

SAFETY HEALTH & ENVIRONMENT

- 1.1 ARCHITECT/ENGINEER (A/E) INSTRUCTIONS (Section number 01 35 23 or where the instruction is most applicable)
- A. The first section of this appendix contains instructions to the A/E. The subsequent sections of this appendix contain language which can often that must be incorporated into the design documents.
1. A Safety, Health and Environment section shall be included in the specification documents for each university project.
 2. Related Sections: Include, but are not limited to, the specification sections that are listed in 1.2.B. Note that individual sections may not be part of every project.
 3. Hazardous Materials: A determination needs to be made by an Asbestos Hazard Evaluation Specialist (AHES) during the design phase of each renovation or demolition project as to whether a hazardous materials assessment is to be required of materials that might be disturbed as a result of the project. There is an asbestos NESHAP requirement that a hazardous materials assessment (including asbestos) must be performed prior to any construction or renovation, especially if this material is known or suspected of being present. EHS can provide advice and assistance with regards to this task. Review specific project needs with the University Project Manager.
 4. Additional Safety Requirements: Notes may need to be added to drawings to highlight special methods of equipment removal and installation. If procedures involve a roof opening, indicate the opening on drawings and specify the need to provide appropriate warning signage, barricades and/or safety railings around the opening to provide for worker safety throughout these procedures.
 5. Crane Safety: Include language regarding crane safety on the appropriate site drawing(s). Show allowable crane locations on the appropriate site drawing(s).
 6. Refrigerant Recovery: If work will necessitate refrigerant recovery then the University Project Manager or A/E should contact the appropriate person in Operations to make arrangements to recover the refrigerant.
 - a. Add a drawing note that the contractor is to ensure that there is no escape of refrigerant during removal of existing refrigerant, piping, equipment and during all AC related work. All work is to be done by technicians appropriately certified to handle refrigerants and using equipment registered (if required) with the EPA.
 7. Construction Dust: Identify who will have the on-site responsibility for ensuring that the contractor(s) are doing a good job with respect to housekeeping, dust control, and potential tracking of mud onto the roads.
 8. Fluorescent Light Bulbs: Show a general note on general demolition or electrical demolition drawings: Unless the fluorescent light bulbs and ballasts

are going to be re-used, these items are to be carefully removed and stored for proper disposal as “Universal Waste” as required by the EPA. This would include all other types of light bulbs such as incandescent, sodium, mercury, etc. These materials cannot be disposed as demolition waste. Contact Environmental Health and Safety (EHS) for containers, as well as pickup and disposal arrangements at 614-292-1284. There is no charge for these services; seven days advanced notice is required to schedule with EHS (separate notice for container delivery and also for pickup).

- B. Hazardous Materials Abatement - When abatement is a part of the project, the specification will need sections (see Division 02) to address the proper abatement procedures to be followed. Sections are needed to address abatement of asbestos piping insulation, floor tile, drywall mud, lead paint, and any other hazardous materials impacted. These sections need to reference the use of an abatement consultant (usually identified) to provide oversight, review and inspect the abatement work and work procedures and to conduct and/or audit the required clearance sampling. Locations of hazardous materials are to be identified on the appropriate drawings.
- C. Planning for the removal and disposal of equipment (including ductwork) should take into account whether this equipment has been subject to exposure to radioactive, chemical, and/or other hazardous substances.
- D. Evaluate proposed equipment for the potential for noise and vibration generation. Select and specify equipment that generates the least amount of noise and vibration (all other factors being equal).
- E. Locate generator exhaust away, as much as feasible, from building air intakes (from both this project building and from nearby buildings).
- F. No work shall be performed in any area occupied by the public or university employees unless approved by the University Project Manager.
- G. The Contractor shall post emergency first aid information.
- H. Roof Replacements - If a roof replacement is to be performed, consideration should be given for the location of the kettles (if any) for the new asphalt roof materials, so as to minimize the potential air contamination problem in adjacent occupied buildings. Follow OSHA fall protection regulations.
- I. Provide for an eyewash/safety shower in any laboratory or other location, such as a maintenance room or chemical prep room, where chemical exposure potentially occurs. Include in a separate specification when applicable.
 - 1. The eyewash/safety shower needs to be located within 10 second travel distance (approximately 50 ft) of a point of potential accidental exposure to a chemical or biological substance deemed hazardous. This distance will vary depending on the nature of the chemicals that are used. The device should not be obstructed or be located near other hazards such as electrical outlets and panels. The device is to be provided with tepid and/or tempered water as per the latest American National Standards Institute (ANSI) emergency eyewash standard ANSI Z358.1. Drains are required for all eyewashes and safety showers.

