



HARVARD
Campus Services
ENVIRONMENTAL HEALTH & SAFETY

HARVARD UNIVERSITY

Environmental Health & Safety

Service Contractor Safety Guide

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Campus Services
ENVIRONMENTAL HEALTH & SAFETY



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INTRODUCTION

The information provided in this guide is advisory in nature. It is not intended to represent and/or replace the contractor’s safety and environmental standard operating procedures or requirements under local, state, or Federal regulations. This information sets forth Harvard’s expectations for its contractors to safely provide their services while on our campuses and in our buildings.

Harvard University is committed to the safety, health, and protection of our students, faculty, staff, the public, as well as, our service contractors and the environment. It is therefore expected that all persons and entities performing work or providing services to the University will commit to maintaining Harvard’s values, goals, and objectives, as outlined within this guide.



1.0 GENERAL INFORMATION

1.1 Application

This guide is applicable to all Service Contractors that perform work for Harvard or Harvard University Property and meet the following criteria:

1. The project does not meet the criteria of a Capital Project, AND
2. The project is classified as a demolition project, or
3. The project is classified as a renovation project, or
4. The project is classified as a maintenance activity, or
5. The project is classified as a “term” project.

Projects considered to be “maintenance activities” may include, but are not limited to:

1. Hazardous material abatement,
2. Structural building maintenance (i.e. roofing, painting, masonry, carpentry),
3. Electrical maintenance,
4. Plumbing maintenance,
5. Mechanical systems maintenance,
6. Cleaning and refurbishing,
7. Landscaping,
8. Pest control
9. Tree pruning, planting or removal, and
10. All other general repairs for the purpose of preventing degradation and/or to maintain an original condition.



If the project does not meet these definitions the Contractor must follow Harvard EH&S [Construction Environmental Health and Safety Standard](#).

1.2 Definitions

Term	Definition
Capital Project	Projects processed through the University Construction Authorization Process (CAPS); typically, large scale projects (>\$ 100,000) for the purpose of construction, alteration, renovation and/or repair, including extensive painting and redecorating.
Contract Coordinator	The person(s) responsible for identifying the need for the work, hiring the Contractor, distributing the Service Contractors Safety Guide and maintaining the contract. In most cases, the Contract Coordinator will be one of the following Harvard personnel: <ul style="list-style-type: none">• The Property/Facility/Building Manager• Trades Director/Supervisor• Project Manager
Competent Person	One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.
Demolition Project	Refers to projects, which are not part of a Capital Project that involves maintenance and renovation activities whose intent is the demolition or removal (disposal) of existing structural building components (greater than 1 sq. ft.).



Term	Definition
Harvard Community	Refers to all Harvard employees, visiting contractors, faculty, students, persons visiting or traveling through Harvard property and private citizens in the vicinity of Harvard property, as well as, the environment, facilities and properties owned by Harvard University.
Health & Safety Plan	The safety plan, owned by each individual Service Contractor, which outlines the requirements, policies, procedures, responsibilities, goals, and accountability structure specific to the Service Contractor.
Maintenance	A routine or periodic event for the purpose of preventing degradation and/or to maintain an original condition.
Non-Permit Required Confined Space	A space that meets OSHA's definition of "Confined" but contains no serious health or safety hazards.
OSHA	Occupational Safety and Health Administration, working under the authority of the U.S. Department of Labor. OSHA is responsible for the enforcement of the Occupational Safety and Health Act of 1970 and charged with the promulgation of standards under this Act.
Painting, Construction	Painting projects that coincide with the construction of a new structure or piece of equipment and/or a renovation involving the removal of existing paint for the purpose of re-painting. This type of painting is classified as a construction activity and is subject to the requirements of the <i>Construction Environmental Health and Safety Standard</i> .



Term	Definition
Painting, Routine	Painting projects that involve the re-coating of already painted structures. This type of painting is classified as a maintenance activity and is subject to the requirements of the <i>EH&S Service Contracts Safety Guide</i> .
Pedestrian Route of Travel	Public and private walkways, corridors, paths, roads and sidewalks.
Pest Control	Any efforts to trap, repel, kill or otherwise mitigate or prevent a pest-related problem. Pest issues are to be brought to the attention of the EH&S Environmental Public Health office for regulatory and operational guidance.
Project Hazard Analysis	The PHA shall be conducted by the Service Contractor to identify the following: major hazards anticipated as they relate to the scope of work, methods the Service Contractor will employ to manage/mitigate/abate/reduce the hazards, and the responsibility for each of the management/mitigation/abatement/reduction techniques.



Term	Definition
Soil Disruption	<p>Any form of work which disrupts soils below grade, including but not limited to:</p> <ul style="list-style-type: none">• Excavations,• Trenching,• Shoveling, <p>The introduction of a foreign object into the soil, such as tent spikes or fencing posts (etc.).</p>
Term Project	<p>Any contract that requires a Service Contractor to routinely or periodically conduct work on Harvard property for the purpose of maintaining a Harvard owned entity. Contracts typically are valid for a specific period or term.</p>
Unsafe Act	<p>Any act performed by the Contractor or Contractor’s employees that results in non-compliance with Harvard safe work practices, local, state and federal regulations and the requirements of this Guide.</p>

1.3 Standard EH&S and Security Rules

Any Contractor or Service Contractor employee who is found in violation of the following safety and security rules, will be subject to removal from Harvard property.

- No acts of violence, or any other criminal act,
- No possession or use of alcoholic beverages or illegal or regulated drugs not prescribed by a physician, [smoking/vaping on worksites or within Harvard buildings]
- No possession of explosives, firearms, ammunition, or other weapons,



- No deliberate violation of safety or security rules,
- No destruction or removal, without written permission, of any property belonging to Harvard University, the property owner, employee, or other Contractors or employees,
- No Illegal dumping, handling, or disposal of hazardous materials,
- No intimidating, threatening, harassing, impeding or interfering with a regulatory agency, EH&S inspector, security officer, or other Harvard University employee or designated representative,
- No misuse of fire prevention and protection equipment,
- No unauthorized removal or destruction of a safety barricade, handrail, guardrail, warning sign, fall protection, or other safety devices, equipment or structures intended to protect Harvard's students, faculty, employees, neighbors or property,
- No performing work without the appropriate local, state, and federal licenses, certifications and permits.

In addition to these rules, the Contractor is also obligated to comply with all local, state, and federal regulations and the Harvard University Police Department ["Playing it Safe"](#) handbook.

If unsafe work conditions or actions are observed by the Contract Coordinator, EH&S or any Harvard University representative, the work will be stopped and the Contractor will be required to implement corrective action(s) to eliminate the hazard(s).

