not be blocked. The UConn Fire Department may also have alarms on some doors that will need to be secured. In addition, doors to restricted areas may not be left unsecured or unmonitored.

INCIDENT REPORTING

In order to maintain a safe and secure work environment, Contractors shall report any incidents or observations that may affect the safety of their personnel, UConn employees, or UConn students.

Unsafe acts or behavior - Report unsafe behaviors and conditions immediately to the UConn Project Representative. Stop work if an imminent danger exists. Work must cease until the Contractor corrects the issue to the satisfaction of the UConn Project Representative.

Accidents, Injuries, Near-Miss - Within 24 hours of an accident or injury, Contractors shall report details of all such incidents to the UConn Project Representative and UConn EHS. The Contractor will document an accident investigation on all injuries other than first aid cases as defined by OSHA Record Keeping Guidelines. The Contractor will submit a copy of the accident investigation and corrective actions to the UConn Project Representative within 48 hours of the incident.

Emergencies - Contractors should be familiar with emergency reporting guidelines and follow the procedures noted in the <u>Emergency Management</u> section of this document. Contractors are responsible for implementing their own system for accounting for employees during an emergency. Contractors shall work with the UConn Project Representative to ensure a system is in place for safeguarding employee safety during an emergency that requires either evacuation or shelter-in-place.

Security Issues - Notify the UConn Police Department at 860-486-4800, or 911 in the event of an emergency, to report any issue causing a security concern. This may include theft, threats or acts of violence, malfunctioning or disabled security devices and violations of security policies or procedures.

LOADING DOCKS/RECEIPT OF MATERIAL

- 1. Contractors may utilize UConn docks for loading or unloading material and equipment. Due to the high volume of UConn shipping and receiving traffic, Contractors shall make prior arrangements through the UConn Project Representative or Building Manager. Contractors shall make every effort to unload promptly and move to a designated parking space.
- 2. Deliveries directed to UConn's docks should identify whom to contact on arrival. Generally, UConn cannot receive material not ordered on UConn purchase orders. In the event these materials are inadvertently received, UConn assumes no responsibility for their disposition.
- 3. Workers shall follow loading dock safety procedures. This includes, but is not limited to ensuring dock locks and chocks are utilized during loading and unloading.

LOITERING AND SOLICITATION

Workers are expected to leave the site immediately upon completion of their job/project. Advertising or solicitation of any type on UConn premises is prohibited.

NON-DISCLOSURE AGREEMENTS

Each Contractor shall sign a UConn hold-harmless and non-disclosure agreement prior to working in a UConn facility. Contractors shall return completed forms to the UConn Project Representative or Purchasing for processing.

PROHIBITED ITEMS

UConn prohibits alcoholic beverages, illegal drugs, firearms, ammunition and other weapons on its premises. UConn may refuse entry to any person possessing such items, or suspected of being under the influence of alcohol or drugs.

Individuals (or Contractor crews) found in the possession of alcohol and/or illegal substances will be immediately removed from the site. If alcohol and/or illegal substances are found on-site in a gang box, conex box, office, or vehicle, and the individual(s) responsible cannot be identified, the entire crew will be removed from the site. People "under the influence" of alcohol, illegal substances, or prescription drugs which are incorrectly used shall be removed from the site and suspended for a period of time as determined by the UConn Project Representative.

The presence of designated drugs in an employee's system or the manufacture, sale, distribution, purchase, possession, dispensing or use of such drugs while on UConn premises are strictly prohibited. The taking of prescription medication in the manner prescribed by a physician is an exception to this policy provided it does not impair a person's ability to perform his/her job.

Lethal and non-lethal weapons and firearms of all types, excluding knives and other tools used for construction activities, are prohibited from the UConn Campus at all times.

PROTECTING BUILDING OCCUPANTS AND THE PUBLIC AROUND CONSTRUCTION/RENOVATION ACTIVITIES

Contractors conducting construction/renovation activities shall ensure that the health and safety of the UConn faculty, staff, students and visitors is not adversely affected. Whenever possible, exposure to physical and health hazards shall be minimized using engineering controls. Containment barriers, barricades, signs and localized exhaust ventilation shall be used. Building occupants and the general public must not be affected by emissions from construction/renovation activities. Contractors shall follow the contractor guidelines of ANSI A10.34 "Protecting the Public on or Adjacent to Construction Sites."

Since the hazards associated with construction and renovation often change as a project progresses, the Contractor must conduct periodic hazard assessments to anticipate and plan for these changes. In addition, activities such as cutting wallboard or other dust-generating operations have the potential to activate smoke detectors/building evacuation alarm systems.

Any changes in planned construction activities shall be brought to the attention of the UConn Project Representative so the appropriate notification can be made to all affected UConn staff and students.

SERVICE INTERRUPTIONS

The UConn Project Representative will coordinate service interruptions with affected UConn customers. Contractors shall notify the UConn Project Representative as early as possible in advance of any planned service interruptions, e.g., electricity, air conditioning, water, phone/data. Accidental or unscheduled interruptions shall be reported immediately to Work Order Control: (860) 486-3113 and the UConn Project Representative.

SMOKING

Smoking is prohibited inside all UConn buildings and within 25 feet from all UConn buildings and indoor air intakes. Smoking is not permitted near outdoor storage areas for flammable chemicals or when using flammable or combustible liquids outdoors. Construction, Service, and Maintenance Contractors may smoke only in designated areas in accordance with their contracts. "Smoking" refers to the use of cigarettes, electronic cigarettes, cigars, pipes and similar products.

TIMES WORK CAN OCCUR

All Contractor work shall be conducted at the times agreed to within the framework of the contract and discussions with UConn Project Management. Deviations of work times must be approved by the UConn Project Representative prior to commencement of Contractor activities outside of normal work times.

TRAFFIC SAFETY AND PARKING

Contractors shall observe speed limits, traffic signs, and other traffic rules. Contractors shall park in areas designated by the UConn Project Representative. Vehicles parked in fire lanes, reserved areas or roadways are subject to towing. Contractors may not park or drive on sidewalks or landscaped areas unless permitted by the UConn Project Representative. UConn is not responsible for Contractor vehicles or their contents. Due to limited parking at UConn, non-essential vehicular traffic must be minimized.

Service vehicles, material delivery, and construction equipment needed on site must be coordinated in advance with the UConn Project Representative and UConn Fire/Police. In addition, the following circumstances will require approval from the designated UConn Project Representative and the UConn Fire/Police Headquarters **72 hours prior to start of activity**:

- 1. Requests for road blockage or restriction must specify: the purpose; the exact location(s); the extent; the preferred date and time; and the required duration of the blockage or restriction.
- 2. Using access or egress routes that interact with pedestrian traffic flow

Contractors shall provide a traffic flagger for deliveries that require blockage, including partial roadway blockage for equipment or material deliveries. In addition, a review of the job hazard analysis is required to ensure that changes in traffic flow are carried out in the safest manner.

Contractor parking must follow the requirements outlined in the Project Manual. For the Storrs Campus, Contact UConn Parking Services at (860) 486-4811 for instructions.

WORKING AROUND PERSONNEL IN OCCUPIED SPACES

Within the framework of the University's Policy Against Discrimination, Harassment and Inappropriate Romantic Relationships, Contractors are advised that discriminatory harassment and sexual harassment are not tolerated within the University community. Discriminatory harassment consists of offensive behavior directed at an individual or group based upon an individual's race, color, ethnicity, religious creed, age, sex, marital status, national origin, ancestry, sexual orientation, genetic information, physical or mental disabilities, veteran status, prior conviction of a crime, workplace hazards to reproductive systems, gender

identity or expression, or membership in other protected classes set forth in state and federal law. Sexual harassment is any unwelcome conduct of a sexual nature, including but not limited to sexual comments, requests for sexual favors, sexual advances, whistling, extended staring, and inappropriate touching such as sexual assault or acts of sexual violence. Engaging in discriminatory harassment or sexual harassment in the presence of UConn personnel, students or visitors is strictly prohibited. The University will not tolerate discriminatory harassment or sexual harassment directed toward any person or group within its community. The University will take corrective action against those who violate this policy as set forth below in the section titled "EHS Program Enforcement."

Student-Occupied Spaces

Entering a student room without prior approval and without an escort from Residential Life or designated University official is prohibited.

In occupied residence halls, the student union, student commons, dining halls, and other facilities where students gather, Contractors must be sensitive to the fact that the safety and comfort of hundreds of students and staff can be affected by the most innocent mistake. Unless approved to do so and accompanied by authorized University personnel, Contractors must not:

- 1. tamper with/alter/or adjust heating and ventilation equipment
- 2. tamper with/alter/or adjust valves and controls that could impact water pressure and/or water temperature
- 3. tamper with/alter/or adjust fire alarms, fire protection equipment, detection systems, emergency exits

The UConn Project Representatives must be made aware of any authorized alterations to the above listed equipment.

III. CONTRACTOR EHS PROGRAM MANAGEMENT

CONTRACTOR HEALTH AND SAFETY PLAN

Contractors hired to perform work at UConn, which may involve potentially hazardous activities, shall submit a Site Specific Health and Safety Plan (HASP) to the UConn Project Representative prior to commencement of the contracted work. The HASP is a working document which incorporates applicable regulatory rules and regulations, UConn site requirements, UConn Environmental, Health, and Safety procedures and requirements, and any other standards (e.g., ANSI, NFPA, etc.) that may be applicable to the UConn campuses and their facilities. The HASP shall be readily available on site and shall be job/site specific to identify potential hazards and necessary protection to protect Contractor employees, UConn staff, students and visitors. Construction contractors shall also include safety and health considerations related to multi-employer worksites, in accordance with ANSI/ASSE A10.33-2011 Safety and Health Program Requirements for Multi-Employer Projects.

The HASP is to be continuously updated as the project development dictates. Revisions to the HASP shall be submitted immediately to the UConn Project Representative or their designee.

The HASP Contents may include but not be limited to:

- 1. Project Description
- 2. Project Health and Safety Organization
- 3. Hazard Assessment
- 4. Training Requirements
- 5. Project safety orientation of new workers
- 6. Personal Protective Equipment
- 7. Medical Surveillance
- 8. Air Monitoring and Air Borne Particulate Control Plan
- 9. Site Control Measures
- 10. Personal Hygiene, Sanitation and Decontamination
- 11. Emergency Response and Contingency Plan
- 12. Public Control Plan
- 13. Work Zone Safety Plan
- 14. Posted Regulations
- 15. Logs, Reports, and Recordkeeping
- 16. Spill Prevention Control and Countermeasure Plan for Oil and Hazardous Materials

EHS PROGRAM ENFORCEMENT

It is the responsibility of each Contractor to comply with this manual as well as all applicable federal, state, local, and UConn requirements. Violations will be brought to the attention of the personnel involved and the responsible supervisory personnel. Identified violations must be promptly addressed and corrected. Violations may result in work stoppage (at the Contractor's cost) and will result in progressive enforcement action that range from temporary to permanent expulsion of personnel from the site. If the violations are severe or repetitive, the Contractor may be prohibited from working for UConn. If a Contractor fails to correct a problem, UConn reserves the right to take corrective action and back-charge the cost of any

corrective action to the Contractor. Contract language enables UConn to dismiss any individual, crew, or Contractor who fails to comply with the UConn safety and security rules and regulations. Contractors may be required to take other corrective actions, such as conducting an incident review, stopping work, holding safety reviews for the entire crew or company, providing increased training of employees, etc. at the discretion of UConn.