- J. Design of fixed ladders must meet applicable OSHA requirements (refer to 29CFR1910.27) and ANSI standards.

SECTION 01 35 23 SAFETY, HEALTH, and ENVIRONMENT

PART 1 – GENERAL

The following standards are requirements for all Ohio State University renovation and construction projects and are applicable to all contactors/vendors working on and/or within the confines of Ohio State University property. These standards are enforceable by the contracting authority of The Ohio State University.

The Ohio State University is dedicated to providing a safe and healthy environment for students, patients, staff, visitors and contractors. Safety is paramount to the productivity, quality and morale of this institution.

These standards are stated to summarize the safety rules and procedures contractors and their employees must adhere to while performing construction/renovation projects at The Ohio State University.

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 and 02 Specification Sections, apply to this Section.

1.2 SUMMARY

These guidelines are stated to summarize the safety rules and procedures for construction/renovation projects within Ohio State buildings.

Specific enforceable guidelines are provided for the OSU Wexner Medical Center.

- A. References: In addition to publications referenced in the construction contract clauses, the following Code of Federal Regulations (CFR) and other publications designate and define hazardous materials and conditions and establish procedures for handling these materials and conditions. Omission of any publication in this section does not remove any obligation or legal requirement on the part of the contractor to comply with all legal requirements for the location of the work.
 1. 29 CFR, Part 1910: Occupational Safety and Health Administration (OSHA) General Industry and Health Standards
 2. 29 CFR, Part 1926: OSHA Construction Industry Standards.
 3. 40 CFR, Part 61: National Emission Standards for Hazardous Air Pollutants.
 4. 40 CFR, Part 261: Environmental Protection Agency (EPA) Characteristics of Hazardous Waste.
 5. 40 CFR, Part 761: EPA Polychlorinated Biphenyls (PCBs), Manufacturing, Processing, Distribution in Commerce and Use Prohibitions
 6. 40 CFR, Part 763: EPA Asbestos.

7. Federal Standards 313A: Safety Data Sheets, Preparation and the Submission of.
 8. NIH DCAB publication “Standards for Temporary Construction,” March 1988.
 9. EHS website: The Ohio State University, Office of Environmental Health and Safety. (OSU-EHS) website can be found at ehs.osu.edu.
 10. University Construction Site Safety Guidelines, available on the FOD Vendor Resource webpage: <https://fod.osu.edu/resources>, under section titled “Construction Site Safety Requirements”.
- B. Related Sections: This specification section is related to any and all specification sections with explicit or implicit reference to cutting and patching. Specific submittal requirements of these related specification sections are not included in this section. Related sections include but are not limited to the following specification sections:
1. Division 01 Section “Summary of Work”
 2. Division 01 Section “Coordination Separate Prime Contracts”
 3. Division 01 Section “Cutting and Patching”
 4. Division 01 Section “Project Meetings”
 5. Division 01 Section “Temporary Facilities”
 6. Division 01 Section “Special Controls”
 7. Division 01 Section “Safety and Health”
 8. Division 02 Section “Asbestos Abatement”
 9. Division 02 Section “Selective Demolition”
- C. Hazardous Materials: Some hazardous and toxic materials and substances are included in 29 CFR Part 1910, subparts H and Z, and in 29 CFR Part 1926 and others additionally defined in Federal Standard 313A. Commonly encountered hazardous materials include but are not limited to asbestos, poly-chlorinated biphenyls (PCBs), mercury, lead sheeting, explosives and radioactive material.
1. Asbestos may be found in spray-on fireproofing, insulation, boiler lagging, pipe coverings, duct insulation, plaster, drywall joint compound, ceiling tile, flooring materials, roofing, and other materials. See Division 02 Section “Asbestos Abatement” for removal requirements.
 2. PCBs may be contained in ballasts, transformers, capacitors, voltage regulators, oil switches, mechanical insulation, caulks/sealants, and other materials.
 3. Mercury can be contained within fluorescent light bulbs, thermometers, thermostats, and other materials.
 4. Lead sheeting can be contained within wall cavities, wall systems, doors and associated components, and other materials.
- D. Acquisition of Publications: Referenced CFR publications may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