1.4 EH&S Permits and Procedures

The following hazardous operations **require approval** of the Harvard University Contract Coordinator **prior to execution**:

- Interruption of electrical, steam, chilled water systems or other energized systems through control of hazardous energy/lockout-tagout,



- Performing burning, welding, cutting, soldering, or any other type of hot work,
- Performing work in a confined space,
- Erecting scaffolding or other elevated work surfaces,
- Lifting or hoisting with cranes, derricks, hoists,
- Excavation, trenching or any work that disturbs soils,
- Disturbing materials which may contain lead, PCB's or asbestos,
- Working with hazardous materials (including solvents and paints),
- Working on an elevator including removing waste oil, wastewater, or oily water from an elevator shaft,
- Generating hazardous wastes (including waste oil),
- Discharging waste into any sanitary system,
- Discharging waste into a storm drain,
- Disposing of or transporting hazardous waste,
- Using a gas, diesel, LP (propane) or any type of internal combustion engine indoors,
- Operating a power vehicle or self-propelled work platform,
- Working on a roof,
- Working on heating, ventilation, or air conditioning equipment,
- Working on fire protection/detection systems,
- Installing a temporary electrical service,
- Working on security systems,
- Installing any combustion equipment, either permanent or temporary,



- Using powder-actuated tools,
- Using a laser,
- Using radioactive sources or conducting field radiography (x-ray),
- Working with or storing compressed air/gases,
- Working on a chemical or biological fume hood,
- Working on a solvent storage cabinet,
- Moving emergency equipment (fire extinguishers, first aid kits, etc.) provided by Harvard,
- Applying any pesticide formulation, whether considered a 'general use' or 'restricted' product.
- Harassing or feeding wildlife or removing their nests.

Special Rules for Operations Involving Utilities

- For high voltage shutdowns/start-ups: The contractor must, in a timely manner, identify, notify and coordinate with the local Harvard or non-Harvard authority, such as, Harvard University Engineering & Utilities (E&U), Harvard Longwood Campus – Medical School or School of Public Health Facilities Office, Eversource, etc. The contractor must communicate their shutdown/startup plan to the Contract Coordinator who will ensure that all internal notifications are made in a timely manner.
- Any suspect or actual PCB-containing substance that is observed or discovered by the Contractor in the course of their work should be reported to the Contract Coordinator immediately.

Special Rules for Operations Involving Lockout/Tagout of Machinery, Pipes, etc.

- If you intend to service or maintain equipment that contains a hazardous energy (i.e. electrical, mechanical, thermal, etc.) and could cause injury if it were to unexpectedly start up, you must



adhere to lockout/tagout procedures you intend to follow (See **Section 3.13** for additional requirements for lockout/tagout).

Special Rules for Operations Involving the Use of Hazardous Materials

Harvard owns and operates buildings that may have been built with hazardous materials, including asbestos, PCBs and lead/lead paint.

- You are required to request information from the Contract Coordinator regarding the presence or potential presence of these hazardous materials;
- If no specific information is provided, you must assume hazardous materials are present. You are required to work with Contract Coordinator to ensure proper agency notification(s) are made, your employees are aware of the hazards and are properly trained and qualified to work around/with these materials.

1.5 Housekeeping

It is the responsibility of the Contractor to maintain a clean and safe working environment. Work areas must be kept clean, orderly and free of trash and debris. Every job conducted at Harvard must be performed in compliance with the OSHA 1910.22, applicable Building and Fire Safety Codes. Additional requirements are listed below.

- Storage of equipment and materials in emergency egress routes, exit access, exits and exit discharge locations including but not limited to stairwells and hallways is strictly prohibited.
- Upon completion of the project, the Contractor must remove all surplus materials and equipment left over from the job, unless otherwise specified by the Contract Coordinator.
- Any dumpster used on the project must meet applicable local requirements. At a minimum must be designed to be pest proof and kept closed.



1.6 Accident, Incident, Injury, or Illness

After notifying the appropriate emergency agency (e.g., 9-1-1, or the Harvard University Operations Center 617-495-5560), work related accidents, incidents, injuries, and illnesses must be immediately reported to the Harvard University Contract Coordinator or representative. The Contractor is responsible for notifying OSHA, the EPA or other appropriate regulatory agency of any incidents that are reportable to those agencies.

1.7 Communicable Disease

In the event of a communicable disease outbreak or pandemic that impacts campus operations, it is likely that contractors may still be engaged to perform essential activities to support these operations. Harvard wants to ensure that all its operations are conducted in a manner that prevents the spread of illness and will expect its contractors to integrate preventive practices into the execution of their work. All service contractors will be required to monitor and comply with all federal and state guidelines and local requirements while on Harvard's campuses. As a result, service contractors may be asked to submit modified project and workplans or a Health and Safety Plan (HASP) that addresses preventive practices to be integrated into the execution of their work to address public health guidelines. The effective communication of these modifications to work practices to your on-campus personnel is essential to keep your workforce and the Harvard community protected and healthy.

Modifications to their normal work practices may include, but are not limited to:

- Zero tolerance policy for sick workers on campus
- Good hygiene practices (e.g. frequent handwashing, cough/sneeze etiquette, etc.)
- Social distancing
- Use of additional personal protective equipment including face coverings
- More frequent communications with Harvard



- Training
- Employee illness reporting, contact tracing and workplace exclusion
- Contingency plan and reporting if a worker test positive

1.8 Auditing, Inspections and Corrective Actions

The Contractor is responsible for conducting regular audits and inspections to ensure that the work is being conducted in accordance with the appropriate local, state and federal regulations and this guide. To ensure the safety and well-being of the Harvard Community, EH&S reserves the right to inspect the Contractor's work area at any time and without notice.

In the event a hazardous working condition or unsafe act is created by the Contractor, the actions described below will be taken.

1.9 Unsafe Working Conditions

In the event of an unsafe or hazardous work condition, it is the responsibility of the Contractor to stop all work until safe and normal operations can resume.

All unsafe and hazardous conditions that have the potential to impact the safety and health of the Harvard community must be immediately reported by the Contractor to the Contract Coordinator and the Harvard University Operations Center (617-495-5560).

1.10 Training, Competent Person, Project Hazard Analysis (PHA), Permits and Licenses

Contractors and their employees who work on Harvard property must be trained, in accordance with OSHA regulations, as well as any other applicable local, state and federal regulations. The Contractor must be able to provide proof of training for its employees at the request of the Contract Coordinator or a representative of EH&S.



In addition, the Contractor's employees must possess and carry on their person, all applicable licenses, permits, certifications, training cards or other proof of training required for the type of work they are performing.

The Contractor must designate a Competent Person responsible for operational oversight involving the following areas/activities:

- Aerial Lifts
- Asbestos
- Confined Space
- Compressed Air and other gases
- Concrete & Masonry
- Cranes & Derricks
- Demolition
- Electrical
- Excavation & Trenching
- Fall Protection
- Hearing Protection
- Ionizing Radiation
- Ladders
- Lead
- Material/Personnel Hoists & Elevators Handling
- Pesticides
- Respiratory Protection
- Rigging Equipment for Materials Handling
- Scaffolding
- Steel Erection
- Welding & Cutting

The Contractor is required to identify and submit name(s) of chosen designated Competent person to Harvard Contract Coordinator. The designated Competent person must be capable of identifying existing and predicable hazards including unsanitary, hazardous, dangerous conditions and authorized to take corrective measures. The Competent person shall complete a Project Hazard Analysis (PHA) identifying major hazards relating to scope of work, methods Contractor will employ to manage, mitigate and abate the hazards.



1.11 Pedestrian and Occupant Safety

When working in public walkways, occupied buildings or any other location near, on or above areas where pedestrian traffic exists, the Contractor will take all necessary precautions to ensure that pedestrians are directed away from the work area and any potential hazards.