SAFETY INSPECTIONS

Contractors are required to conduct and document safety inspections of their work areas and practices, and those of their subcontractors. Contractors shall immediately correct hazardous conditions noted. Contractors shall maintain records of these safety inspections and provide them to the UConn Project Representative upon request.

SAFETY REPRESENTATIVE

The Contractor may be asked to assign a representative to monitor compliance with EHS requirements. The Contractor shall provide 24-hour, emergency contact numbers or list to the UConn Project Representative. The Contractor's Safety Representative may be an individual located off campus. However, for large projects or special hazards, UConn may require the Contractor to provide a dedicated Safety Representative, such as an OSHA-required "competent person." The UConn Project Representative and UConn EHS will determine the need for an on-site Safety Representative.

Competent Persons

Regulations require "competent persons" for situations, such as, crane operations, electrical safety, excavations, fall protection, and scaffolds. UConn expects (where applicable) Contractors to have trained competent persons within line of sight of such activities. UConn management will periodically audit projects requiring competent persons. If a qualified competent person is not available, work will be stopped.

TRAINING

Contractors are fully responsible for the training of their employees assigned to work at UConn. When training is required by law or regulation (e.g., oil handling personnel, hazardous waste operations or asbestos workers), the Contractor shall ensure that only trained workers are assigned to work at UConn. In addition to meeting the regulatory requirements, it is UConn's expectation that all personnel shall be adequately trained in proper techniques to safely perform the job assigned to them. Contractor personnel may also be required to complete certain UConn-specific training prior to beginning work. Contact the UConn Project Representative for additional guidance. Contractor training certificates shall be submitted along with the Health and Safety Plan to the UConn Project Representative prior to commencing contract work.

Contractors shall be in compliance with <u>State of Connecticut Public Act No. 08-83</u>: An Act Concerning <u>Construction Safety</u>. The Public Act requires that the Contractor on all state or municipal renovation or repair projects of \$100,000 or more, or on new construction projects of \$400,000 or more, provide that its employees have completed safety training as follows: all mechanics, laborers, or workers must complete a

10-hour construction safety course conducted in accordance with federal Occupational Safety and Health Administration (OSHA) Training Institute standards. Telecommunications workers must complete 10 hours in federal OSHA telecommunications safety training. Proof of up-to-date course or training completion must accompany the first certified payroll for the first week that each employee begins work on the project. Training must have been completed no earlier than 5 years before commencement of the Project.

IV. HEALTH & SAFETY REQUIREMENTS

BLASTING AND THE USE OF EXPLOSIVES

Prior to engaging in projects involving the use of blasting or explosives, the Contractor must submit a comprehensive Blasting Plan to the UConn Project Representative for review and approval. The plan must include, but not be limited to, the following elements:

- Pre-Blast Surveys and Seismographic Locations
- Site Safety and Job Hazard Analysis
- UConn Notification Procedures
- Blasting Monitoring
- Sequence of Blasting
- Blasting Procedures
- Blasting Mats
- Blasting Security & Warning Whistles
- Explosives information—type, quantity, transportation, storage, etc.
- Blasting Personnel
- Blaster Qualifications
- Blast Vibration
- Blast Reports
- Typical Blast Design

It is the responsibility of the Contractor to determine if any special licenses and permits are required to perform blasting operations at the work site, and to obtain those licenses and permits as part of the project. Copies of all plans, permit applications, licenses and any approvals shall be provided to the UConn Project Representative prior to commencing work. Blasting operations shall comply with all federal, state and local regulations, including NFPA 495 and the Connecticut General Statutes 29-349 - Storage, transportation and use of explosives and blasting agents.

The Contractor shall ensure that explosive materials are stored in a manner consistent with applicable regulations and shall never store more than a one-day supply of explosives on a UConn work site. Any excess explosive material must be removed from campus immediately. Contractors shall account for all explosives at all times and report any missing explosives to the UConn Public Safety Communications Center at (860) 486-4925, and to the UConn Project Representative, as soon as the loss is discovered.

Only trained, qualified and authorized individuals may handle and use explosives. Contractors shall employ the use of signs, barricades, flags, audible and visual warning devices and any other means indicated to ensure the safety of the workers and the surrounding public.

Contractors must take precautions to prevent the accidental discharge of electric blasting caps from current induced by radio transmitters (pagers, cell phones, radios), radar, lighting, adjacent power lines, dust storms, or other sources of extraneous electricity. The Contractor shall indemnify UConn for fines, penalties or other legal exposures caused by blasting operations.

- 1. Chemicals and hazardous materials used at UConn shall be accompanied by a Safety Data Sheet (SDS). Prior to use of the material(s), Contractors shall provide an SDS to the UConn Project Representative for distribution to affected University personnel. SDSs are required for various chemicals, solvents, paints, thinners etc., in the workplace. [Note: MSDSs may be submitted in lieu of SDSs until June 1, 2015 at which time MSDSs must be replaced by updated SDSs, in accordance with the OSHA Hazard Communication Standard.]
- 2. Contractors and their employees shall comply with all regulatory requirements in the management of the chemicals and hazardous materials they use at UConn. Contractor personnel should be thoroughly familiar with the information contained in the SDS and shall use the materials safely. If the use of the material has the potential for exposure to UConn personnel (students, faculty, employees or residents) UConn EHS must be consulted before starting the job via the UConn Project Representative. The SDS must be forwarded to UConn EHS and the neutral third party health and safety inspector for review, as appropriate. UConn EHS is available to make recommendations to minimize occupant exposures to chemicals or hazardous materials. Contractors shall be aware that vapors and/or odors from chemicals can travel long distances. Every attempt shall be made to minimize or eliminate the potential for exposure.
- 3. The UConn Project Representative, upon request, will provide Contractors with a written copy of the chemical inventory for the areas in which the Contractor will be working. The UConn Project Representative, upon request, will make available to the Contractor an opportunity to review the SDSs on file for areas where hazardous chemicals are used and stored for work areas where they will be working. A copy of the UConn Hazard Communication Program is available for review by the Contractor at: www.ehs.uconn.edu/occ/hazcom.pdf
- 4. Contractors shall provide secure and compliant storage, containers, and spill control for chemicals (including fuels and oils) stored on open ground or other areas lacking spill containment. [See <u>Spill Prevention and Response</u> in Section V.]
- 5. Contractors shall immediately report any oil or chemical spill or release to the UConn Fire Department by dialing 911 while on the Storrs or Depot Campuses, and also by notifying the UConn Project Representative. UConn may ask the Contractor to notify government agencies, if required by federal and state environmental laws governing spills and releases. See Section V.
- 6. Contractors are fully responsible for responding to oil and/or hazardous material spills resulting from their actions or from their failure to provide adequate safeguards, including without limitation the full cost of the response and any associated clean-up. The UConn Project Representative will notify OEP of any spills or releases that the contractor reported to the UConn Fire Department and will consult with UConn EHS to ensure that any waste generated is properly removed and disposed. If the Contractor fails to perform any action required, UConn, at its option, may complete the action at the Contractor's expense. The Contractor shall indemnify UConn for fines, penalties or other legal exposures caused by the spill.
- 7. Contractors are responsible for managing their chemical containers according to federal, state, and local regulations. Contractors shall remove any remaining chemicals or hazardous material products within 24 hours of their completed use on a project, unless approval is received from the UConn Project Representative to leave the material on site.

- 8. UConn Contractors that generate waste materials will comply with all regulatory and UConn requirements. Contractors may not discharge chemicals or wastewater to drains without the written approval of the UConn Project Representative. See Section V.
- 9. Contractors shall use the minimum quantity of chemicals necessary to perform the day's work. Portable containers shall not exceed five-gallon capacity without a UConn Project Representative's and UConn EHS' approval.
- 10. Special precautions shall be observed prior to using any chemicals or hazardous materials in mechanical, electrical or air distribution rooms. The UConn Project Representative and UConn EHS must be notified prior to use of chemicals in these areas.
- 11. Contractors or persons or entities providing cleaning and/or sanitizing services shall provide such services and use cleaning and/or sanitizing products having properties that minimize potential impacts to human health and the environment, consistent with maintaining clean and sanitary facilities. Only "Green Seal Certified" or "EcoLogo" certified cleaning products¹ shall be used inside University facilities.

COMBUSTION ENGINES -- INDOOR

- Contractors shall not operate combustion engines, such as those in vehicles, compressors, generators, welding machines and power tools, inside buildings unless they connect the exhaust to an approved venting system.
- 2. Do NOT refuel with the engine running. Contractors shall store fuel (gasoline, diesel and/or LPG) outside UConn buildings in approved and appropriately marked containers and compliant storage areas.
- 3. In most instances, UConn prohibits the use of propane-fueled vehicles inside buildings. The lifting tasks of some projects, however, may require propane-fueled lift equipment. In such cases, the Contractor shall consult with the UConn Project Representative and UConn EHS.

COMPRESSED AIR

Workers using compressed air to clean chips and dirt from surfaces shall direct the air stream away from other workers or the public. A nozzle shall be used that restricts air pressure to a maximum of 30 psi.

COMPRESSED GAS CYLINDERS

- 1. Cylinders shall be properly secured and labeled to identify contents in accordance with OSHA's Hazard Communication Standard (1926.350, 1910.1200).
- 2. Workers shall close valves when cylinders are idle, empty or moved. Valve protection caps shall be in place when cylinders are moved or stored.
- 3. Contractors shall keep cylinders a safe distance or shielded from Hot Work (see Hot Work section).
- 4. Contractors shall comply with OSHA requirements and consensus standards from the Compressed Gas Association on the separation of cylinders containing incompatible chemicals. Oxygen cylinders in storage shall be separated from fuel-gas cylinders or combustible materials (especially oil or grease), a

[&]quot;Cleaning Products" here does not include disinfectants, sanitizer, antimicrobial products regulated under FIFRA, products for which no guideline or environmental standard has been established by any national or international certification program approved by the CT Department of Administrative Services.

minimum distance of 20 feet or by a noncombustible barrier at least 5 feet high having a fire-resistance rating of at least one-half hour. A cart with oxygen and fuel-gas cylinders is in storage when it is reasonably anticipated that gas will not be drawn from the cylinder within 24 hours (overnight hours included). At that point the storage requirements must be met.

- 5. Regulators, hoses and torch assemblies shall be in working order and checked for leaks prior to initial use or installation. If a leak develops, remove the cylinder to a safe location outside the building.
- 6. Compressed gas cylinders shall never be brought into confined spaces.

CONFINED SPACE ENTRY

Contractors who may need to enter a confined space at UConn as part of service delivery shall conduct entry under a Permit-Required Confined Space (PRCS) program in compliance with OSHA 29 CFR 1910.146. Permit-required confined spaces may include, but are not limited to, storage tanks, in-ground vaults, boilers, trenches, manholes, lift stations, and valve pits. A listing of known permit-required confined spaces at UConn can be found in the UConn Confined Space Entry Program at: http://www.ehs.uconn.edu/occ/CSPOL.pdf

If during the course of work, the Contractor encounters a confined space that has not been previously identified by UConn, the Contractor must notify the UConn Project Representative so that the space can be assessed by the UConn Project Representative in consultation with UConn EHS.