1.3 SUBMITTALS

- A. Contractor’s Safety and Health Program: The Contractor shall submit a written copy of the Company Safety and Health Program as well as the site specific safety and health plan for

the project to the University Project Manager within 10 calendar days of the Notice to Proceed or before work commences on the project site, whichever is earlier. The site-specific safety and health plan shall cover ALL scopes of work performed under the project contact including any scopes of work that are subcontracted to others. This plan must include a signature from each subcontractor (and the Contractor) acknowledging and accepting the site-specific project safety and health plan and the policies within. The section of the site-specific project safety and health plan that cover scopes of work that have been subcontracted out may incorporate a subcontractor's site specific project safety and health plan (partially or in whole). If this approach is used, the contractor becomes responsible for enforcing these policies. It is the contractor's responsibility to verify that there is no conflicting language or policies if a subcontractor's site-specific project safety and health plan is incorporated.

- B. **Construction Site Accident Reports:** The Contractor must notify the University Project Manager immediately and provide a written report within 24 hours of any accident, fire, emergency, theft or incident in which any personal or property damage took place, regardless of any other notifications performed. Include a copy of each accident report that is submitted by the Contractor or Subcontractors to their insurance carriers, within seven calendar days after the date of the accident.
- C. **Safety Data Sheets (SDS):** The Contractor shall provide the Safety Data Sheets (SDSs) for all products containing hazardous chemicals to the University Project Manager within 14 calendar days of the Notice to Proceed or before work commences on the site. The SDSs shall be maintained at the project site for workers, University personnel and government officials. SDSs for new products shall similarly be submitted to the University Project Manager and be retained at the project site until completion of the project.

1.4 PRECONSTRUCTION SAFETY MEETING

- A. Prior to commencing construction, representatives of the Contractor, including the general superintendent and one or more safety representatives, shall meet with the University Project Manager for the purpose of reviewing Contract safety and health requirements.
 - 1. The Contractor's Safety and Health Program and Site Specific Safety and Health Plan shall be reviewed, and implementation of safety and health provisions pertinent to the Work shall be discussed.
 - 2. The Contractor shall be prepared to discuss, in detail, the Contractor's Site Specific Safety and Health Plan including measures intended to control any unsafe or unhealthy conditions associated with the work to be performed under the contract.
 - 3. This meeting may be held in conjunction with the preconstruction conference, if so directed by the University Project Manager. The conduct of this meeting is not contingent upon a general preconstruction meeting.
 - 4. The level of detail for the safety meeting is dependent upon the nature of the work and the potential inherent hazards
 - 5. The safety meeting shall discuss all regulatory programs including but not limited to Hot Work Permits, Life Safety (in existing or occupied buildings), Dust Control (in existing or occupied buildings), Lockout/Tagout and Electrical Shutdowns, Hazardous Materials Management (asbestos, lead, PCB, etc.), Confined Space Entry, Fall Protection, Trenching and Excavation, Discovery of Unmarked

Utilities, Silica, Crane Safety and other applicable procedures. These procedures will be approved by the appropriate university staff. University specific regulatory safety programs are available at <https://ehs.osu.edu/occupational-health-and-safety>.