Specific Requirements

- The Contractor is responsible for ensuring a safe route of travel when re-directing pedestrian traffic.
- The route of travel established to re-direct pedestrian traffic must be free of hazards and clearly labeled with large signs that contain the following or similar language:

“PEDESTRIAN WALKWAY”

- Acceptable equipment for redirecting pedestrian traffic may include signage and:
 - Jersey barriers,
 - Portable guardrails,
 - Construction fencing,
 - Temporary catwalks, bridges or ramps,
 - Caution tape and/or cones,
- If the Contractor is unable to secure a safe route of travel for pedestrians, the Contractor must provide a police or traffic detail to direct pedestrian traffic away from the work area.
- The Contractor is required to provide a police officer on all projects that are conducted on public roads.
- If work will impede a means of egress or exit discharge, permission must be obtained by the local fire department. In addition, egress route impediments must be communicated to facility



occupants and updated, or temporary egress maps must be posted. For additional information on emergency egress please see [Section 3.15](#) of this guide.

1.12 Use of Harvard Owned Equipment

The use of Harvard owned equipment and tools by an outside Contractor is prohibited, excluding the following:

- Fixed Ladders and Stairs
- Certified Anchoring Points (with inspection and testing documentation)

Any use of Harvard-owned equipment will be done at the contractor's risk and the contractor must ensure the equipment is appropriate for the intended use. Harvard makes no warranty to the contractor on their use of Harvard equipment.

2.0 Environmental

2.1 Hazardous Waste Management

Hazardous waste generated by a Contractor as part of their work must be properly identified, stored and disposed of in accordance with all applicable local, state and federal laws. The Contractor must provide Harvard University Contract Coordinator a list of hazardous waste(s) that will be generated and coordinate with Contract Coordinator to determine suitable location(s) for hazardous waste accumulation and storage. The Contractor must also ensure, at a minimum, proper labeling, adequate secondary containment, segregation of incompatible materials and routine inspection of storage areas as required by law. In addition, all hazardous waste containers shall be constructed of a material that is compatible with the waste, shall be in sound condition, and shall be kept securely closed at all times in accordance with MADEP regulations {310 CMR 30.00}. Containers and/or tanks used to store hazardous wastes must be managed in accordance with MADEP regulations and must be inspected weekly.



The Contractor is responsible for completing all disposal documents, which may include, but are not limited to, waste analytical samples, waste profiles and hazardous waste manifests. Only those facilities approved by Harvard University's EH&S Department will be accepted as hazardous waste disposal sites.

The selection of the disposal site must be coordinated with EH&S prior to shipping out the material. Harvard University (EH&S Department, 46 Blackstone St., Cambridge, MA 02139) shall be designated as the "Mailing Address" on all documents and shall be provided with copies of all waste analyses, land disposal restriction forms and related documentation for review at least five (5) working days prior to shipment.

Only an EH&S representative can sign the manifests as the "Generator." At the time of shipment, the Contractor shall present the manifest to the EH&S representative for their review, signature and the distribution to the appropriate agencies.

Contractor employees must be properly trained in hazardous waste procedures. In the event a Contractor encounters previously unidentified material that is reasonably believed to be hazardous (i.e. infectious, biomedical, radioactive, corrosive, flammable, toxic, explosive, oil-based or asbestos containing) the Contractor shall immediately stop work in the affected area and report the condition to the Contract Coordinator or Harvard University Operations Center. The Contractor agrees to cooperate with the Contract Coordinator and any consultants engaged by the Contract Coordinator to perform services with respect to the detection, analysis, containment, treatment, removal and disposal of such regulated materials.

2.2 Transport of Hazardous Materials

All transportation of hazardous materials while on Harvard University property shall be conducted in accordance with USDOT Hazardous Materials Regulations for proper packaging, marking/labeling, handling, documentation, etc. At no time, should hazardous materials be transported via public or private roads at Harvard University in a manner that could result in an



unsafe condition for personnel or the environment. Any person signing paperwork, packing materials, labeling or marking shipping containers must be trained in accordance with all US DOT Hazmat training requirements.

2.3 Spill Prevention and Control

Harvard University's Spill Prevention Control and Countermeasures (SPCC) Program establishes University-wide procedures for the prevention and detection of spills and/or releases of oil or hazardous materials, including the following:

- The Contractor shall have available equipment (e.g., secondary containment pallets, absorbent pads, absorbent booms and speedi-dry) that is suitable and sufficient to control a potential spill/release of any oil or hazardous chemicals brought on-site.
- The Contractor is responsible for identifying environment pathways (e.g., sumps, storm/floor drains, etc.), developing plans to minimize potential and address spills that may reach or impact these pathways.
- The Contractor is responsible for the proper storage of all flammable and combustible chemicals that are brought and are stored on-site to complete the work of the contract. Such storage may require the use of safety containers, safety cabinets, and/or secondary containment. The Contractor shall also ensure that any incompatible chemicals are properly segregated. The Contractor is responsible for maintaining and securing all chemical containers and all chemical storage areas. This requires selecting locations and methods to minimize exposure to rainfall, surface water, and the ground surface or subsurface. Enclosures, shelters, and secondary containment should be used, where appropriate.
- The Contractor must use appropriate protective procedures, such as, double containment, employee training, overflow protection, and other measures as part of activities involving the use, storage, or handling of petroleum products or hazardous materials on Harvard University property.



- The Contractor must ensure that his or her employees are adequately trained in spill procedures outlined below.

The SPCC Program also establishes reporting requirements in the event of a spill or release of oil or hazardous materials. In the event of a release or spill, the Contractor must follow all of the reporting requirements of the SPCC Program as specified below:

1. Any spill or release of hazardous materials must be reported to the Harvard University Operations Center (617-495-5560) to ensure proper reporting and clean-up procedures are followed.
2. The Contractor shall extinguish all sources of ignition and isolate incompatibles or reactive chemical substances.
3. The Contractor shall determine if the spill/release is *incidental*¹ or *non-incidenta*².
4. **For incidental spills/releases:**
 - The Contractor shall attempt to stop or contain the spill/release at the source, provided that doing so does not endanger anyone.
 - The Contractor shall prevent discharge of materials to environmental receptors including drains, sumps, soil, etc.

¹ **“Incidental”** spills meet **ALL** of the following criteria: 1) personnel are familiar with hazards associated with the spilled material; 2) containment/response does not pose potential health and safety hazards (e.g. fire, explosion or chemical exposure); 3) a small quantity (less than 10 gallons) of oil is spilled/released which **DOES NOT** reach the environment or pose potential health hazards or is deemed hazardous; and 4) spilled/release material can be readily absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate area or by maintenance personnel.

² **“Non-incidenta**” spills include 1) major spills/release (e.g. greater than 10 gallons of oil) that do not reach the environment or 2) any amount of spilled material that escapes to the environment (including drains, sumps, soil, etc.).



- The Contractor shall immediately notify the Contract Coordinator and the Harvard University Operations Center (617) 495-5560 of all incidental spills/releases.
- The Contractor is responsible for the proper collection, storage and disposal of waste materials in compliance with EPA and DEP regulations and in cooperation with the Contract Coordinator.