Prior to conducting work in or around a Permit-required Confined Space, Contractors shall notify the UConn Project Representative. Upon this notification, UConn shall provide the Contractor with information relative to the known or anticipated hazards of the space. Upon completion of the confined space entry, the Contractor will notify the UConn Project Representative and provide information on any unexpected hazards that were encountered. This sharing of information shall be made using the Permit-required Confined Space Pre- and Post- Entry Review Form in Appendix C of the UConn Confined Space Entry Program. This form can also be found in Section VI of this manual.

Contractors are expected to comply with the OSHA Permit-required Confined Space Standard, as well as Connecticut State Fire Codes. Therefore, they are expected to:

- 1. Have a permit space entry program in place that meets the OSHA standard.
- 2. Ensure their employees are properly trained.
- 3. Have and use the equipment and resources available to ensure a safe entry, including atmospheric testing equipment, protective clothing, hard hats, respirators, life-lines, ventilation equipment and safety harnesses etc.
- 4. Provide for emergency rescue. The Contractor must arrange for the appropriate level of rescue services based on the potential for the types and complexity of the rescue that may be required. Documentation on the rescue procedure, authorized rescuers, training and equipment must be available on site prior to conducting confined space entries requiring rescue services.
- 5. For the Storrs campus, the Contractor may request to use UConn Fire Department as its rescue service. However, during the course of an entry, if the UConn Fire Department does not have sufficient staff on site, the Contractor will be advised and will be required to exit the confined space. If the Contractor's confined space work is of a type that cannot be interrupted, the contractor must provide a qualified rescue team on-site or hire a dedicated standby rescue team from UCFD. To arrange for a dedicated

- rescue team from UCFD, contact the Deputy Chief of Operations at 860-486-0010.
- 6. Notify the UConn Fire Department at 860-486-4925 prior to conducting any permit entry on the Storrs Campus. Notification shall include the exact location of the space, name of caller, CALLBACK number for the responsible confined space attendant and estimated duration of entry. Upon completion of the entry, the Contractor must notify the UConn Fire Department that entry operations have been completed in the confined space.

All Hot Work in confined spaces must be covered under a Hot Work Permit (see <u>Hot Work section</u>). The use of UConn services or equipment by Contractors to perform an entry is strongly discouraged. If UConn and Contractor personnel will be working together during an entry, or an unforeseen circumstance requires the use of UConn services or equipment, the UConn Project Representative must use the **Permit-Required**Confined Space Waiver and Release Waiver Form in <u>Appendix D</u> of the <u>UConn Confined Space Entry</u>

Program. This form can also be found in Section VI of this manual.

CRANES AND HOISTS

- 1. The Contractor shall not use UConn-owned or leased crane or hoist equipment, unless contractually indemnified to do so or unless they have signed a separate indemnification authorizing them to do so.
- 2. Before lifting the first load of the day, the Contractor shall verify the hoist system will operate properly by conducting documented inspections. These inspection documents should be made available upon request of the UConn Project Representative.
- 3. Contractors shall not leave suspended loads unattended. When moving a suspended load, the operator shall assure personnel are clear of the path of transport. Workers will not stand or walk under suspended loads.
- 4. Crane operators and riggers shall be thoroughly trained and competent in the use of such equipment. The Contractor shall provide a "competent person" (as required by OSHA) to oversee and/or perform lifting operations.
- 5. Contractors shall establish a restricted work area using barricades and other appropriate controls to minimize the hazards to personnel from swinging or falling objects. See the "SIGNS, SIGNALS AND BARRICADES" section of this document for details. The work area boundary must be created in response to the level of potential pedestrian traffic that could be expected to pass through. At a minimum, in light traffic areas, a boundary shall be set up with snow fencing on stanchions, posted with red "DANGER- Do Not Enter" tape and enough ground crew personnel to challenge any pedestrians who wish to pass through. If an unauthorized person enters the work zone, all work must stop. If the lifting work zone will be set up in high pedestrian traffic areas, then portable chain link fencing may be necessary to channel traffic around the work zone. As an option, performing the picks during early morning hours or weekends can preclude the use of chain link fencing in these areas, but snow fencing, danger tape and ground crew requirements remain.
- 6. Contractors shall ensure that all building exits that open into the work zone are monitored by ground crew personnel to prevent pedestrians from exiting into the work area. If building exits need to be blocked, permission to do so must first be obtained from the UConn Fire Department, as these exits may be necessary for fire egress.

7. It is incumbent upon the contractor and their sub-contractors to review existing as built underground utilities, tunnels and structure plans to ensure crane and support vehicles will not adversely impact said structures before work commences. In the absence of plans, a meeting with UConn Utilities must be scheduled before work commences.

ELECTRICAL SAFETY

Energized electrical equipment and services represent a significant hazard on every job site. OSHA's electrical standards (29 CFR 1926.400) address the long-held recognition that electricity poses a serious workplace hazard, exposing employees to such dangers as electric shock, electrocution, fires and explosions. OSHA's regulations related to electrical safety recognize two key hazard management tactics: elimination of the hazard through shut down and isolation (Lockout/Tagout 29 CFR 1910.147); or when live circuits must be maintained, the use of Energized Work Permits and protection from contact through the use of guarding, insulation, and protective equipment.

There are other considerations related to electrical systems that must not be overlooked. The National Electric Code (NEC) and NFPA 70E define design, proper installation and worker safety parameters associated with electrical systems maintenance and installation, as well as PPE that must be worn in potential arc-flash areas.

Not only must employee contact with electrical systems be avoided, fires and explosions due to overheating and arcing of electrical systems must be prevented as well. Some UConn facilities contain "rated" areas where "explosion-proof" or intrinsically safe lights, conduits, motors, controllers, and switches are used to prevent the ignition of flammable or explosive liquids and gases. Accidental use of non-rated equipment (such as cell phones, power tools, radios) in these areas could have catastrophic consequences.

The following is a partial list of items to consider when working with or near energized systems:

- 1. Contractors will comply with OSHA Subpart K Electrical regulations and the current editions of the National Electric Code and NFPA 70E.
- 2. Contractors will comply with <u>UConn's Electrical Safety Program</u>.
- 3. Contractors must identify and document competent and qualified persons properly trained, licensed and protected.
- 4. Contractors shall comply with the OSHA "Lockout/Tagout" Standard (29 CFR 1910.147) when working with de-energized equipment or circuits. Contractors shall identify the switches that energize the affected circuits or equipment. Due to their ability to store residual electrical energy, medium and high voltage circuits shall be grounded on both sides of affected workers. Contact the UConn Project Representative for assistance in identifying the locations of energy isolating devices.
- 5. All permanent and temporary electrical work shall be done in accordance with the National Electric Code, OSHA and other applicable standards.
- 6. Contractors installing electrical service will label circuit breakers and disconnect panels as to their purpose.
- 7. The responsible Contractor shall properly tag temporary feeder wiring at the source for identification purposes.

- 8. Exposed voltage in occupied areas shall be attended by a Contractor employee or be posted and barricaded by the Contractor within an enclosed radius safe area as recommended per NFPA 70E.
- 9. Electrical equipment inspection is to be done in accordance with the manufacturer's specifications, or on a quarterly basis at a minimum. Records of these inspections shall be made available upon request.
- 10. Frayed or cut electrical cords, or cords with damaged plugs or missing ground plugs shall be immediately removed from service, rendered unusable, and removed from the site.
- 11. The UConn Project Representative reserves the right to confiscate and destroy any defective tool or cord immediately upon discovery if the defective tool or cord has not been rendered unusable.
- 12. Electrical connections shall be coordinated with the UConn Facilities Electric Shop.
- 13. All contractors planning to perform work on the UConn 13.8kV systems shall use the UConn 13.8 KV System, Accident Prevention Permit Procedure to coordinate with the Facilities Operations Clearance Holder and establish when it is safe to perform repairs, maintenance or installations on medium voltage systems.
- 14. Unauthorized, live tie-ins to electrical services are prohibited and will result in the immediate and permanent exclusion of the worker from all UConn facilities.
- 15. After a Contractor performs repairs, maintenance or installations, and before UConn qualified employees attempt to re-energize the electrical equipment, verification shall be performed to ensure that the electrical equipment components are operationally intact and that no electrical hazard exists upon re-energization. This verification can be performed by qualified persons from the UConn Facilities Electric Shop or a qualified third party, at the discretion of the UConn Facilities Electric Shop supervisor.

EMERGENCY EQUIPMENT

Contractors may not block or obstruct access to emergency equipment, such as self-contained breathing apparatus, first aid kits, eyewash stations, safety showers, fire extinguishing equipment, fire hydrants, transformers and emergency generators. Contractors may not relocate, obstruct or disable emergency equipment without prior permission of the UConn Project Representative.

EXCAVATION AND TRENCHING

- 1. Prior to excavating, trenching, or otherwise penetrating the ground (including driving tent stakes or sign posts deeper than 12 inches), Contractor shall be responsible for utility marking, signage and barricades, shoring, and following applicable confined space entry procedures.
- 2. Each individual Contractor or Sub-Contractor on a job site performing excavation/trenching or otherwise penetrating the ground is responsible to pre- mark "limits of proposed excavation" locations of underground utilities before digging and contact "Call Before You Dig (CBYD 800-922-4455 or http://www.cbyd.com) as required by law. This is necessary to prevent service interruption or hazards from damaged utility lines. Hand digging is required near underground facilities such as electrical, gas, water or steam lines.
- 3. No Contractor shall work off another Contractor's "Call Before You Dig" permit.

- 4. Any Contractor who damages any underground utilities shall immediately stop work and report it to the UConn Project Representative.
- 5. The Contractor shall comply with the OSHA Excavation Standards (29 CFR 1926.650) and other regulatory requirements associated with the work. If the Contractor encounters any suspect material (i.e., discolored soil, pipe not on UConn's excavation package drawings, asbestos, etc.), the Contractor shall stop immediately and contact his UConn Project Representative. If the soil is contaminated, UConn OEP and UConn EHS will arrange for its proper removal and disposal.
- 6. The Contractor shall place conspicuous warning signage and barricades or fencing on all sides of a trench or excavation to prevent pedestrians from crossing the opening.
- 7. The Contractor shall provide a "competent person" as required by OSHA Excavation Standards (29 CFR 1926.650) to inspect the excavation area and protective systems. Excavations greater than 20 feet deep require excavation protection plans that are designed and executed under the supervision of a professional engineer licensed in the State of Connecticut. This would apply to sloping, use of trench shields (trench boxes) and shoring systems.
- 8. Contractor shall utilize the appropriate protective system (sloping, trench shields (trench boxes) or shoring per 29 CFR 1926.650 for all excavations five feet or greater in depth and/or as site conditions require. Excavation and trench work at shallower depths may require protection when the workers' chest height is less than the depth of the excavation or trench.
- 9. Ramps shall be constructed in accordance with 29 CFR 1926.651 by a competent person, as defined by the OSHA Excavation Standard.
- 10. Contractors shall backfill as soon as possible once the work has been completed. To the extent possible, Contractors shall backfill by the end of each workday to avoid the hazards of open excavations, particularly at night. For projects that cannot be back-filled by the end of the day, the Contractor shall adequately barricade or fence the excavation and/or provide steel plate covers.