1.5 COMPLIANCE WITH REGULATIONS

- A. All work shall comply with all applicable university, federal, state and local safety and health programs and regulations.
- B. The work, including safety and health of employees contact with or handling of hazardous materials, disturbance or dismantling of surfaces containing hazardous materials, and disposal of hazardous materials, shall specifically comply with the applicable requirements of 29 CFR Parts 1910 and 1926, and 40 CFR Parts 61, 261, 761 and 763, and others as applicable.
- C. Work involving disturbance or dismantling of asbestos or asbestos containing materials, demolition of structures containing asbestos and removal of asbestos, shall comply with 40 CFR Part 61, Subparts A and M, and 40 CFR Part 763.
- D. In case of a conflict between applicable regulations, the more stringent requirements shall apply.
- E. Contractor Responsibility: The Contractor shall assume full responsibility and liability for compliance with all applicable codes, standards and regulations pertaining to the health and safety of personnel during execution of the Work, and shall hold the University harmless for any action on the Contractor's part, or that of the Contractor's employees or subcontractors, that result in illness, injury or death.
 - 1. The Contractor shall have written safety and health programs in compliance with 29 CFR Parts 1910 and 1926.
 - 2. Inspections, Tests, and Reports: The required inspections, tests and reports made by the Contractor, subcontractors, specially trained technicians, equipment manufacturers, and others as required, shall be at the Contractor's expense.

1.6 USE OF POWER ACTUATED FASTENER TOOLS

- A. Use of explosives shall be prohibited.
- B. Power actuated fastener tools are often used on construction sites due to the unique manner in which objects can be accurately and positively secured to a substrate. Also, these tools tend to allow for work to proceed more rapidly and efficiently with desirable results. However, these tools also present potential problems to the work area relative to damaged base material and fasteners. Also, the fastener tools present health and safety hazards to untrained users of fastener equipment, unprotected workers in the immediate work area, as well as building occupants that might be present. Based upon these circumstances, there is a need for safe work practice requirements to be followed whenever such equipment is used. It should be noted that fasteners can be powered or driven primarily by powder charges, gas, or pneumatic means.

- C. Power actuated fastener tools (e.g. nail guns, etc.) including pneumatic, powder actuated and gas actuated tools shall be used by individuals for whom the Contractor has documentation of appropriate training, and the Contractor has written standard operating procedures and safety plan for the use of this equipment in the particular application requested.
- D. The Contractor will be fully responsible to make every effort to appropriately protect the safety of people and equipment when utilizing this tool. These include, but are not limited to, the following:
1. The Contractor shall inspect the substrate and the fastening material to determine if this proposed fastening method is appropriate. This determination should include a description of the type of material to be fastened and the method of fastening. The base material should be inspected to determine whether it is too hard, soft, or brittle that it may cause spalling, cause the fastener to shatter or not hold, or cause the fastener to free flight.
 2. The Contractor shall develop written instructions or procedures on the use of the fastener tool. The standard operating procedures should include the type of surfaces (e.g. metal studs to floor, hangers to the deck, etc.) to be fastened to minimize damage to the building and injury to the user, other employees, and the public and safety precautions.
NOTE: Concrete or other surfaces that are damaged shall not be fastened. When fastening into concrete, never fasten closer than two inches from the edge since this may reduce fastener strength or damage to this material.
 3. Trained, competent, and credentialed individuals shall be the only persons allowed to utilize such fastener tools.
 4. A "Competent Person" shall be present to ensure that the fastener tool is being used properly and workers not involved with the fastener task are clear of the immediate work area. This would include non-construction workers or building occupants above and below where the fastener tool is being used.
 5. Fastener tool operators shall report immediately any problems associated with the device or fastener work to the "Competent Person" or immediate supervisor and not proceed until the problem has been resolved and authorization given to proceed.
 6. The fastener tool shall be operated at the lowest power or charge setting, as well as using the shortest fasteners to ensure a sufficient fastening, as well as to minimize personal injury and/or property damage.
 7. The fastener equipment shall be inspected for proper operation before use to ensure the proper discharge and a solid fastener attachment.
 8. The fastener equipment shall be unloaded before inspecting, servicing, cleaning or storing.
 9. The fastener equipment and charging equipment shall be stored in a tamper resistant container that can be locked when not in use.
 10. The fastener equipment shall be used in accordance with the owner's manual and manufacturer's directions.

11. The appropriate personal protective equipment (i.e., safety glasses, hard hats, hearing protection, etc.) shall be worn by the operator of the fastener equipment.

1.7 WORK UNDERGROUND OR IN CONFINED SPACES

- A. Work shall comply with appropriate OSHA regulations; including but not limited to, 29 CFR 1910.146.
- B. All confined space entrants, supervisors and attendants must receive training in areas relating to safe confined space entry prior to entering a confined space.
- C. The Contractor shall remove water and debris and properly vent manholes before commencement and during execution of work in manholes.
- D. The Contractor shall have a competent person on site during the project as per the OSHA construction standard.