5. For non-incidentals spills/release:

- The Contractor shall immediately report the spill/release to the University Operations Center at (617) 495-5560. The Operations Center will notify the University's Environmental Health & Safety (EH&S) Department.
- The Contractor shall follow the steps for incidental spills/releases identified in item (4) above, provided that it is safe to do so. If it is deemed necessary to engage a professional spill cleanup company, Harvard's EH&S Department will coordinate the cleanup through the Contract Coordinator at the expense of the Contractor.
- Harvard's EH&S Department will coordinate ALL reporting to outside agencies and will conduct follow-up written notifications if necessary, at the expense of the contractor.
- Contractor shall conduct a post incident analysis and communicate corrective actions required to prevent recurrence to Contract Coordinator and EH&S Department.

Air Emissions

Air permits are typically required before installation of equipment that is a source of air pollution. In general, any equipment that burns fuel or emits air pollutants to the outdoor air may need a permit and have to be installed and operated in accordance with EPA and MassDEP Requirements.

This equipment includes:

- Boilers, Engines, Turbines;
- Emergency Generators;



- Refrigerant Containing Devices (\geq 5lb reservoir)
- Cooling Towers;
- Paint Spray Booths;
- Lab Hoods;

For this equipment, EHS provides the following services:

- Manage communication with regulatory agencies on issues including obtaining or modifying existing permits,
- Providing technical information, resources and training during design, construction and operation.
- Vendors should be prepared to supply technical information that aids in permitting and recordkeeping efforts.

2.5 Stormwater and Wastewater

2.5.1 Stormwater

Projects that disrupt over one (1) acre of land must adhere to the EPA's Phase II Stormwater requirements. These projects are required to obtain a NPDES permit and implement best management practices. The Contractor is responsible for obtaining such permits before the start of work and must coordinate this with the EH&S Department. Please refer to the EPA Storm Water [Permitting Decision Tree](#).

Projects completed in Cambridge are subject to Cambridge regulations specific to stormwater management. Any documentation submitted to Cambridge related to the installation of stormwater treatment devices must first be review with Harvard EH&S for consistency with guidelines for maintenance that EH&S has established with Cambridge.



2.5.2 Wastewater

Harvard University's wastewater discharges are regulated by the Massachusetts Water Resource Authority (MWRA). The discharge of any wastewater must adhere to these permit requirements and MWRA Specific Prohibitions (360 CMR 10.00).

While all buildings, regardless of their operation are subject to MWRA requirements, not all buildings will need an MWRA permit. Wastewater may not be discharged from a building until it is determined that a permit is not required, the permit has been received, or the permit was submitted and conditionally approved by the MWRA.

Requirements include but are not limited to:

- No discharge of mercury, silver or other metal-bearing wastewater
- No discharge of highly corrosive substances ($5 < \text{pH} < 10.5$)
- No discharge of flammable or semi-volatile materials that could create a hazard for Harvard University personnel or MWRA treatment works personnel.
- No discharge of a non-routine or episodic wastewater including large volumes of water, glycol, or other materials that may otherwise be considered non-hazardous.

The Contractor must identify all wastewater streams for the Contract Coordinator and obtain approval for drain discharge from the EH&S Department prior to initiating any discharge. In addition, for excavation projects, the Contractor is responsible for obtaining and adhering to the MWRA Dewatering permitting process and notifying EH&S prior to any discharge.

2.6 Biological/Chemical/Radioactivity Hazards

Some Harvard University operations involve the use of biological, chemical, or radioactive material that can be hazardous to Harvard's students, faculty or employees if not handled safely. Areas where work with biological, chemical, or radioactive materials is being performed will be marked with appropriate signs. Contractors are prohibited from entering these areas (without prior



approval from Contract Coordinator) and do not handle hazardous biological, chemical, or radioactive material unless it is part of the contracted work and the Contractor is specifically trained to do so.

2.7 Asbestos Containing Materials (ACM)

Asbestos was used as an additive in various building materials. Disturbing, handling, abatement, and disposal of asbestos containing materials is highly regulated and shall only be conducted if such activities are part of contracted work, employees are specifically trained and licensed by the state of Massachusetts to perform such activities. In addition, the Contractor must be pre-qualified by the Harvard EH&S Department as an Asbestos Contractor. Asbestos Contractors shall communicate with the Contract Coordinator and the EH&S Department for specific requirements for abatement work including transportation and disposal of asbestos containing materials.

The Contractor shall not disturb, damage, or otherwise handle any suspect asbestos containing material (see the list at the end of this section) unless the Contract Coordinator has provided specific documentation that the material has been tested and does not contain asbestos. If the Contractor encounters a suspect asbestos containing material that is untested or damaged in any way, the Contractor shall immediately stop work in the affected area and report the condition to the Contract Coordinator. Further, if the suspect material is accidentally disturbed and becomes airborne, the Contractor shall also immediately notify the University Operations Center at (617) 495-5560.

The Contractor shall not sweep, dust, vacuum or mop any debris or dust from suspect asbestos containing material. The Contractor must not pick up or throw away any suspect asbestos-containing waste or trash.

If it is part of the Contractor's work, stripping of floor finishes shall be done using wet methods and low abrasion pads at speeds lower than 300 rpm. The Contractor shall take care not to overstrip floors and shall stop stripping immediately upon removal of the old surface coat. Sanding



of flooring material is strictly prohibited unless it is part of your contracted work and you are specifically trained to do so.

Suspect Asbestos Containing Building Materials

- Cement Pipes
- High Temperature Gaskets
- Electrical Wiring Insulation
- Cement Wallboard
- Lab Hoods/Benches/Gloves
- Chalkboards
- Spackling Compounds
- Fire Blankets/Curtains/Doo
rs
- Roofing Shingles and Felt
- Flooring Backing
- Elevator Equipment Panels
- Base Flashing
- Construction Mastics
- Elevator Brake Shoes
- Thermal Paper Products
- Acoustical Plaster
- HVAC Duct Insulation
- Caulking/Putties
- Decorative Plaster
- Boiler Insulation
- Adhesives
- Textured Paints/Coatings
- Breeching Insulation
- Wallboard
- Ceiling Tiles and Lay-in Panels
- Pipe Insulation
- Joint Compound
- Spray-applied Insulation
- Cooling Towers
- Vinyl Wall Coverings
- Blown-in Insulation
- Electrical Cloth
- Asphalt Floor Tile
- Fireproofing Materials
- Heating and Electrical Ducts
- Vinyl Sheet Flooring
- Taping Compounds
- Electrical Panel Partitions
- Vinyl Floor Tile
- Packing Materials (wall/floor penetrations)
- Ductwork Flexible Fabric Connectors



Note: In addition to being considered a suspect asbestos-containing material, building caulking may also contain regulated levels of Polychlorinated Biphenyls (PCBs), depending on the age of building construction. Unless specifically trained and licensed by the state of Massachusetts to perform such activities, Contractors shall not disturb, damage, or otherwise handle, building caulking unless Harvard has provided specific documentation that the material has been tested and does not contain either asbestos or PCBs.