EYEWASHES AND SAFETY SHOWERS

- 1. Contractors are responsible for supplying eyewash and safety showers for their employees while performing work on the UConn campuses. They will ensure these units are in full operational compliance for use during an emergency.
- 2. If no permanent unit is available, then a temporary unit shall be provided and utilized by the Contractor. The Contractor is responsible for assessing the adequacy of all units to be used, whether permanent or temporary, and to ensure that they are in full operations compliance.

FALL PROTECTION

Contractors shall provide fall protection for its employees, as required by 29 CFR 1926.500. Fall protection is required in areas where the fall hazard is 6 feet or greater from the worker's foot-level, or where the individual is working over dangerous equipment.

Contractors shall provide adequate protection where there is a potential for endangering persons below. Contractors shall isolate such work areas to protect persons from falling objects. In addition, the Contractor shall barricade and monitor an area of twenty-five (25) feet minimum radius from such work to

prevent unauthorized personnel from entering the hazard area. If the Contractor cannot establish this secure area due to operational constraints, then the work must be scheduled during off-shift hours.

Users of fall protection equipment shall perform a documented inspection of their equipment before each use. Workers shall raise and lower tools and equipment to overhead work areas through the use of aerial work platforms or ropes and tethers. Throwing or dropping tools and equipment is prohibited.

All employees engaged in structural steel erection activities that exposes them to a fall of 6 feet or greater shall be provided with and use 100% tie-off as a primary means of fall protection.

Floor Openings

Working within six feet of a floor opening (skylight, hole, open hatch, etc.) requires appropriate fall protection. Floor openings (holes) shall be protected with a fixed cover, using materials of sufficient strength to support any imposed load or to equal the design floor loading capacity, or shall be guarded by a standard OSHA-compliant fixed railing system with toe boards on all exposed sides except at entrances to stairways.

When floor openings are protected with covers, the cover shall be clearly marked: "Danger- Hole – Do Not Remove." To minimize the exposure time, openings in floors shall not be cut until the last practical moment, and then only by the Contractor who will utilize or fill this floor penetration. For example, the concrete for a floor penetration in an elevated slab may be boxed out, but the decking must be left in place to be cut by the mechanical Contractor who will utilize the penetration. Precut holes in slabs and metal decking are discouraged. The Contractor that cuts the floor opening shall be responsible to maintain it, unless "ownership" is transferred to others in the contract documents.

Ladders

The following guidelines apply to all UConn facilities per OSHA 29 CFR 1926.1053:

- 1. All ladders must be in good condition and free of any broken or defective parts.
- 2. Metal or conductive ladders are prohibited from use for electrical work or within 10 feet of overhead power lines at UConn worksites.
- 3. Any ladders with broken or split rails, rungs, steps, or any defective parts must be removed from the UConn property.
- 4. Workers shall not place ladders in door swing areas unless the door is locked or otherwise blocked from striking the ladder. Blocking exit doors may require permission from the FMBIO.
- 5. Ladders must extend a minimum of (3) three feet beyond the landing surface and be securely tied to prevent any movement. When used against beams, pipes, or similar supports, workers shall secure ladders to prevent shifting, slipping, or being knocked over.

Roof Work

Working on a roof will require appropriate fall protection (railings or warning lines with safety monitors or personal fall protection) in accordance with OSHA Standards.

Safety monitoring systems in lieu of conventional fall protection, i.e 100% tie-off or guardrails, is prohibited on any new construction projects.

Contractors shall not work on roofs without prior approval from the UConn Project Representative. Access to the roof will be controlled. Only authorized persons designated by the Contractor shall be granted

access. Contractor must obtain other appropriate permits, as needed (e.g., Hot Work, Confined Space Entry, etc.), before working on roofs.

Rooftop Exhaust Fans

UConn has developed a Rooftop Laboratory Exhaust Fan Procedure to protect its employees from potential hazards related to rooftop exhaust fan maintenance and operation and is available for review at: http://www.ehs.uconn.edu/occ/exhaust.pdf.

FIRE PROTECTION IMPAIRMENTS

- 1. Contractors shall take precautions to prevent damage to fire protection systems. Report damage immediately to the UConn Project Representative.
- 2. Except in emergency conditions, Contractors may not operate any fire protection valve/fire hydrant without prior approval of the UConn Project Representative and UConn Fire Department.
- 3. Contractors who need to disable a fire protection system shall contact the UConn Project Representative and the UConn Fire Department. Notify the UConn Project Representative of any planned fire protection impairment at least twenty-four (24) hours in advance to obtain an approval to shutdown. This applies to sprinklers, fire mains, fire pumps, and fire alarm system components.
- 4. During fire protection equipment impairments, all operations that present a fire hazard will be suspended. These would include all types of hot work. Fire protection systems should be restored as soon as possible by the end of the workday. Fire watch personnel may be required during fire system impairments.
- 5. Contractors shall not suspend materials or equipment on sprinkler pipes, valves or supports.

FIRE SAFETY

- 1. Contractors should be familiar with the location of fire alarm activation devices (pull stations), portable fire extinguishers and at least two exit routes from the work area. Contractors shall not obstruct access to exits, exit routes or fire equipment or prop open stairwell doors.
- 2. All fires shall be reported by activating the nearest fire alarm station, followed by dialing the appropriate UConn EMERGENCY NUMBER or 911.
- 3. Contractors shall be trained in the proper use of portable fire extinguishers if conducting fire watch duties. Contractor-supplied fire extinguishers shall be clearly marked and have current inspection. Contractors shall provide their own portable fire extinguishers for any hot work unless other arrangements have been made with the UConn Project Representative.
- 4. Flammable and combustible liquids are easily ignited and thus shall meet all the labeling, use, storage and disposal requirements outlined in the Chemicals and Hazardous Materials section in this document.
- 5. Only the UConn Fire Department shall open a fire hydrant or standpipe. Contractors may not use UConn fire hoses unless prior approval has been obtained from the UConn Project Representative and Fire Department. Water supply flow tests shall be arranged with UConn EHS, UConn Fire Department, Facilities and FM Global.

- 6. Contractors performing welding, torch cutting, soldering, grinding, using high temperature heat gun and other forms of "Hot Work" shall adhere to the special requirements listed in the Hot Work section of this document. Hot Work shall not be conducted during times when sprinkler systems have been impaired.
- 7. Provide a fire extinguisher as prescribed by UConn Fire Marshall in the construction areas, along with evacuation plans and Air Horns for emergency signals. The use of an air horn and evacuation plans should be described within the Contractor's Site Specific Health and Safety Plan.

FIRST AID AND MEDICAL SERVICES

Contractors are responsible for ensuring that first aid and medical services are available for their employees and for reporting and recording injuries, as required by OSHA. UConn is available to assist with emergency first aid, as necessary. Dial 911 to summon emergency assistance.

GAS PIPING PURGING AND TESTING

Whenever gas piping is repaired, extended, or newly installed, Contractors must ensure that the piping is properly purged and tested. Contractors must supply a gas purging plan to the UConn FMBIO for review and approval at least (1) business week in advance. Plans must meet the provisions of Connecticut Gas Equipment and Piping Code (CGS 29-329-1 to 29-329-4), the adopted edition of NFPA 54 for testing and the adopted edition of the NFPA 54 TIA for purging.

HOT TAP OPERATIONS

Before Hot Tap Operations are undertaken on any pressurized pipeline transmission system for gas, water, steam, or petrochemical products, the Contractor shall provide written justification to the UConn Project Representative, UConn EHS and the UConn Fire Marshall in advance of the operation. The Contractor justification must show that:

- 1. hot tap operations would be safer than a shutdown interconnection; or
- 2. continuity of service is essential and the use of a hot tap would not diminish overall safety.

The decision to allow a Hot Tap Operation to proceed is ultimately up to the UConn Fire Marshall.

HOT WORK

UConn utilizes and enforces the use of a Hot Work permit system to help minimize the risk associated with Hot Work. We encourage Contractors to provide suggestions/alternative methods on ways to avoid Hot Work. For instance, can bolted flanges be used? Can the welding be conducted outside? If Hot Work will be performed, it is UConn's expectation that Contractors document a job-specific hazard assessment. All flammable and combustible materials shall be removed from the area. The assessment also includes evaluating other work in the vicinity that has the potential to create a hazard. The Contractor shall meet or exceed all regulations and industry standards when conducting Hot Work.

Contractors shall contact the UConn Fire Department to obtain a Hot Work Permit for any temporary
operation involving open flame or which produces sparks. This includes, but is not limited to welding,
cutting, grinding, brazing, and torch-applied roofing. In order to obtain the permit, contractors shall

- present a copy of the UConn Hot Work Permit to the UConn Fire Department (Storrs Campus only). Hot Work Permits are issued by the UConn Facilities Manager at regional campuses.
- 2. The UConn Project Representative or designee will serve as the Hot Work Authorizer. The Hot Work Permit should be valid for only one job on one shift, unless other arrangements have been agreed upon.
- 3. Fire protection equipment and protective materials (fire blankets, portable exhaust ventilation etc.) shall be at the Hot Work site before the work begins. Oxy-acetylene torches shall have flashback preventers on both gas lines at the torch handle.
- 4. A designated fire watch may be required during Hot Work. The Contractor must provide trained personnel for this duty or may be required to hire a fire fighter detail for this purpose. If the fire watch observes unsafe conditions during the Hot Work operation, he/she shall stop the work until the hazard is eliminated.
- 5. The Contractor will verify Hot Work equipment is in proper working order and in a fire safe condition. As the Hot Work Authorizer, the UConn Project Representative or designee may choose to inspect the Contractor's equipment before issuing the permit and may request the removal of unsafe equipment from the site.
- 6. Contractors shall use non-combustible or flameproof shields to protect nearby personnel from direct rays of welding arcs (asbestos blankets are prohibited).

HOUSEKEEPING/MAINTENANCE OF SITE

Each Contractor and all his employees are responsible for maintaining high standards of cleanliness and orderliness; anything less is unacceptable.

Housekeeping must be addressed on a continuous basis. Sloppy work practices will not be tolerated. In occupied buildings the work area shall also be mopped daily. Hazardous, flammable, trash, and/or excess waste material is to be removed from the work area daily.

The second aspect of housekeeping is maintaining construction materials in a neat, consolidated, and organized manner. Deliveries shall be sequenced so that only one week's worth of materials at most are on site at any given time, unless the Contractor has been given a specific lay down area in the contract documents for his use. Unused or excess/scrap materials shall be promptly removed from the site.

- 1. Temporary cords or hoses shall be supported at least six feet above the floor when routed across aisles. If this is not possible, cords and hoses shall be secured to the floor and protected from damage to eliminate trip hazards. The area shall be properly marked with appropriate warning signs or traffic cones to alert pedestrian traffic.
- 2. Workers shall place waste materials in proper containers. The Contractor will keep work areas clear of form and scrap lumber and other debris. Contractors will remove all waste materials and debris daily.
- 3. Contractors will place equipment and materials so as not to block exits, aisles, doors, stairs, ladder ways, emergency equipment or electrical panels.
- 4. Workers will remove nails and other sharp objects protruding from surfaces and will sweep up loose nails and screws.
- 5. Contractors may not store tools and equipment above work areas. Workers shall not leave materials in plenum spaces such as air handling rooms.