1.8 ELECTRICAL SAFETY

- A. Contractors shall avoid energized work unless it is absolutely necessary.
 1. Live parts shall be de-energized before an employee works on or near them unless de-energizing introduces additional hazards, de-energizing is not possible due to equipment design or operational limitations or if live parts are operating at less than 50 volts to ground and there are no increased exposure risks to electrical burns or to explosion due to electrical arcs.
 2. A job briefing is required before the start of each job involving energized electrical work. Each qualified person shall be briefed on the job. At a minimum the briefing must include the following: associated electrical hazards, work procedures, special precautions, isolation points and procedures, emergency response, PPE requirements and other work in the immediate area.
- B. Live parts are to be de-energized in accordance with OSHA lockout/tagout regulations. Coordinate lockout/tagout procedures with building maintenance personnel in occupied buildings.
- C. Contractors shall implement all necessary precautions to ensure arc flash safety.
- D. Electrical arc welding equipment shall not be connected to the building power supply.
- E. Lockout/tagout Equipment: Appropriate lockout/tagout equipment will be provided by the contractor. When required contractor will provide devices to allow multiple locks.
- F. No person, regardless of position or authority, shall operate any switch, valve or equipment that has a lockout/tagout (lock or tag) attached to it, nor shall such tag be removed except as provided in this section.
- G. When work is to be performed on electrical circuits, the work shall be performed only by qualified personnel following the required safety procedures.
- H. Identification markings on building light and power distribution circuit breakers shall not be relied on for establishing safe work conditions.

1.9 HOT WORK

- A. Hot Work: If any welding, cutting, or spark generating activity is to be performed, the contractor shall comply with all aspects of OSHA Standard Subpart Q Welding, Cutting and Brazing 29 CFR 1910.252 relating to fire prevention associated with hot work.
- B. Campus Buildings (non OSU Wexner Medical Center occupied)– For all hot work conducted in Ohio State occupied buildings, the contractor shall obtain a hot work permit from Ohio State Environmental Health and Safety at; <http://www.ehs.osu.edu> under the PROGRAMS AND SERVICES drop-down menu, in the “Occupational Health & Safety” menu item. The completed hot work permit form needs to be approved by the University Project Manager.
- C. New Construction (solely occupied by contractors/project personnel) – For all hot work conducted on new construction or total building renovations where contractors or project personnel are the only occupants, a site-specific hot work program can be implemented and managed by on site safety personnel. This program must meet all the requirements of the Ohio State Hot Work Program and all aspects of OSHA and Fire Code regulations.
- D. OSU Wexner Medical Center Projects – Hot work permits shall be obtained from the medical center construction manager for projects.

1.10 FALL PROTECTION

- A. In areas where workers are performing duties at a height greater than four feet, contractors shall implement a Fall Protection Program to eliminate fall hazards. The Fall Protection Program shall ensure the assignment of an onsite fall protection competent person.
- B. Workers who are required to perform work on elevated surfaces should be familiar with the Fall Protection Program and work closely with their competent person to ensure work is done safely and meets all related standards and guidelines set forth by OSHA and ANSI.
- C. The Fall Protection Program shall outline responsibilities for employees involved in elevated work; supervisors of employees involved in elevated work, elimination of fall hazards and protection against fall hazards when they are present.
- D. All work at heights greater than four feet, unprotected from a fall hazard, should be reviewed by the competent person to ensure proper protection.

1.11 TRENCHING AND EXCAVATION

- A. All projects that require excavation resulting in a trench shall follow all OSHA Trenching and Excavation standards.
- B. The Contractor shall implement policies that establish requirements for safe trenching, excavation and shoring activities. The intent shall be to ensure any activity involving trenching shall be conducted in a manner to minimize risk to employees.
- C. Personnel working in an excavation must be protected from cave-ins by using an adequate sloping and benching system; or an adequate support or protective system.
- D. Barricades, walkways, lighting and signs must be provided for the protection of the public before the start of excavation operations. Guardrails, fences or barricades will

be provided adjacent to walkways, driveways and other pedestrian or vehicle thoroughfares.