2.8 Lead

Unless the Contract Coordinator provides a specific lead paint inspection, Contractor's should assume that any painted surface they come in contact with is coated with lead-based paint. Therefore, Contractor's should not perform any intrusive, dust-generating work on painted surfaces (e.g., drilling, cutting, brazing, scraping, and demolition), unless the surface has been confirmed to be non-lead or unless such work is part of your contracted work and you are specifically trained and qualified to do so.

Any suspect lead-painted surfaces that have loose, flaking, chipping paint or paint that is otherwise not intact should not be impacted by the Contractor and should be reported to the Contract Coordinator immediately.

Lead Safe or abatement Contractors should coordinate with the Contract Coordinator and the EH&S Department for specific requirements of lead abatement work.

2.9 Pest Control

All work activities of a Contractor and the Contractor's employees and subcontractors must be performed in manners consistent with prevailing federal, state and municipal regulations and to minimize pest intrusion, propagation and damage.



Specific Requirements

- If a Contractor or his or her employees see evidence of cockroaches, rats, mice, ants or other pests during the course of their work, they must notify the Contract Coordinator immediately.
- The Contractor must not use any insecticide products on University property unless such activities have been reviewed and approved by EH&S in advance, are part of the contracted work, and the contractor is licensed as a pesticide applicator by the MA Department of Agricultural Resources.
- Any new or existing penetrations created or used for installation of MEP/IT or for other purposes must be sealed to prevent passage of fire, smoke and pests. All sealing must be consistent with prevailing and applicable codes for fire stopping. In the case of a penetration passing through a wall, ceiling or floor, both sides of the penetration must be sealed, even if the code requires sealing only one side. The current version of the [Harvard University Construction Integrated Pest Management Standard](#) details relevant construction requirements and activities.
- Exterior doors and windows must be maintained closed or appropriately screened to prevent passage of pests. They may be opened to allow passage of personnel and supplies, but closed at all other times.
- Any abandoned waste or stormwater plumbing must be completely removed or permanently capped. Expanding 'test plugs' are suitable for temporary closure, but not for permanent use. In no case may waste lines be plugged with paper, rags, bags or tape of any kind.
- Any corroded or breached waste plumbing must be reported to the Contract Coordinator and Project Manager as soon as it is detected. The integrity of the pipe must then be established by the Contract Coordinator before it is sealed behind partitions.



- Any food or food wastes within the work area must be secured in pest-resistant containers and removed from the site by the close of work each day. No foods or food wastes (including boxes, wrappers and beverage containers) may remain on site overnight.
- Pest management devices (including, but not limited to traps and stations) must be protected from damage. In the event that any traps or stations are damaged, the Contractor must notify the Contract Coordinator immediately.
- At no time will the Contractor maintain buckets, wheelbarrows, tarps, tire casings or other vessels in a manner that may catch or hold water (and thereby support mosquito development) for more than four days. Similarly, trenches, swales, sump pits or other depressions must be protected by being pumped to dryness, covered to prevent mosquito development, or evaluated and treated by a licensed pesticide applicator.
- The Contractor will ensure that the work site is maintained orderly, with minimal collections of debris. Construction equipment and supplies must be staged in manners that discourage rodent nesting within or beneath.
- For additional details and specific information, refer to [EH&S Pest Control website](#).

3.0 Occupational Safety

The following sections (3.1-3.16) refer to occupational and life safety requirements for Service Contractors who perform work at Harvard. Regardless of whether or not a specific requirement is listed here, contractors must perform work in compliance with local, state and federal regulations.

3.1 Aerial Lifts

Aerial lifts used on Harvard property must be operated and maintained in accordance with applicable OSHA regulations, this guide and the following ANSI standards:

- ANSI "Manual of Responsibilities," MRA92.5-2006 Boom-Supported Elevating Platforms



- ANSI “Manual of Responsibilities,” MRA92.6-2006 Self-Propelled Elevating Work Platforms

Specific Requirements

- The Contractor is responsible for developing, implementing and maintaining an Aerial Lifts Program in accordance with applicable local, state and federal regulations as it applies to the work of the contract. The Contractor must have a copy of their program readily available and must be able to produce a copy at request of Contract Coordinator or EH&S.
- Only trained employees are permitted to operate aerial lifts on Harvard property.
- The Contractor must maintain a training program that includes the issuing of training completion cards. The Contractor’s employees must carry their cards with them at all times.
- Aerial lifts used on Harvard property must be inspected, operated and maintained in accordance with local, state and federal regulations and the manufacture’s recommendations.
- At no time, will the Contractor position or maneuver an aerial lift above pedestrian traffic or other employees.
- Prior to operating any lift, the Contractor must install barriers, signs or other acceptable means to redirect pedestrian traffic and isolate the work area.

3.2 Basic Electrical Safety

All work activities involving the installation, removal or maintenance of electrical components must be in compliance with 29 CFR 1910.301 Subpart S – “Electrical,” NFPA 70E and applicable local, state and other federal regulations.

NFPA 70E encompass safety-related work practices, safety-related maintenance requirements, and safety requirements for special equipment. The Standard includes guidance for making hazard identification and risk assessments, selecting appropriate PPE, establishing an electrically safe work condition, and employee training.



Specific Requirements

- Only qualified electricians are permitted to work on electrical systems and equipment that uses or controls electrical power.
- Energized electrical work is strictly prohibited.
- Hotwiring or tapping into Harvard owned circuit panels and breakers are prohibited.
- Use only properly guarded and grounded outlets while working inside Harvard buildings.
- Use only properly guarded outlets protected with ground fault circuit interrupter when working outside or near wet conditions.
- Contractors may only use equipment that has been certified by UL® or another nationally recognized testing lab. If the contractor makes modification to the equipment that nullifies the certification, that equipment must be removed from Harvard property.
- Cords must be in good working condition and incorporate a ground prong. Electrical cords that are damaged beyond permitted repair or are missing the ground prong must be removed from service.
- Should a circuit breaker trip, ensure that a qualified electrician checks the circuit and equipment and corrects the problem before resetting the breaker. Only a qualified electrician is allowed to reset the breaker more than once.
- Erect barriers and post warning signs to ensure unauthorized personnel, pedestrians and occupants stay clear of the work area.
- Report hazards (lack of protective guards or covers, damaged equipment, etc.) to the Harvard University Contract Coordinator.
- Do not leave electrical boxes, switch gear, cabinets, or electrical rooms open when not directly attended. Insulate energized parts when covers have been removed or doors are ajar. Only



manufacturer approved UL (or equivalent) rated blanks, plates and guards may be used to protect electrical components.

- Ensure that grounds, covers, plates, blanks, etc. are in place at the end of each workday.

3.3 Compressed Gas Use

Work activities involving the transportation, storage, care and use of compressed gas cylinders and their associated components must be in compliance with applicable OSHA standards, local, state, other federal regulations, best management practices and industry standards as developed by the Compressed Gas Association (CGA).

Specific Requirements

- The Contractor is responsible for developing, implementing and maintaining a Compressed Gas Cylinder Program in accordance with applicable local, state and federal regulations as it applies to the work of the contract.
- The Contractor must have a copy of their program readily available and must be able to produce a copy of the program at the request of the Contract Coordinator or EH&S.
- Valve protection caps must be in place when compressed gas cylinders are transported, moved, or stored.
- Close cylinder valves and replace valve covers when work is complete and when cylinders are empty or moved.
- Secure compressed gas cylinders in an upright position in a welding cart or to a solid object (using chains, straps, or a rigid retaining bar). Secure compressed gas cylinders on an approved carrier while being transported.
- Keep cylinders at a safe distance or shielded from welding or cutting operations. Do not place cylinders in areas where they can come in contact with an electrical circuit.