- 6. UConn supports recycling. Contractors are encouraged to recycle discarded materials such as wood, cardboard, steel, copper, wire, etc. Contact the UConn Project Representative for proper disposition of these recyclable materials. See Recycling in Section V of this document.
- 7. Upon completion of certain projects, Contractors may be required to provide the UConn Project Representative with documentation which indicates the amount of material recycled or disposed of.

LASER DEVICES

Contractors shall inform the UConn Laser Safety Officer (LSO) (860-486-3613) directly or via the UConn Project Representative of any intent of bringing a Class 3b or 4 laser onto UConn property. The laser system and its usage must fulfill the latest specification of ANSI Z136.1 and OSHA 29 CFR 1926.54.

Contractors who will be working in a Class 3b or 4 laser laboratory at the University shall inform the UConn Laser Safety Officer (LSO) (860-486-3613) directly or via the UConn Project Representative.

LOCKOUT/TAGOUT - Control of Hazardous Energy

The Contractor will assure proper isolation and control of hazardous energy on affected equipment and machinery. Contractors will comply with the OSHA "Lock-Out/Tagout" Standard (1910.147) including training and equipping workers. Contractors are expected to maintain a written program and work cooperatively with UConn personnel for multiple lockouts. The University's Lockout/Tagout policy is for review to Contractors at: www.ehs.uconn.edu/occ/LOTO.pdf.

Lockout/Tagout procedures must be exchanged and coordination of procedures must be discussed between the Contractor and UConn during a pre-job meeting. All concerned University employees must be effectively informed of the restrictions and prohibitions associated with the Contractor's Lockout/Tagout procedures. See also the Electrical Safety section of this document.

MANUAL LIFTING/MATERIAL HANDLING

Workers who are required to lift as a routine part of their job shall have been trained in effective and proper lifting techniques. Wherever possible, workers shall use lifting aids such as carts, pallet jacks, lift gates, and hoists. Workers shall not overload carts to the point where the load is unstable or unsafe during movement. See the <u>Cranes and Hoists</u> and <u>Powered Industrial Vehicles</u> in Section IV of this document.

MOBILE EQUIPMENT/WORK PLATFORMS

- 1. Unless permitted by the UConn Project Representative, and supported by appropriate indemnification in the contract language, Contractors shall not use UConn-owned or leased aerial work platforms.
- 2. Contractors shall ensure that only trained and authorized personnel operate mobile equipment, such as extendable boom lifts, scissors-type lifts, and cranes. The Contractor shall provide trained personnel to assist the operator in clearing building fixtures or other obstructions when raising, lowering or advancing the equipment.

- 3. Contractors shall conduct a documented inspection of equipment prior to each day's use to assure it is in safe operating condition. Workers shall replace or repair defective equipment before bringing it on site.
- 4. For outdoor projects, workers may not operate cranes, aerial platforms, power shovels, or similar equipment within fifty (50) feet of overhead utilities without prior approval from the UConn Project Representative.

Aerial Lifts

Only documented, trained and authorized personnel shall be allowed to operate Aerial Lifts per 29 CFR 1926.453. Aerial lifts (boom lifts) shall only be used for lifting personnel and their tools and must not be used as material hoists. The manufacturer's load limitations and operating requirements must be complied with. Personnel working in aerial lifts must be tied off to anchorages specifically designed for that purpose (railings do not meet fall protection anchorage requirements). Aerial lifts that are not equipped with such anchorages shall not be used. Work shall only be accomplished from the floors of the baskets and must not involve climbing on basket railings, ladders, or other elevating platforms. OSHA defined Frequent and Periodic inspections will be performed in accordance with manufacturer's recommendations. Copies of these inspection reports shall be kept on site. Belting off to an adjacent pole, structure or equipment while working from an aerial lift shall not be permitted.

If the work area is not included in a chain-link fenced area, contractors shall establish a restricted work area using barricades and other appropriate controls to minimize the hazards to personnel from falling objects or lift movements. See the "SIGNS, SIGNALS AND BARRICADES" section of this document for details. The work area boundary must be created in response to the level of potential pedestrian traffic that could be expected to pass through. At a minimum, in light traffic areas, a boundary shall be set up with snow fencing on stanchions, posted with red "DANGER- Do Not Enter" tape and enough ground crew personnel to challenge any pedestrians who wish to pass through. If an unauthorized person enters the work zone, all work must stop. If the lifting work zone will be set up in high pedestrian traffic areas, then portable chain link fencing may be necessary to channel traffic around the work zone. As an option, performing aerial work during early morning hours or weekends can preclude the use of chain link fencing in these areas, but snow fencing with danger tape and ground crew requirements remain.

Contractors shall ensure that all building exits that open into the work zone are monitored by ground crew personnel to prevent pedestrians from exiting into the work area. If building exits need to be blocked, permission to do so must first be obtained from the UConn Fire Department, as these exits may be necessary for fire egress.

NOISE

Contractors are required to comply with OSHA's Noise Standard, 29 CFR 1910.95 and CT DEEP's regulations on the Control of Noise, 22a-69-1 through 7. Contractors will be asked to cease work activities when noise levels to UConn employees or students can be expected to meet or exceed OSHA's Action Level of 85 dBA (8-hour TWA). Activities can resume when engineering or work practice controls reduce the level of noise below OSHA requirements. Should this not be feasible, work must be scheduled for a time when UConn employees, students and town residents are not impacted.

Additional project-specific noise reduction measures or restrictions may also be required to minimize disruption to teaching and learning activities.

PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING

The Contractor shall provide workers with personal protective equipment (PPE) such as safety glasses, respirators, hard hats, gloves, and safety shoes when performing certain activities or when working in designated areas. Contractors shall perform workplace hazard assessments, as required by OSHA 29 CFR 1926.95, and provide required PPE accordingly. The UConn Project Representative will notify the Contractor when specific PPE is required for entering or working in a designated area at UConn. The Contractor shall ensure PPE is available, maintained, and used appropriately. The UConn Project Representative reserves the right to stop work if PPE deficiencies are noted.

- 1. Contractors must control their work zones and effectively communicate the hazards of the work zone and required personal protective equipment to all personnel requiring access to those work zones.
- 2. Contractors shall wear proper footwear and appropriate apparel and PPE when working at UConn. Sandals, open-toed shoes, sneakers, shorts, and sleeveless shirts are prohibited at UConn construction work sites. Professional appearance is required. Muscle shirts, tank tops, or tee shirts with inappropriate graphics or slogans are prohibited.
- 3. Hard hats, safety glasses and work boots are minimum personal protective equipment that are mandatory and required at all times while working on UConn construction work sites.
- 4. Contractors working near roadways shall insure work zone safety in accordance with Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD) including the use of vehicular traffic controls and workers' use of high visibility safety apparel.

POWDER-ACTUATED TOOLS

Prior to using powder-actuated tools, authorization and approval are required by the UConn Project Representative. Contractors shall ensure powder-actuated tools are used only by trained and, if required, licensed personnel. Powder-actuated tools shall not be left unattended or available to unauthorized persons. These tools may not be used in explosive or flammable atmospheres.

Explosive-actuated tools shall meet ANSI/ASSE A10.3-2006 "Safety Requirements for Powder-Actuated Fastening Systems" and all other regulatory and applicable agency standards. Workers may not use any tool that does not meet appropriate design standards.

POWERED INDUSTRIAL VEHICLES

1. Powered Industrial Vehicles (PIVs) include forklifts, powered pallet jacks, manned rail or wire-guided equipment or other vehicles that allow operators to move large or heavy loads. The Contractor shall ensure its employees or subcontractors have a valid driver's license, authorization, and have had appropriate and effective training for the operation of PIVs in compliance with OSHA standards (29 CFR 1910.178). Contractors should implement a method, such as identification badges or vests, that clearly

- identifies trained operators. Workers may not use UConn owned or leased PIVs unless they are contractually indemnified to do so or have signed a separate indemnification authorizing them to do so.
- 2. Workers operating PIVs shall conduct and document daily pre-use equipment inspections to assure that it is in safe operating condition. The documentation shall include the vehicle inspected, day of inspection and specific safety items inspected. Vehicles with malfunctioning safety features shall be tagged out and labeled "DO NOT OPERATE" and removed from service until repairs are completed. Documentation shall be made available upon request.
- 3. Diesel, gasoline or propane powered PIVs may only be used in UConn facilities when the Contractor implements approved controls such as barriers, ventilation, and/or off-hour scheduling that can ensure the safety and comfort of the UConn personnel. Additionally, prior notification shall be provided to local managers of areas that will be affected prior to operating fuel powered PIVs indoors.
- 4. Battery charging shall be performed in areas designated by UConn. Appropriate PPE will be used during all battery charging operations. Refueling shall be performed in areas with adequate ventilation. Workers shall not refuel vehicles while the engine is running.

RADIOACTIVE MATERIALS/X-RAY EQUIPMENT

Contractors shall inform the UConn Radiation Safety Officer (UConn RSO) (860-486-3613) and the UConn Project Representative of intent to bring radioactive materials such as sealed radiography sources, nuclear density gauges, or other sealed sources or radiation-producing equipment, including generally-licensed devices or equipment used for non-destructive testing onto UConn property. Notification to the UConn RSO must be made <u>at least seven business days in advance</u> of the scheduled usage of said materials/equipment on UConn property.

Contractors working with radioactive materials, sources of radiation, or servicing radiation producing equipment or devices housing radiation sources, must comply with all applicable NRC, CT DEEP, and OSHA regulations, including licensure or registration, exposure control monitoring, security and training, and UConn radiation safety procedures in addition to their own procedures. Contractors are required to control areas where they are using radiological materials or radiation-producing devices to ensure exposures are As Low As Reasonably Achievable (ALARA). The Contractor shall supply any documents requested by the UConn RSO demonstrating regulatory compliance, usage plans, and control measures. Failure to do so at least seven business days in advance of the planned work may result in project delays as deemed necessary by the UConn RSO to ensure compliance.

The UConn RSO shall be continually informed of the schedule(s) related to work involving radioactive material or x-ray equipment on a UConn campus. At the conclusion of work activities where radioactive materials were used, the Contractor shall verify that the worksite is free of any residual contamination and make notification of the verification to the UConn RSO directly or via the UConn Project Representative.

Contractors Working in Radioactive Materials Laboratories or Areas

Contract workers who do not use radioactive materials but who have access to and work in radioactive materials laboratories or areas posted with "Caution Radioactive Materials" signage as part of their routine duties must receive training by the UConn EHS Radiation Safety Office prior to working in these areas. One-time or short-term contractors may be allowed to be considered a visitor and shall be escorted at all

times by trained personnel. Contractors shall inform the UConn RSO (860-486-3613) directly or via the UConn Project Representative prior to work in radioactive materials laboratories or areas to verify training requirements and to receive training, as required. Contractors working in radiation areas or working with radioactive materials or equipment must comply with all applicable NRC regulations and UConn radiation safety procedures.