1.12 SILICA SAFETY

- A. Crystalline silica is a basic component of soil, sand, granite and many other minerals. Quartz is the most common form of crystalline silica. All materials containing silica can result in the presence of respirable silica particles when chipping, cutting, drilling or grinding takes place. Silica exposure occurs through inhalation of silica containing particles and occurs through many construction and general industry methods.
- B. Contractors shall implement as part of their safety and health plan a Silica Safety Program that complies with all aspects of the OSHA Silica Standard.
- C. Any time there is a potential for silica containing materials to be involved in a project, sources of silica must be assessed prior to disturbing.
- D. If airborne silica is expected to be generated during the project, exposure monitoring shall be provided, as necessary, and all safety precautions shall be followed to minimize exposure to airborne silica dust.
- E. If silica containing materials are to be disturbed during the project, appropriate exposure control methods shall be implemented.
- F. In areas where silica containing dust may be present, all surfaces must be maintained free from accumulations of dust to minimize potential silica exposure. Dust and other silica containing debris must be removed from the work area as soon as possible.

1.13 CRANE SAFETY

- A. The use of cranes on construction sites to lift heavy equipment, building materials, protective systems, erect steel, etc. is inherently dangerous. All parties who are responsible for the use of cranes are expected to comply with Subpart CC of 29 CFR 1926 1400 (et al.) as the standard pertains to their work.
- B. The responsibility for compliance with the standard in its entirety falls upon the crane contractor in so much as it is dictated by the standard.
- C. Safety watches shall be used to assess any safety concerns within the swing path of the crane during both the removal /lowering of equipment and also during the lifting/installation of new equipment. A dedicated, full-time safety watch shall be used anytime the crane is in use.
- D. Particular attention is needed to ensure that spectators and/or other pedestrians are kept clear of the construction site while the crane is in use. Allowable locations for siting the crane are shown on the drawings.
- E. Daily inspections are required of crane and associated components.

1.14 LIFE SAFETY

- A. When a fire protection or fire detection system is out of service or becomes diminished in its effectiveness, it will be considered impaired.

- B. Impaired systems require that a fire watch be instituted per the “Fire Watch Policy” and the burden is upon the contractor unless other provisions have been made.
- C. Heat detection devices (detectors and linear heat wire) are considered an equivalent substitute for a smoke detector in construction areas. Covering or bagging smoke detectors is not permitted.
- D. In areas where the ceiling containing sprinklers and detection devices are removed or cease to be able to contain the heat and/or smoke then the devices will be relocated near the top deck for effective operation.

1.15 FIRE REPORTING AND EVACUATION PLAN

- A. Pull the fire alarm station immediately if available.
- B. Call 911 to report the fire to emergency responders.
- C. Give your name, the exact location of the fire and a brief description of the incident. Give specific information on how to enter the construction site and any hazards that may impede first responders.
- D. Meet first responders at the designated entrance to provide additional information.
- E. Locate the nearest fire extinguisher and attempt to extinguish the fire if you can safely do so.

1.16 FIRE PREVENTION

- A. All combustible materials and any unnecessary trash shall be removed from the job site at the end of each shift.
- B. Excessive amounts of flammable products shall not be allowed on the job site. Flammable and combustible compressed gas cylinders may not be stored within the buildings. Only service cylinders are permissible. Minimize necessary stored materials. Secure all materials.
- C. Fire sprinkler system impairments will require continuous work until the systems operation is fully restored. No impairments will be allowed for extended periods of time or during times when the site is not attended, without adequate systems in place to replace fire suppression systems.
- D. All firewall penetrations must be sealed with an approved UL fire-resistive sealant.

1.17 MATERIAL DELIVERIES

- A. Whenever practicable, deliveries shall be made during regular working hours and only when the Contractor’s representative is available to receive them.
 - 1. Deliver material in approved containers and with properly licensed vehicles and operators.
 - 2. Open delivery vehicles are not permitted. Deliver materials in fully closed vehicles or tarp-covered vehicles.