- Flammable gases must be removed from the building at the end of each workday and stored in a location/cage approved by the Contract Coordinator.
- Keep oxygen and flammable gas regulators in proper working order and a wrench in position on the acetylene valve when in use.
- If not manifolded together, separate oxygen and flammable gas cylinders by 20 feet or a 5 foot high, 30 minute fire rated barrier.
- Cylinders must not be taken into or stored in confined spaces, including gang boxes and office/storage trailers.
- Do not store cylinders in unventilated or closed containers or areas.
- Do not leave behind partially filled or empty cylinders; remove them from the job site upon completion of project.
- Ensure that all hoses, valves and fittings are maintained in good condition.
- Secure cylinders in a manner that protects them against damage, misuse, theft or vandalism.

3.4 Confined Space

Contractors will comply with all applicable and pertinent confined space entry requirements of OSHA 29 CFR 1910.146, 1910.269 or 1926.1200.

Harvard defines "Mechanical Spaces" as confined spaces outside a building, used for the purpose of water, steam and telecommunication distribution.

In addition, Harvard defines "Non-Permit Required Confined Spaces" as a space that meets the requirements of a confined space but does not contain a serious safety or health hazard.

Contractor entry into any of these spaces requires adherence to all applicable local, state, Federal regulations and University requirements identified below.



Specific Requirements

- The Contractor is responsible for developing, implementing and maintaining a Confined Space Program, in accordance with applicable local, state and federal regulations as it applies to the work of the contract.
- The Contractor must have a copy of their program readily available and must be able to produce a copy of the program at the request of the Contract Coordinator or EH&S.
- Contractors responsible for reading, understanding and adhering to University confined space signage. This signage is unique to each location, provides a description of the space, and lists associated hazard(s).
- Entries into “Permit Required Confined Spaces” must be approved by the Contract Coordinator.
- Prior to any confined space entry, and upon completion of task and exit from confined space the contractor must contact the Harvard University Operations Center (617) 495-5560.
- If during the course of work, the Contractor encounters a confined space, or suspect confined space, not previously identified by the University or is missing a sign, Contractor is to halt entry and immediately communicate to Contract Coordinator and EH&S. Entry must be postponed until hazard assessment is performed by EH&S and appropriate signage posted.
- If the scope of the Contractor’s work involves physically altering the confined space in a manner that would impact the hazard assessment for that space, then they must communicate these changes to Contract Coordinator and EH&S.
- When University personnel and Contractor personnel are working in or near confined spaces, the Contractor shall coordinate operations with the affected University personnel before entry.



3.5 Cranes & Hoists

Contractors who conduct work activities that require the use of Cranes and Hoists, must operate them in accordance with applicable OSHA regulations, as well as, local, state and other federal regulations and this Guide as it applies to the work of the contract.

Specific Requirements

- Contractors must verify that each crane, rigging, or hoist brought onto Harvard University property have an annual inspection performed by a 3rd party certified testing agency.
- Contractors must verify that operators possess a valid Massachusetts hoisting license. Documentation of this license shall be made available for review to the Contract Coordinator. At no time, shall loads be hoisted by a non-licensed operator.
- The Contractor will notify the Contract Coordinator and EH&S of all lifts.
- All hoisting activities, require the completion of a Hoist Plan or Critical Lift Plan. The Hoist Plan shall be submitted to the Contract Coordinator for EH&S's review ten (10) working days in advance of the lift.
- All rigging must be performed by qualified riggers as defined by 29CFR Part 1926.1401. Documentation of qualifications for riggers shall be provided to the General Contractor with the Crane Hoist Plan/Critical Lift Plan.
- All signal-persons must be qualified in accordance with 29CFR Part 1926.1428. Documentation of qualifications for signalpersons shall be provided to the General Contractor with the Crane Hoist Plan/Critical Lift Plan.

3.6 Demolition Work

Contractors whose work will include disturbing building materials must first review the hazardous materials survey data. If the materials to be disturbed **do not** contain hazardous materials then Demolition related notifications are required. Notification must be filed with the Massachusetts



Department of Environmental protection 10 working days prior to the start of work. Use form:
[BWP – AQ-06](#).

In accordance with 310 CMR 7.09, MassDEP requires notification ten (10) working days before the start of construction or demolition of building components. This notification requirement is designed to protect public health and the environment by ensuring that the release of dust or other potentially hazardous air pollutants to the ambient air will be prevented. Please note that “working days” are Monday through Friday and do not include Saturdays, Sundays or holidays.

- Hazardous Material Sampling (Selective)
- AQ06
- ANF-001

In addition, when work includes use of following tools on concrete, brick, block, stone, mortar, and other materials that contain crystalline silica, the contractor must perform work in accordance with OSHA Crystalline Silica Standard.

- Stationary masonry saws; Handheld power saws; Walk-behind and Drivable saws;
- Rig-mounted core saws or drills;
- Handheld and stand-mounted drills (including impact and rotary hammer drills);
- Dowel drilling rigs; Vehicle-mounted drilling rigs;
- Jackhammers and handheld powered chipping tools;
- Handheld grinders; Walk-behind milling machines and floor grinders;
- Drivable milling machines; Crushing machines; and heavy equipment and utility vehicles when used to abrade or fracture silica-containing materials (such as hoe-ramming or rock ripping) or during demolition activities.



Further, Contractors must submit a written exposure control plan to Contract Coordinator specifying engineering controls and dust mitigation measures such as water, ventilation and containment which will be utilized to limit generation and migration of dust from work zone.

3.6.1 Safeguarding Construction, Alteration, and Demolition Operations

Contractors engaged in construction, alteration or demolition of a structure must follow requirements of The Massachusetts Comprehensive Fire Safety Code (527 CMR 1.00) and issue an independent, Project-Level NFPA 241 Plan for each project. The plan must identify and provide measures for preventing or minimizing fire damage to structures and address specific fire protection, life safety, and safeguards that are appropriate for the scope of work at hand.

3.6.2 Fire System Impairments

Temporary system impairments, required to support scheduled building maintenance activities, must be coordinated with the Building Manager, Project Manager and the Harvard Fire Group.

3.7 Excavations, Trenching and Disruption of Soil Below Grade

Contractors who disrupt soil below grade must do so in accordance with OSHA29CFR Part 1926.650 through 1926.652, 520 CMR 14.00, this Guide and all other applicable local, state and federal regulations. Work subject to these requirements shall include, but are not limited to:

- Excavations
- Trenching
- Grading
- Shoveling
- The introduction of a foreign object into the soil such as tent spikes or fencing posts, sampling equipment (etc.).