RESPIRATORY PROTECTION

UConn expects each Contractor and its subcontractors to manage their own Respiratory Protection Program. The Contractor and its subcontractors shall comply with the respiratory protection requirements of OSHA 29 CFR 1926.103.

Respiratory protection requirements for specific jobs shall be documented in the Contractor's Standard Operating Procedures, Site HASP, and the Contractor's Written Respirator Program.

SCAFFOLDS

All scaffolding, staging, and work platforms must satisfy the applicable OSHA regulations (29 CFR 1926.450) and manufacturer's erection requirements. The use of site built staging or scaffolding is not allowed unless prior approval is obtained from the UConn Project Representative and the Contractor Safety Coordinator. The proper use of scaffolding requires that:

- 1. The scaffold be erected and inspected by a trained, competent person. UConn expects scaffold erectors and users to comply with regulations and standard industry practices per 29 CFR 1926.450 452. Contractors shall train scaffold erectors and users in safe work practices and procedures.
- 2. Scaffold erectors hired by the Contractor shall work under the supervision of a "competent person" as defined by OSHA Scaffolding Standards. The "competent person" shall be within sight of the scaffold erecting activity.
- 3. Compliant scaffolding will bear a green inspection tag, signed and dated by the Contractor's competent person each shift prior to use. If the green tag is not present, or it is not signed and dated, or a red tad is affixed, the elevated work platform shall be considered unsafe for use.
- 4. Guardrail systems are required on all scaffolds when the working level is 6 feet or greater. If the configuration of the scaffold does not allow for installation of guardrails at a height of 6 feet, a yellow tag stating that 100% tie off required shall be installed at the access point of the scaffold.

SIGNS, SIGNALS AND BARRICADES

- 1. At the entrance to the construction site or locations the following signage must be posted: "Construction Area," "Restricted Area," "Hard Hats, Safety Glasses, and Work Boots Required."
- 2. When Lasers are being used "Laser in Use" Signs shall be posted.
- 3. Parking areas shall be conspicuously marked "Parking for Construction Only" or "No Parking."
- 4. In locations where construction is occurring within an active building, work areas shall be barricaded to restrict and eliminate potential access and exposures to the public.

5. Guardrails, jersey barriers, snow fence, portable chain link fencing, etc. may be used to delineate and secure work zones based on the potential exposure and traffic at the locations. Delineation of work zones, either by guard rails, jersey barriers, snow fence, chain link fencing, etc., must also warn against any potential danger or immediate danger within, and inform persons as to the proper action required (e.g., CAUTION – Do Not Enter or DANGER – Do Not Enter).

SPECIFIC REGULATED MATERIALS OF CONCERN

Asbestos

- 1. Asbestos-Containing Materials (ACM) and Presumed Asbestos-Containing Materials (PACM) exist in most University buildings. Prior to any renovation or demolition activities, including installations or repair work, an asbestos inspection by a CT DPH licensed and EPA certified asbestos inspector must be conducted. All asbestos materials that could be disturbed during work activities must be properly removed, in accordance with federal and state regulations, prior to work commencing. Contact the UConn Project Representative for information about the location of ACM/PACM, inspection data, or procedure for sampling. Written documentation of asbestos sampling results must be maintained at the worksite for use by affected employees.
- 2. Contractors shall not disturb asbestos-containing materials in UConn facilities, unless authorized and hired to do so. In order to disturb or handle asbestos, Contractors and their employees must have the applicable training, licenses, or any other qualifications necessary to perform such work safely and in accordance with Federal, State and Local regulations.
- 3. Contractors are always responsible for ensuring that any work that requires a specific license (e.g. refrigeration systems repair, asbestos/PCB abatement and removal, pesticide application, etc.) is only performed by individuals who are appropriately registered and/or licensed.
- 4. All Contractors must comply with OSHA 29 CFR 1926.1101 training requirements for their employees who may contact, but not disturb, ACM and PACM. This is considered Class IV work and requires, at a minimum, 2 hours of asbestos awareness training annually.
- 5. All Contractors must comply with OSHA 29 CFR 1926.1101 employee exposure requirements and engineering and work practice controls for materials that contain <1% detectable levels of asbestos, and are thus not identified as an ACM, nor regulated by EPA or CT DPH.
- 6. Should suspect ACM or PACM be found during work activities, the Contractor will stop all work immediately and contact the UConn Project Representative. No work shall be attempted that could result in a release of asbestos to the environment.
- 7. In the event of an asbestos emergency (release to the environment), isolate and secure the area. Immediately contact the UConn Project Representative and UConn EHS (860-486-3613) during normal business hours. After hours or on weekends, contact the UConn Fire Department (860-486-4925) and identify the nature and extent of the asbestos emergency.
- 8. No products containing asbestos shall be used, applied or installed during renovations, repairs, or new construction activities. Contractors are required to check new products to ensure they do not contain one of the identified asbestos minerals. Contractors shall verify and provide written certification, using the form in Section VI, that all material/equipment installed in any portion of the project work is asbestos free.

Lead Based Paint and Lead Containing Paint

- 1. Lead-based paint is identified by EPA, HUD, and the CT DPH, as paint containing more than 1.0 mg/cm² by XRF testing or 0.5% by weight by laboratory analysis
- Contractors conducting work in pre-1978 residences and child-occupied locations must be in compliance with EPA's Renovation, Repair, and Painting Rule that became effective April 22, 2010. Evidence of certification must be provided to the UConn Project Representative. In addition, proper notification to tenants and occupants in these locations is necessary. Coordinate this notification with the UConn Project Representative.
- 3. In University buildings where children under the age of six reside, as well as in child day care centers, group day care homes, and family day care homes, Contractors must also comply with CT DPH Lead Poisoning Prevention and Control Regulations (19a-111-1 through 11).
- 4. OSHA considers <u>all</u> paint, even post-1978 residential paint as *lead-containing* when any amount of lead is present in the paint, even if found below the aforementioned levels as identified by XRF and laboratory analysis. If any identifiable amount of lead is present in the paint, the concern is the activity to the painted surface that could cause lead to become airborne in the employee's breathing zone. Exposure levels for lead in the construction industry are regulated by 29 CFR 1926.62. Many construction activities, such as hand scraping and sanding, light demolition, grinding, welding, cutting and burning have been shown to expose workers to airborne levels of lead that exceed OSHA's Permissible Exposure Limit (PEL). Contractors must follow OSHA regulations when **any** painted surfaces can be impacted.
- 5. In commercial and industrial buildings, only compliance in accordance with the OSHA Lead in Construction standard is necessary. Lead abatement professionals and Certified Renovators are only necessary when abatement or renovation and painting activities are conducted in pre-1978 residential and child-occupied locations.
- 6. While lead test data may exist for some UConn buildings, Contractors must use documented lead-safe work practices in all University buildings, in accordance with OSHA 29 CFR 1926.62. Depending on the construction activities (grinding, sanding, etc.), a paint identified as not lead-based (<1.0 mg/cm²) has the potential for creating an airborne exposure to workers which may exceed the OSHA PEL. Contact the UConn Project Representative to review test data as necessary.
- 7. All paint chip debris/waste must be collected and a hazard determination must be performed prior to disposal. All waste must be disposed of in accordance with Federal EPA and Connecticut Hazardous Waste Management Regulations. UConn OEP or a duly authorized professional services contractor must be contacted to sign off on all waste profiles.
- 8. Contractors are always responsible for ensuring that any work that requires a specific license or certification (e.g. refrigeration systems repair, asbestos/PCB abatement and removal, pesticide application, etc.) is only performed by individuals who are appropriately certified, registered and/or licensed.
- 9. Contractors are prohibited from conducting the following activities: dry scraping or dry sanding of paint (regardless of the year applied); torch burning/welding on painted surfaces; using heat guns set above 700°F; using non-shrouded and non-HEPA filtered powered sanders, or grinders.

PCBs in Caulk

EPA and CT DEEP have recognized that some building materials, particularly caulking products, manufactured from the 1950s through 1979 contain polychlorinated biphenyls (PCBs). Such products have been used in a variety of applications in the construction, renovation, and maintenance trades, serving primarily as a water- and weather-proofing material for masonry expansion joints and in door/window systems. Although caulk is also used indoors, outdoor weatherproofing applications are the most common. Moreover, exposure to sun and weather elements degrades all caulking products over time, and can lead to break-down, deterioration, and eventual failure. Some caulks were formulated with PCBs for greater flexibility and durability, and others "job mixed" with PCBs added by the trades workers. PCBs were domestically manufactured from 1929 until their manufacture was banned in 1979 by EPA. In light of this, the following steps should be incorporated prior to any renovation or demolition project:

- 1. Contractor shall not perform sampling of any building materials for PCB content unless specifically authorized to do so by the UConn Project Representative in consultation with UConn OEP.
- Contractors shall <u>not</u> disturb any known or presumed PCB-containing materials unless specifically authorized by the UConn Project Representative, in consultation with UConn OEP, or hired to do so. In order to proceed with work involving PCB-containing materials, Contractors must be appropriately trained and qualified in accordance with all applicable Federal, State, and local requirements, including proper OSHA training.
- 3. Whenever PCB-containing caulk (confirmed or presumed), or any other materials impacted thereby (for example, adjacent substrate and/or surrounding soil), is removed, the material must be managed utilizing engineering controls and work practices which prevent contamination of surrounding materials/spaces and with the use of proper worker personal protective equipment (PPE).
- 4. The Contractor must remove and dispose of any PCB-containing materials (confirmed or presumed) in accordance with all applicable Federal and State statutes/regulations (e.g., EPA 40 CFR Part 761 and Connecticut General Statutes 22a-463 through 469) and any project specific specifications/remedial plans.
- 5. Waste profiles must be prepared for every waste stream. UConn OEP must be contacted to review all waste profiles.
- 6. UConn OEP must be contacted to sign all waste manifests to ensure proper disposal. No manifests will be signed without a corresponding profile. Permission to use the University's EPA Generator ID number must be obtained from UConn EHS through the UConn Project Representative.

STORAGE AT JOB SITE

Generally, it is the responsibility of the Contractor to secure any materials or equipment at the job site. Industrial and construction materials to be stored outside shall be approved by the UConn Project Representative after evaluation of security and environmental issues, including secondary containment requirements, storm water runoff concerns, potential for water damage or mold growth on construction materials, etc. The UConn Project Representative may designate a storage area for industrial and construction materials or project-specific storage limitations. Mechanical and electrical equipment rooms may not be used for storage. The UConn Project Representative shall approve storage areas in advance of materials being stored.

TOOLS AND EQUIPMENT

- 1. In general, Contractors shall provide their own tools, equipment and secure storage for valuable tools.

 Contractors may not use tools owned by UConn unless authorized by the UConn Project Representative
- 2. Contractors shall inspect and maintain tools in safe condition using them only for jobs in which they are intended per 29 CFR 1926.300.
- 3. Contractors shall use non-sparking tools in areas where flammable liquids or gases are stored or dispensed.
- 4. As indicated previously, portable electrical power tools, hand tools, machinery and equipment shall be approved by the appropriate agency, double insulated or have an approved grounding system. Ground Fault Circuit Interrupters (GFCI) shall be used in wet areas.
- 5. When using pneumatic tools, the Contractor shall disconnect hoses from air supply when not in use.