3. All dump trucks shall be fully covered while in transport to and from the unloading site. All loads shall be securely fastened until unloading.
4. Engines shall not be left running while vehicles are loading, unloading, waiting or parked.
5. Do not block roads, walks, building entrances/exits, fire hydrants and standpipes, exterior tanks or building gas connections.
6. Exercise caution regarding all pedestrians and when backing the vehicle.

1.18 HAZARDOUS MATERIAL

- A. The Contractor shall bring to the attention of the Architect/Engineer (A/E) and the University Project Manager, any material encountered during execution of the work that the Contractor suspects is hazardous. Work shall be stopped as it relates only to the questioned hazardous material so that the University Project Manager can have the Ohio State Office of Environmental Health and Safety perform tests and/or recommend testing to an accredited third party laboratory, to determine if the material is hazardous before work can be authorized to proceed.
- B. If the tested material is found to be hazardous, and/or if additional protective measures are required, a change to the contract price may be provided, subject to the applicable provisions of the contract.

1.19 PERSONAL PROTECTIVE EQUIPMENT

- A. Special facilities, devices, equipment and similar items used by the contractor in execution of the work shall comply with 29 CFR, Part 1910, Subpart I and other applicable regulations.

1.20 ADDITIONAL SAFETY REQUIREMENTS

- A. Pressurized or vacuum systems shall be vented to relieve differential pressure completely.
- B. Vent valves shall be lockout/tagout tagged open during the course of the work.
- C. Where dangerous gas or fluid systems are involved, or in areas where the environment may be oxygen deficient, systems or areas shall be purged, ventilated, or otherwise made safe to entry.

PART 2 – PRODUCTS

- 2.1 Safety and Health Programs: The Contractor shall submit copies of the written site specific project safety and health plan and emergency action procedures, as applicable to the work scope, as required as a result of the safety meeting, or as required by OSHA 29 CFR, Part 1926 including but not necessarily limited to the procedures and programs that support the requirements of the following:
 - A. Designation of Safety Competent Person
 - B. Occupational Noise Exposure
 - C. Fall Protection
 - D. Personnel Protective Equipment

- E. Control of Hazardous Energy
 - F. Hazardous Materials Waste Management Plan (draft if final plan has not been accepted)
 - G. Electrical Safety Related Work Practices
 - H. Lead
 - I. Asbestos
 - J. Refrigerants
 - K. Respirator Protection
 - L. Confined spaces
 - M. Emergency evacuation and reporting
 - N. Hot Work
 - O. Crystalline Silica Rule
- 2.2 Contractor's Safety and Health Plan: In addition to specific safety and health programs applicable to the project, Contractor shall submit to the University Project Manager a copy of the firms' general Safety and Health Plan listing emergency procedures and contact persons with home addresses and telephone numbers.
- 2.3 Hazardous Materials Permits: If hazardous materials are disposed of off-site, submit copies of shipping manifests and permits from applicable federal, state or local authorities and disposal facilities, and submit certificates that the material has been disposed of in accordance with regulations to the University Project Manager.
- 2.4 .

PART 3 – EXECUTION

3.1 EMERGENCY SUSPENSION OF WORK

- A. When the Contractor is notified by the A/E or the University Project Manager, of non-compliance with the safety or health provisions of the Contract, the Contractor shall immediately, unless otherwise instructed, correct the unsafe or unhealthy condition.
 - 1. If the Contractor fails to comply promptly, all or part of the work will be stopped by notice from the A/E.
 - 2. When, in the opinion of and by notice given by the A/E and or the University Project Manager, satisfactory corrective action has been taken by the Contractor, work shall resume.
 - 3. The Contractor shall not be allowed any extension of time or compensation for damages in connection with a work stoppage for an unsafe or unhealthy condition.

3.2 PROTECTION OF PERSONNEL

- A. The Contractor shall take all necessary precautions to prevent injury to the public, occupants, or damage to property of others. The public and occupants includes all persons not employed by the Contractor or a subcontractor.
- B. Wherever practical, the work area shall be fenced, barricaded or otherwise blocked off from the public or occupants to prevent unauthorized entry into the work area.
 - 1. Provide traffic barricades and traffic control signage where construction activities occur in vehicular areas.