Specific Requirements

- Prior to conducting any type of soil disruption, the Contractor must first notify Dig Safe, at least three (3) days in advance and notify Contract Coordinator. The notification must comply with state and local regulations. In addition, the Contractor's Competent Person is responsible for pre-excavation determination of the protective systems to be employed during all phases of excavation, including sloping/benching, shielding, and/or shoring as part of the Project Hazard Analysis (PHA) (see Section 1.9).
- The Competent Person shall be present during all excavation activities.
- Such work will comply with public protection of requirements of Jackie's Law (520 CMR 14.00) that requires trenches greater than 3' in depth be protected when left unattended. Acceptable protection includes 6' high fence panels surrounding the trench with gaps no greater than 4" between/below fence sections, by covering the trench with $\frac{3}{4}$ " steel plates or equivalent.
- The Contractor must use barriers, fencing, signage and/or other acceptable forms of warning devices to deter pedestrians from entering the area where excavations and trenching activities are being conducted.
- Excavations six (6) feet or greater in depth require fall protection, in the form of guardrails. Guardrails shall be installed as the excavation progresses.
- No soil, concrete, asphalt or other construction and demolition debris may leave Harvard property before being appropriately characterized and approved by EH&S.

3.8 Hand and Portable Power Tools

Contractors, whose job duties require them to work with hand and portable power tools, must do so, in accordance, with applicable OSHA regulations as well as local, state and other federal regulations and the requirements of this guide.



Specific Requirements

- Contractors are prohibited from using Harvard owned hand and portable power tools.
- Contractors may only use hand and portable power tools that are certified by UL® or another nationally recognized testing lab.
- If the Contractor makes modification to the tool that nullifies the certification, that tool must be removed from service.

3.8.1 Hand and Portable Power Tools - Powder-Actuated

Powder-actuated tools are not permitted in occupied Harvard buildings without the approval of the Contract Coordinator. The use of powder-actuated tools must be in compliance with CFR 1926.302 "Powder Actuated Tools," as well as local, state and other federal regulations and the requirements of this guide.

Specific Requirements

- The Contractor is responsible for developing, implementing and maintaining a Hand and Portable Power Tools Program in accordance with applicable OSHA regulations as it applies to the work of the contract. The Contractor must have a copy of their program readily available and must be able to produce a copy of the program at the request of the Contract Coordinator or EH&S.
- Contractors who operate powder-actuated tools must be properly trained in their use and carry a valid operator's card provided by the equipment manufacturer.
- Each powder-actuated tool must be stored in its own locked container when not in use.
- A sign at least 7 inches by 10 inches with bold face type reading "POWDER-ACTUATED TOOL IN USE" must be conspicuously posted at each entrance to the work area when the tool is being used.
- Powder-actuated tools must be left unloaded until they are actually ready to be used.



- Powder-actuated tools must be inspected for obstructions or defects each day before use.
- Powder-actuated tool operators must use appropriate personal protective equipment such as hard hats, safety goggles, safety shoes and ear protectors.
- When work is completed, spent cartridges must be removed by the Contractor.

3.9 Hazard Communication

It is the Contractor's responsibility to communicate hazards associated with chemicals/ products they use to their employees and members of the Harvard Community. The methods for communicating these hazards must be, in accordance, with applicable OSHA regulations, as well as, local, state and other federal regulations and the requirements of this Guide.

Specific Requirements

- The Contractor is responsible for developing, implementing and maintaining a Hazard Communication Program, in accordance, with applicable OSHA regulations as it applies to their work. The Contractor must have a copy of their program readily available and must be able to produce a copy at request of the Contract Coordinator or EH&S.
- The Contractor must submit an inventory of chemicals/products to be brought on-site to the Contract Coordinator, prior to the startup of the project.
- The Contractor will provide Safety Data Sheets for each chemical/product listed in the chemical inventory to the Contract Coordinator and maintain additional copies of the SDS's onsite.
- Chemical containers, either permanent or temporary, must be labeled, in accordance, with applicable local, state and federal regulations.
- The Contractor must ensure that containers brought on-site for the storage of hazardous chemicals (e.g., gas, paint, etc.) are inspected and comply with applicable regulations.



- The Contractor must remove chemicals/products that it brings on-site when the work is complete (unless otherwise directed by Contract Coordinator).
- The Contractor may request and review Safety Data Sheets for any chemicals that are encountered on University property during the performance of its work.

3.10 Hazardous Materials

Contractors who work with hazardous materials must do so, in compliance, with applicable OSHA regulations, as well as local, state and other federal regulations and the requirements of this Guide.

- Contractors must ensure products and/or chemical are stored and used in a manner to ensure stability and avoid the possibility of hazardous reactions.
- The use of solvents, paints, or similar flammable, toxic, or irritating materials is prohibited in areas occupied by Harvard University employees, faculty or students, unless specifically approved, in writing, by the Contract Coordinator.
- Contractors must maintain adequate ventilation in areas when paints or solvents are used.
- Flammable paints and solvents must be stored in approved flammable liquid storage cabinets when kept inside buildings. No below grade storage of Class I Flammable Liquids.

3.11 Hot Work

Work activities classified as “Hot Work” must be conducted in compliance with applicable parts of OSHA 29CFR 1910, OSHA 29CFR 1910, 527 CMR 1, this Guide, all other applicable local, state and federal regulations.

Specific Requirements

- The Contractor is responsible for developing, implementing and maintaining a Hot Work Program in accordance with applicable OSHA regulations as it applies to the work of the



contract. The Contractor must have a copy of their program readily available and must be able to produce a copy of the program at the request of the Contract Coordinator or EH&S.

- Contractor is responsible to apply for/ obtain all necessary hot [permissions](#) and permits.
- (through building permit from Inspectional Services or fire department if work is not being performed under a Building Permit issued by Inspectional Services).
- In addition, the Contractor must also execute Harvard's internal [Hot Work Permit](#).
- Each person involved in hot work operations (permit authorizer, operator and fire watch) is required to possess a valid National Fire Protection Association (NFPA) certificate number.
- The Contractor will provide one employee per Hot Work activity who will act as the fire watch to stand by with an approved fire extinguisher for welding and burning operations in accordance with OSHA regulations and permit requirements.
- The fire watch must remain in the area for a minimum of 60 minutes after the hot work is completed to ensure the site is cold.
- Hot work activities must be suspended 60 minutes before the end of each work period and before any scheduled breaks.

3.12 Ladders & Scaffolding

Contractors who work with ladders and scaffolding must do so, in compliance, with applicable OSHA regulations 29CFR 1910.23 & 29CFR 1926.1053, requirements of this Guide as well as local, state and other federal regulations.

Specific Requirements

- Ladders used on Harvard property must be made of a non-conductive material unless the Contractor's Competent Person identifies and documents that there are no electrical hazards. Use of aluminum extension ladders is allowed only for exterior work (e.g., painting or other



similar short-term activity) on existing structures, where the contractor, can demonstrate that no potential electrical hazards exist, and the use of scaffolding or aerial lifts is not a feasible alternative.