VAPOR and PARTICULATE EMISSIONS, AND OCCUPIED SPACES

Contractors conducting painting operations or other activities that create vapor or particulate-producing activities (sealing, grinding, sanding, welding, spraying, stripping, chemical etching, adhesive application, roofing, sweeping, etc.) must take into account the location of their activities, and the impact to UConn Staff, Faculty and Students, other contractors, active research or academic efforts. Emissions from the above-described activities have the potential to adversely affect indoor air quality and interfere with active learning.

Contractors using vapor emitting products or conducting particulate producing activities must prepare an air quality control plan that will prevent any negative impact to building occupant air quality. Contractors should be prepared to provide air monitoring equipment, ventilation equipment, and engineering controls to document and maintain acceptable indoor air quality. Materials of particular concern include products that emit high volatile organic compounds (for example, solvents), certain glycol ethers that are considered reproductive hazards, epoxy based products, byproducts of combustion, and isocyanates. Also to be considered is the location of air intakes when operating power equipment outside of occupied buildings.

In the event that suitable indoor air quality cannot be achieved, Contractors should be prepared to schedule activities outside of normal working hours, and protect their employees with an OSHA compliant respiratory protection program.

WELDING EMISSIONS

Contractor shall erect appropriate shields to prevent accidental exposure to welding emissions to students, faculty, staff and other contractors. If welding is occurring in an occupied building, the Contractor must supply a "smog hog" type filtering unit to remove welding smoke, fumes and /or vapors. An air quality control plan shall be submitted to the UConn Project Representative to address steps taken to monitor and control welding emissions.

V. ENVIRONMENTAL REQUIREMENTS

AIR POLLUTION CONTROL

Contractors must abide by good management practices to ensure that their daily activities do not adversely impact the air quality. These shall include, but not be limited to:

- Contractors shall retain fuel slips for construction vehicles/equipment that are refueled on site. UConn
 requires the use of ultra-low sulfur distillate fuel (less than or equal to 15 ppm sulfur content) for all
 equipment powered by liquid fuels including "biofuels." This includes all off-road construction vehicles
 as well as stationary units using #2 oil or diesel fuel such as emergency generators and temporary
 boilers and heaters
- 2. No open burning is allowed on the UConn Campus.
- 3. On-road and off-road construction vehicles as well as stationary fuel burning equipment shall NOT be operated near building fresh air intakes, air conditioners, entry ways and operative windows to minimize impact to indoor air quality.
- 4. Contractors shall comply with applicable visible emission standards set forth in §22a-174-18 (b).
- 5. On-road and off-road construction vehicles shall not operate for more than three (3) consecutive minutes and no more than five (5) total minutes within a 60-minute period when the vehicles are not in motion. Exceptions are made for weather extremes, health and safety and certain operational conditions set forth in §22a-174-18 (b)(3)(C).
- 6. Contractors shall prevent particulate matter from becoming airborne during construction activities. Reasonable dust control measures shall be implemented in accordance with good industrial practices set forth in RCSA §22a-174-18 (c)(1).
- 7. Contractors should implement and track a preventative maintenance plan for all equipment according to the engine manufactures specifications.
- 8. Fifty percent of construction equipment runtime should be based on utilizing equipment that has an U.S. Environmental Protection Agency (EPA) compliance rating of Tier 2 or higher. Construction equipment should have a minimum EPA compliance rating of Tier 1. Older construction equipment can be retrofit with diesel oxidation catalysts or particulate filters to meet EPA tier standards.
- 9. Solvent or other noxious emissions shall be evaluated as part of the work planning process to determine engineering control requirements prior to field implementation of the scope of work. Regulations of Connecticut State Agencies restrict and/or define the use of certain materials such as adhesives, sealants, and other VOC containing substances used in the State of Connecticut. Contractor should refer to Regulations of Connecticut State Agencies Section 22a-174.

ENVIRONMENTAL PERMITS AND LICENSES

Contractors and other service providers may be asked to work with or on behalf of UConn Project Representatives to secure environmental permits. In some cases, the Contractor may submit the permit application. Contractors are responsible for following the requirements in the environmental permits. Project permits shall be on file with the project documents and shall be made available upon request.

Under no circumstances shall a contractor use a material in an application that is banned under the Toxic Substances Control Act (40 CFR 700-799).

EROSION AND SEDIMENTATION CONTROL

When site work is conducted on the UConn campus, the Contractor shall be responsible for compliance with all applicable state and federal regulations related to Erosion and Sedimentation Control, including storm water management and construction dewatering discharges. All engineering controls shall comply with the 2002 *Connecticut Guidelines for Erosion and Sedimentation Control*, as amended, and the 2004 Connecticut Stormwater Manual, as amended. Erosion and sedimentation control measures, including protection of susceptible storm drains, shall be in place prior to project start.

All UConn projects with a total disturbed area of one or more acres (regardless of phasing) shall be registered under and managed in accordance with the CT DEEP *General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities (Construction Stormwater General Permit).* Contractors and other service providers may be asked to work with or on behalf of UConn Project Representatives to secure the *General Permit* registration. In some cases, the Contractor may submit the permit application. The contractor shall be responsible of adhering to all erosion and sedimentation control measures, including monitoring and record keeping, that are specified in the *General Permit* and supporting materials to the respective permit application.

All projects registered under the general permit will have a Stormwater Pollution Control Plan (Plan) maintained on-site. The Plan must include the following certification signed by each contractor and subcontractor identified in the Plan: "I certify under penalty of the law that I have read and understand the terms and conditions of the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities. I understand that as a contractor or subcontractor at the site, I am authorized by this general permit, and must comply with the terms and conditions of this general permit, including, but not limited to, the requirements of the Stormwater Pollution Control Plan prepared for the site." The certification must include the name and title of the person providing the signature; the name, address and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification is made.

RECYCLING

UConn encourages Contractors to recycle as much as possible, consistent with good practices and economic realities. UConn <u>requires</u> that Contractors shall recycle, at a minimum, the following materials:

- 1. Corrugated Cardboard.
- 2. Clean dimensional wood.
- 3. Glass containers
- 4. Uncoated asphalt, bricks, and concrete (ABC).
- 5. Metals including, but not limited to: stud trim ductwork, piping, reinforcing steel (rebar), roofing, other trim, steel, iron, galvanized sheet steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze.
- 6. Electronic components, computers, CRTs, printers, televisions, stereos, etc.

- 7. Used motor oil and other recyclable petroleum products.
- 8. Any other materials for which reuse, salvaging, or recycling results in a net cost that is equivalent to or less costly than landfill disposal or incineration.

Recyclable solid waste generated at UConn by Contractors and their subs will be placed in properly designated receptacles supplied by the Contractor (See also "Waste Management"). The receptacle must be in good condition, labeled with its contents (e.g., glass, cardboard, scrap metal, used oil) and, if exposed to precipitation, covered. Receptacles must be emptied on a regular basis. Contractors cannot use UConn receptacles unless otherwise approved by their UConn Project Representative.

Contractors shall not place unlike wastes in containers made available for recyclable materials and should also be aware that the State of Connecticut has banned the following waste streams from in-state incineration or landfill disposal. These items may not be included in waste destined for incineration or landfills in any quantity:

- 1. Lead-acid batteries
- 2. Leaves and Yard Waste
- 3. Whole Tires
- 4. White Goods (Appliances)
- 5. Cathode Ray Tubes (CRTs) including computer monitors
- 6. Metal, Plastic and Glass Containers
- 7. Recyclable Paper

Resale or recycling of UConn materials requires UConn/State of Connecticut approval. The Contractor must provide written evidence that resold or recycled material was disposed in the manner and location approved by UConn.

SPILL PREVENTION AND RESPONSE

The EPA Spill Prevention, Control and Countermeasure (SPCC) rule requires prevention and planned response to releases of oil to waterways (e.g., "spills" or "leaks"). SPCC plan(s) includes specific information regarding oil storage, facility drainage, spill prediction, prevention, control and countermeasures, inspections, security, oil handling procedures, personnel training and spill response as described in 40 CFR 112.

UConn maintains an SPCC plan for its main Campus and certain regional campuses that exceed the SPCC regulation threshold of 1,320 gallons of aboveground oil storage and/or 42,000 gallons of underground oil storage.

If Contractors intend to bring onto campus oil storage containers (55-gallons or greater) that in the aggregate will be greater than 1,320 gallons of capacity, then the contractor will be required to prepare their own SPCC plan in accordance with the EPA rule. (Fuel tanks on equipment do not count toward the aggregate). UConn may request the Contractor's SPCC Plan.

In the event of any spill at the Main or Depot Campuses, the Contractor is responsible for immediately reporting any and all spills to the UConn Fire Department by dialing 911 and UConn's Project Representative upon discovery.

In the event of any spill on any of the UConn Regional campuses, the Contractor is responsible for immediately reporting any spills to the local police/fire department (911) and UConn's Project Representative upon discovery.

Spills or unplanned releases include spilling, spraying, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment of any chemicals or hazardous substances, hazardous materials, oils or petroleum products.

Contractors shall be solely responsible for all environmental remediation, including all costs required to address any release of oil, fuel or hazardous material as a result of their operations at any UConn project. In the event of a release, remediation shall be completed in accordance with all applicable federal, state and local regulations, ordinances, orders and directives, UConn EHS, OEP and the UConn Fire Department. Contractors not trained or licensed to conduct environmental or hazardous material remediation shall identify an on-call vendor designated to respond to any release related to their activities. Clean-up of Contractor releases by UConn will be charged back to the Contractor(s) responsible for the release.

It is the contractor's responsibility to maintain and have spill cleanup material available in the event of a spill. Spill control kit's must be compatible with the material to be used, and sized to accommodate a failure of the largest single container they plan to import. Spill kits shall be stored on-site near work areas where oil or chemicals will be stored or used.

Operators of hydraulically operated equipment shall also maintain a minimum of one spill control kit sized to accommodate the largest reservoir in their inventory.

UTILITY STRUCTURE DEWATERING ACTIVITIES

The contractor shall direct any wastewater derived from dewatering underground utility structures (manholes, catch basins, trenches) to the UConn sanitary sewer system in accordance with the *CT DEEP General Permit for Miscellaneous Sewer Compatible Wastewaters (Miscellaneous General Permit)*. The contractor shall notify the UConn's Office of Environmental Policy (OEP) prior to discharging. The contractor shall limit the total discharge to 500 gallons per day or else shall register the discharge with CT DEEP. The contractor shall record the date and approximate amount of wastewater discharge and will provide the record to OEP. Only clean water, with neutral pH, can be discharged. If necessary, a settling pond for removal of silt before final discharge must be used. The contractor shall monitor the discharge for any suspected contaminants in accordance with the Miscellaneous General Permit.

If the Contractor identifies an alternative means of discharging or disposing the dewatering wastewater other than to sanitary sewer, the Contractor must obtain approval from UConn OEP for the alternative means. Utility structure dewatering water and manhole decant wastewater shall not be discharged back into the manhole, stormwater catch basin or trench.