2. Corridors, aisles, stairways, doors and exit ways shall not be obstructed or used in a manner to encroach upon routes of ingress or egress utilized by the public or occupants, or to present an unsafe or unhealthy condition to the public or occupants.
 3. Store, position and use equipment, tools, materials, scraps and trash in a manner that does not present a hazard to the public or occupants by accidental shifting, ignition or other hazardous activity.
 4. Store and transport refuse and debris in a manner to prevent unsafe and unhealthy conditions for the public and occupants. Cover refuse containers and remove refuse on a frequent regular basis acceptable to the University Project Manager. Use tarpaulins or other means to prevent loose transported materials from dropping from trucks.
- C. **Construction Dust:** Provide measures to prevent the discharge of airborne dust to adjacent properties. Dust potentially will be generated by activities such as site preparation, excavation, trenching, saw cutting or drilling of brick, concrete, or stone, as well as road surface dust from vehicles. Use water spray, temporary enclosures, vacuum collection, sweeping and any other methods necessary to minimize or eliminate dust and dirt migration. Comply with governing environmental protection requirements and the requirements of the University (i.e. no visible dust shall be seen leaving the site). If the level of dust or dirt produced is unacceptable to the university all work will be stopped until the situation is corrected. Refer to specification section "Temporary Controls".
- D. **Alternate Precautions:** When the nature of the work prevents isolation of the work area and the public or building occupants may be in or pass through, under or over the work area, alternate precautions such as the posting of signs, the use of signal persons, the erection of barricades or similar protection around particularly hazardous operations shall be used as appropriate.
- E. **Public Thoroughfare:** When work is to be performed over a public thoroughfare such as a sidewalk, roadway or other site access way, the thoroughfare shall be closed, if possible, or other precautions taken such as the installation of screens or barricades. When the exposure to heavy falling objects exists, as during the erection of building walls or during demolition, special protection of the type detailed in 29 CFR, Parts 1910 and 1926 shall be provided.

3.3 ENVIRONMENTAL PROTECTION

A. GENERAL REQUIREMENTS

1. Dispose of solid, liquid and gaseous contaminants in accordance with local codes, laws, ordinances and regulations.
2. The Office of Environmental Health and Safety (EHS) is available to advise on or assist in the collection and disposal of all hazardous waste, excluding asbestos.
3. Comply with applicable federal, state and local noise control laws, ordinances and regulations, including but not limited to 29 CFR, Part 1910.95 and 29 CFR, Part 1926.52

B. SPECIFIC REQUIREMENTS

1. On any project where fluorescent light bulbs are removed, unless the fluorescent light bulbs are going to be re-used, these items need to be carefully removed and stored for proper disposal as “Universal Waste” as required by the EPA. This would include all other types of light bulbs such as incandescent, sodium, mercury, etc., as well as contained liquid mercury components retrieved from thermostats and thermometers. These materials cannot be disposed as demolition waste. Contact the Hazardous Waste Supervisor for the Office of Environmental Health and Safety (EHS) for specific instructions regarding proper storage, to make arrangements to obtain containers, as well as pickup and disposal arrangements. There is no charge for these services; seven days advanced notice is required to schedule with EHS (separate notice for container delivery and also for pickup).
2. If any transformers are to be disposed the presence or absence of PCBs shall be verified, by testing if necessary.
3. During removal or renovation of any system containing chemicals, gases or refrigerants, the appropriate equipment shall be used to capture these substances and prevent their release to the atmosphere. This equipment must be certified as required and be used by properly trained and certified technicians as required by applicable federal, state and local laws and regulations. Proper recordkeeping procedures shall be followed.
4. Containers of volatile sealers, paints, solvents, roofing coatings and other materials should be covered when not in use to prevent the release of volatile organic compounds into the atmosphere. This requirement also applies to the disposal of such products.

PART 4 – DEPARTMENT SPECIFIC REQUIREMENTS

4.1 OSU Wexner Medical Center Guidelines

- A. The Wexner Medical Center Construction Standard Guidelines are requirements of the Wexner Medical Center and applicable to all contractors/vendors working on and/or within the confines of the Wexner Medical Center. These guidelines are enforceable by the Contracting Authority of The Ohio State University. See 01 14 00.9 for a Link to the Wexner Medical Center Construction Standards.

END OF APPENDIX V