- Portable ladders and staging including but not limited to extension ladders, step ladders, job made ladders and Baker staging shall be the Contractor's sole responsibility to maintain and use according to the applicable regulations.
- At the completion of the work, Contractor-owned ladders must be removed from Harvard Property by the Contractor.
- Scaffold public protection requirements. A temporary fence shall be provided around the perimeter of above-ground operations adjacent to public areas. Perimeter fences shall be at least six (6) feet high. They may be constructed of wood or metal frame and sheathing, wire mesh, or a combination of both. When the fence is adjacent to a sidewalk near a street intersection, at least the upper portion of fence shall be open wire mesh.
- Where work must be performed above building entrances and exits, whether on the construction site or part of a public area, canopies shall be installed and enclosed so as to fully protect pedestrians from falling objects. These canopies shall be capable of withstanding the maximum forces that could be applied from potential falling objects, considering the maximum fall distance from the elevated work area to the canopy. Temporary lighting shall be provided as necessary where canopies impact existing lighting conditions. This is the responsibility of the Contractor.
- In areas adjacent to public walkways or travel ways, canopies shall be installed and enclosed so as to fully protect pedestrians and vehicles from falling objects. These canopies shall be capable of withstanding the maximum forces that could be applied from potential falling objects, considering the maximum fall distance from the elevated work area to the canopy. This is the responsibility of the Contractor.



3.13 Lockout-Tagout - Control of Hazardous Energy

Work activities involving the control and isolation of hazardous energy must be in compliance with 29 CFR 1910.147 – Control of Hazardous Energy Sources (Lockout/Tagout). As stated in this standard, locks and tags must be used to control the start-up of equipment that is being serviced or maintained by its employees. At no time shall the Contractor or its employees override any locks or tags that they encounter during the performance of their work.

Specific Requirements

- The Contractor is responsible for developing, implementing and maintaining a Lockout/Tagout Program in accordance with applicable OSHA regulations as it applies to the work of the contract. The Contractor must have a copy of their program readily available and must be able to produce a copy of the program at the request of the Contract Coordinator or EH&S.
- The Contractor must contact Harvard University Engineering & Utilities (E&U) for shut down and startup of utility systems.
- The Contractor will maintain a log of machines and equipment that are locked out and/or tagged out during the performance contract work. This log shall identify the equipment worked on, the date work was performed and the name of the individual performing the work. The Contractor will submit this log to the Contract Coordinator on a monthly basis.

3.14 Machine Guarding

Contractors whose work activities require them to work with a piece of equipment that incorporates a guard designed to protect the operator from injury, must comply with OSHA 1910 Subpart O – “Machinery and Machine Guarding” and 1926 Subpart I – “Tools - Hand and Power” respectively. Contractors must also comply with other applicable local, state and other federal regulations and the requirements of this Guide.



Specific Requirements

- Contractors whose work activities involve the removal of a machine guard must replace the guard when the work has been finished.
- Equipment and tools where the safety guard has been removed, bypassed, damaged or otherwise disabled must be either repaired, so that the guard functions properly according to the manufacturer's guidelines or removed from service.

3.15 Means of Egress

The Contractor must ensure safe and accessible egress routes for the building occupants when conducting work activities in an occupied building. Contractors whose activities might impede an occupant's means of egress must develop and implement alternative methods for emergency egress

that maintains compliance with OSHA, the 527CMR1, and other applicable State and Local Building Codes.

Once an alternative means of egress has been implemented, the Contractor must communicate these changes to the building occupants. Acceptable methods for communicating the changes to a facility's egress routes may include:

- Posting temporary Emergency Evacuation Maps that indicate the egress routes that are unavailable and that direct the employees to alternate egress routes.
- Designating an employee whose sole job duty will be to redirect building occupants to the next available egress route.
- Barriers and temporary exit signs that re-route the pedestrian traffic to an alternate means of egress.

Only after the contractor has received permission from the Contract Coordinator and/or the Facility Manager will he or she be allowed to shut down a building's egress route and implement



the alternate means of egress. Additional approval may be required from the local fire department.

3.16 Personal Protective Equipment (PPE)

Contractors whose work activities present a physical and/or health hazard that cannot be eliminated by engineering or administrative controls must provide their employees with personal protective equipment (PPE). The management, training and distribution of PPE must be done in compliance with applicable OSHA regulations as well as local, state and other federal regulations and the requirements of this guide.

Specific Requirements

- Contractors are responsible for issuing their own PPE to their employees and for training their employees in the proper use, maintenance and care of the equipment.
- Contractors are prohibited from using Harvard owned PPE.
- PPE must be removed from the job site/work area by the contractor when the work is completed.

3.16.1 Respiratory Protection

The Contractor is responsible for developing, implementing and maintaining a Respiratory Protection Program in accordance with applicable OSHA regulations as it applies to the work of the contract. The Contractor must have a copy of their program readily available and must be able to produce a copy of the program at the request of the Contract Coordinator or EH&S.

3.16.2 Hearing Conservation Program

The Contractor is responsible for developing, implementing and maintaining a Hearing Conservation Program in accordance with applicable OSHA regulations as it applies to the work of the contract. The Contractor must have a copy of their program readily available and must be able to produce a copy of the program at the request of the Contract Coordinator or EH&S.



3.17 Fall Protection

Contractors whose job duties require them to work at elevations greater than 4 feet must work in compliance with applicable sections of 1910 Subpart D – Walking - Working Surfaces, 1926

Subpart M-Fall Protection as well as local, state and other federal regulations and the requirements of this Guide.

Specific Requirements

- The Contractor is responsible for developing, implementing and maintaining a Walking-Working Surfaces (Fall Protection) Program in accordance with OSHA regulations as it applies to the work of the contract. The Contractor must have a copy of their program readily available and must be able to produce a copy of the program at the request of the Contract Coordinator or EH&S.
- Each Contractor will provide their own fall protection equipment including but not limited to:
 - Portable Guardrail System
 - Designated Area Warning Line Systems
 - Safety Net Systems
 - Personal Fall Protection Systems, such as fall arrest, travel restraint or positioning systems
- Anchorage points intended to be used by the Contractor must be capable of supporting a minimum of 5000 lbs.
- Contractors who need to use Harvard owned anchorage points must first obtain copies of the most recent anchor inspection and certification. The inspection must have been completed by a qualified individual within the last year and a certification of each anchorage by a professional engineer, at least within the last 10 years or as required by manufacturer. If the



inspection or certification of anchorages within these time frames are unavailable they must be inspected or tested prior to the Contractor using them.

- Holes, openings, unprotected sides and edges and any other fall hazard must be covered, guarded or protected in accordance with CFR 1910. Subpart D and applicable regulations in CFR 1926. Under no circumstances may a Contractor leave an exposed fall hazard unattended or unguarded.
- Contractors working in areas situated above pedestrian and/or employee routes of travel must erect barriers and warning signs that restrict, re-route pedestrian and employee traffic from the area or provide adequate overhead protection from falling object hazards. Overhead protection must be capable of withstanding the maximum forces that could be applied from potential falling objects considering the maximum fall distance from the elevated work area to the top of the overhead protection.

3.18 Powered Industrial Trucks

Contractors, who work with Powered Industrial Trucks such as a forklift, must do so in compliance with applicable OSHA regulations as well as local, state and other federal regulations and the requirements of this Guide.

Specific Requirements

- Only trained employees are permitted to operate powered industrial trucks on Harvard property.
- The Contractor must maintain a training program that includes the issuing of training completion cards. The Contractor's employees must carry their cards with them at all times.
- Powered industrial trucks speeds may not exceed 5 miles per hour while being operated on Harvard property. The Contractor must establish a refueling station for its powered industrial trucks and ensure that fuels are stored properly.