Soil or sediment that has been removed from underground utility structures shall be staged at a designated staging area approved by the UConn Project Representative. Final disposal determined by the Facilities Operations Landscape Department, in conjunction with the OEP. The State of Connecticut "Guideline for Municipal Management Practices for Street Sweepings & Catch Basins" is attached as an addendum for clarification.

WASTE MANAGEMENT

Contractors generate various types of solid waste. A solid waste is a solid, liquid, semi-solid or contained gaseous material, which is to be discarded or recycled, or has served its intended purposes.

Regulated Waste

Regulated waste consists of hazardous waste, TSCA-waste (e.g. waste containing PCBs > 50 ppm), and other Connecticut-regulated waste including, but not limited to, oils and asbestos-containing materials. Contractors are responsible for determining the regulatory status of all waste generated during these activities. Documentation of the waste determinations, including analytical results, must be kept for a minimum of three years after the completion of the project. Contractors are fully responsible for all regulated waste that they generate while at UConn. Regulated waste may be generated from construction and renovation activities and a variety of other contractor's activities at UConn.

Surplus Chemical Products

Any excess or unused materials generated from raw materials that had been brought on site by the Contractor are the exclusive responsibility of the Contractor to manage in a lawful manner. The Contractor shall promptly remove any such materials from campus and shall determine whether the material is a waste at the Contractor's place of business. These materials may include, but are not limited to:

- 1. Unused solvents and solvent containing products.
- Oils, lubricants, ethylene glycol and other coolants generated by a variety of operations including maintenance of contractor's motor vehicles and equipment, or releases from contractor's motor vehicles and equipment.
- 3. Unused chemicals and other hazardous substances, such as strong acids and bases, paints, aerosol cans, etc.

Project Generated Waste

Any regulated wastes generated as a result of maintenance, renovation, or demolition of materials already on site prior to the Contractor's start of work shall be managed in coordination with the UConn Office of Environmental Policy (OEP) and the respective UConn Representative authorizing the work. These materials may include, but are not limited to:

- 1. PCBs, batteries, lead paint and other miscellaneous materials, including contaminated rags and wipes, mercury-containing lamps (i.e., fluorescent lamps) and thermometers.
- 2. Oils, lubricants, ethylene glycol and other coolants generated by a variety of operations, including maintenance of UConn equipment (e.g., elevators, generators, boilers, other fuel-burning equipment).
- 3. Regulated waste associated with hazardous building material abatement.
- 4. Soil or other site work debris.

The contactor is responsible for the marking, labeling and container management of these wastes while they are on site. UConn OEP shall be contacted by Contractors regarding regulated waste management procedures, including disposal.

UConn OEP must be contacted to sign off on all hazardous waste disposal paperwork to ensure proper disposal.

No manifests will be signed without a corresponding profile and waste determination documentation. Permission to use the University's EPA Generator ID number must be obtained from UConn EHS through the UConn Project Representative.

Solid Waste

Through daily activity, Contractors generate various types of non-regulated solid waste.

All non-regulated solid waste generated on a UConn work site (non-regulated construction debris, boxes, pallets, etc.) must be removed and properly disposed or recycled in compliance with local, state, and federal regulations.

- 1. Contractors must supply their own waste or recycling collection containers, unless other means of disposal is agreed upon with the UConn Project Representative prior to the start of work.
- 2. The receptacle must be in good condition and labeled with the Contractor's name and the container's contents.

Waste collection containers must be located under a roofed structure or covered with a waterproof top when not in use (i.e., material not actively being placed into container, etc.)

VI.	APPENDICES – Forms, Permits, Maps and Documentation Requirements

	Asbestos Certification Form
<u>UC</u>	Conn Standards
A.	Asbestos Certification Contractor shall certify that all material/equipment installed in any portion of the Work is asbestos free. The owner may perform sampling to verify all suspect material/equipment is asbestos free. If any material/equipment is found to contain asbestos, the Contractor shall pay for the lawful and proper removal and disposal of product(s), and re-install acceptable material/equipment all at its sole expense.
В.	For purposes of this requirement, materials include, but are not limited to the following:
	2.1 Surfacing Treatments Fireproofing Acoustical Plaster Finish Plasters, Skim Coats of Joint Compound, Fibrous Type Paint Applications, Sprayed-on applications
	2.2 Thermal System Insulation Equipment Insulation, Gaskets, Valve Packings, Boiler, Breeching, Boiler Rope, Duct or Tank Insulation, Cement or Mortar used for boilers and refractory brick. Piping and Fitting Insulations including but not limited to Wrapped Paper, Millboard, Rope, Cork, Preformed Plaster, Job Molded Plaster and Coverings over Fibrous Glass Insulation.
	2.3 Roofing and Siding Materials Insulation Board, Vapor Barriers, Felts, Coatings & Adhesives, Flashing, Shingles, Cementitious Board (Transite), Galbestos, Non-Metallic or Non-Wood Roof Decking
	2.4 Other Miscellaneous Materials Cove Base, Floor Leveling Compound, Ceiling & Floor Tiles, Vibration Isolators, Laboratory Tables and Hoods, Mastics, Adhesives, Coatings & Caulks, Wallboard & Joint Compounds, Friction Products, Gaskets, Fire Door Materials, Cementitious Products (Transite)
Bu	ilding: Project No.:
Th	e Contractor certifies that all material/equipment installed in any portion of the Work is asbestos free:

Contractor Signature:

Print Name:

Company:

Date:

Permit-Required Confined Space Pre- and Post-entry Review with Outside Contractors

d are permit-required confined it-required confined space properties) or other applicable industry ociated with the spaces that reduces that are normally used aces where contractor personated both University personated confined spaces.	rogram meeting the r-specific standards make them permit- to protect nnel will be working.
dures that are normally used aces where contractor person when both University personned confined spaces.	to protect nnel will be working.
aces where contractor person when both University personn red confined spaces.	nnel will be working.
red confined spaces.	el and contractor
	_
Department	Date
Company	Date
perations, on the procedures	followed and any
Date(s) of entry:	
Department	Date
Company	Date
	Company Department

complete the "Waiver and Release Form."

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Permit-Required Confined Space Waiver and Release

In consideration of the University of Connecticut furnishing services and/or equipment to enable me to enter into a permit-required confined space, as defined by the Occupational Health and Safety Administration Standard 29 CFR 1910.146 and the University of Connecticut Confined Space Entry Program and Contractor EHS Manual, I agree as follows:

I recognize and acknowledge that there are certain risks of physical injury to individuals entering into permit-required confined spaces, and I voluntarily agree to assume the full risk of any and all injuries, damages or loss, regardless of severity, that I may sustain as a result of said participation.

I, on behalf of myself, my personal representatives and my heirs, hereby voluntarily agree to forever release, waive, discharge, hold harmless, defend and indemnify the University of Connecticut. the State of Connecticut and their agents, officers, employees, and successors from any and all claims, actions or losses for bodily injury, property damage, wrongful death, loss of services, or otherwise, which may arise out of my use of equipment belonging to or services rendered by the University of Connecticut, the State of Connecticut and their agents, officers, employees and successors. I specifically understand that I am releasing, discharging and waiving any claims or actions that I may have presently or in the future for the negligent acts or other conduct by the owners, agents, officers or employees of The University of Connecticut.

I HAVE READ THE ABOVE WAIVER AND RELEASE AND BY SIGNING IT AGREE IT IS MY INTENTION TO EXEMPT AND RELIEVE THE UNIVERSITY OF CONNECTICUT AND ITS AGENTS, OFFICERS AND EMPLOYEES FROM LIABILITY FOR PERSONAL INJURY, PROPERTY DAMAGE OR WRONGFUL DEATH CAUSED BY NEGLIGENCE OR ANY OTHER CAUSE.

Print Name	Signature	Date
Company	Address	City

Contractor Emergency Contact Information Sheet

Contractor name:		
Contractor Emergency Contact	:	
	Office #	Cell #
UConn Project Name:		
UConn Project Representative:		
	Office #	Cell #
UConn Project Representative:		
	Office #	Cell #
UConn Facilities Work Order Co	ontrol # (860) 486-3113	
UConn Building & Emergency C	ontact:	
	Office #	Cell #
UConn Project Locator Designa	tion:	

Emergency Services
Police 911
Fire 911
Medical assistance 911

When reporting an emergency, please provide the following:

- Your name, phone number and location;
- The location of the incident (building name, floor and room number);
- Nature and extent of the incident (injury, accident, spill, smoke/fire, damage, etc.);
- The name and amount of the material spilled (if applicable); and
- The safest route to the spill (if applicable).

UConn emergency response personnel (UConn Fire Department) will be dispatched immediately. The Contractor shall wait at the nearest location deemed safe until emergency response personnel arrive.

VII. UCONN WEB SITE REFERENCE PAGE

Web addresses

UConn Alert Notification System/Emergency Information http://alert.uconn.edu

University Planning, Design and Construction (UPDC) http://updc.uconn.edu/

Facilities Operations and Building Services http://fo.uconn.edu

Division of Environmental Health and Safety (UConn EHS) www.ehs.uconn.edu

Office of Environmental Policy (OEP) http://envpolicy.uconn.edu/

Fire Marshal and Building Inspector's Office (FMBIO) http://fmbio.uconn.edu

UConn Fire Department http://fire.uconn.edu

Locksmith Department http://www.locksmith.uconn.edu

Office of Capital Projects and Contract Administration www.cpca.uconn.edu

Parking Services http://park.uconn.edu

VIII. CONTRACTOR RECEIPT ACKNOWLEDGEMENT FORM

(one form to be completed by the contractor and each of its subcontractors prior to commencing work)

ACKNOWLEDGEMENT OF RECEIPT OF THIS MANUAL "CONTRACTOR EHS MANUAL --UConn EHS REQUIREMENTS FOR CONSTRUCTION, SERVICE AND MAINTENANCE CONTRACTORS"

NAME, ADDRESS AND TELEPHONE OF COI	
BRIEF DESCRIPTION OF WORK:	
CONTRACT/WORK ORDER No:	
We	(Company Name) acknowledge
receipt of the UConn document "Contrac	tor EHS Manual". We have read this manual and
receipt of the UConn document "Contrac will ensure all persons engaged by us ab	tor EHS Manual". We have read this manual and ide by the conditions prescribed throughout the
receipt of the UConn document "Contrac	tor EHS Manual". We have read this manual and ide by the conditions prescribed throughout the
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receipt of the UConn document "Contrac will ensure all persons engaged by us ab document and implement a documented Name (Printed): Title: Signed:	tor EHS Manual". We have read this manual and ide by the conditions prescribed throughout the disciplinary process for all violations. Date:
receipt of the UConn document "Contrac will ensure all persons engaged by us ab document and implement a documented Name (Printed): Title: Signed: Please supply copies of this manual	tor EHS Manual". We have read this manual and ide by the conditions prescribed throughout the disciplinary process for all violations. Date:
receipt of the UConn document "Contrac will ensure all persons engaged by us ab document and implement a documented Name (Printed): Title: Signed: Please supply copies of this manual PLEASE COMPLETE AND MAIL, FAX or EMA	tor EHS Manual". We have read this manual and ide by the conditions prescribed throughout the disciplinary process for all violations. Date: