02 00 00.  EXISTING CONDITIONS

02 30 00.  SUBSURFACE INVESTIGATION

.1 Architect/Engineer RESPONSIBILITIES: The Architect/Engineer shall direct and provide site or subsurface investigation judged necessary in accordance with the Architect/Engineer's Agreement for professional services. This will include contacting Environmental Health and Safety within Facilities Operations and Development for any university records of site hazards, investigative work and surveyor reports, testing laboratories (including test borings), soil analysis (including load bearing capabilities) and related site analysis. Submit two copies of any site investigative reports to the University Architect. Also see (33 40 00).

.2 INFORMATION TO BE INCLUDED IN CONTRACT DOCUMENTS: Show all boring locations, cross sections and soil conditions. Also show all: existing conduits, drains, utility lines, sewers, tunnels, cables, trees, paving, walks, foundations and other objects or obstructions, whether in use or abandoned. State that information is for contractor's use and that in no way shall the University be held responsible for accuracy of the information.

.3 PROTECTION OF EXISTING LANDSCAPING: Protect all trees, walks, and planted areas during subsurface investigations. All existing site elements shall be left in their original condition. See section (32 10 00) for minimum design standards for paved areas. Coordinate all work with Facilities Operations and Development.

.4 PREPARATION OF PLANS FOR BORINGS: In the preparation of plans for boring locations, the Architect/Engineer shall study plans of existing underground utilities and shall locate borings to avoid these utilities. Maps showing underground installations are available for review upon request from Facilities Operations and Development.

02 40 00.  DEMOLITION AND STRUCTURE MOVING

.1 STRUCTURE DEMOLITION: All foundations and basement slabs of structures shall be fully removed. A variance may be requested for special conditions.

02 44 00.  EQUIPMENT MOVING

.1 RELOCATED EQUIPMENT: Special concern shall be taken with equipment relocated from existing installations for reinstallation. Establish schedule for removal and reinstallation through the University Project Manager. Identify a single contractor to be solely responsible for removal, disposal, re-installation and follow-up. Relocation of existing equipment shall include:

.1.1 Disconnecting and moving to new location.

.1.2 Restoration and capping of utilities at the old location.

.1.3 Specify that the contractor record existing piping arrangements to facilitate reinstallation.

1.4 The contractor shall be required to replace unsalvageable piping, ductwork, and wiring, and furnish any new piping, ductwork, and wiring as required to complete reinstallation, without additional cost to the University.
.1.5 The contractor is to provide a separate container for the recycling of paper, cardboard, and wood products.

02 82 00. HAZARDOUS MATERIALS AND ASBESTOS REMEDIATION

.1 HAZARDOUS MATERIALS AND ASBESTOS REMEDIATION: The general industry and construction asbestos standards (29 CFR 1910.1001 and 1926.1101) and National Emission Standards for Hazardous Air Pollutants (NEHSAP) hazardous materials and asbestos standards establish specific requirements for building owners. Should hazardous materials be disturbed during any renovation repair or demolition, the hazardous materials must be properly removed and disposed of at an approved landfill. Building owners are therefore required to know how their hazardous building materials will be impacted by the renovation repair, or demolition project. Examples of hazardous materials in addition to asbestos include, but are not limited to: poly-chlorinated biphenyls, mercury containing components, tritium, and lead sheeting. In all cases, hazardous material abatement activities must be performed by Ohio Department of Health (ODH) licensed individuals. Building owners are also required to assure that applicable Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA) and additional ODH regulations are complied with during the hazardous materials abatement activities.

.1.1 The purpose of this building design standard is to provide the Architect/Engineer (A/E) with guidance in developing specifications to ensure that any asbestos or other hazardous materials testing documentation and abatement work is performed by a qualified and licensed Environmental Consultant (EC) and abatement contractor in compliance with all applicable regulations. The University’s Office of Environmental Health and Safety (EHS) is responsible for managing the University’s asbestos and for compliance with federal and state regulations. EHS maintains a historical listing of sampling for asbestos in all University buildings throughout Ohio and must be contacted for direction with asbestos issues.

a. The University requires the Environmental Consultants (EC) to have a minimum of two (2) years experience preparing abatement, drawings, designs and technical specifications and shall be licensed by the Ohio Department of Health as an “Asbestos Hazard Abatement Project Designer”.

b. The University requires the (EC) performing hazard materials assessments to have a minimum of two (2) years of experience performing asbestos surveys or asbestos material sampling. The (EC) performing asbestos confirmation surveys, including but not limited to obtaining bulk samples and quantification of ACMs shall be licensed by the Ohio Department of Health as an “Asbestos Hazard Evaluation Specialist”. The (EC) shall provide an electronic and hard copy of all Hazard Materials Assessment reports to EHS.

c. The University requires the (EC) shall act as the University’s compliance agent and be responsible for confirmation of asbestos-containing materials (ACMs), preparation of asbestos abatement technical specifications and drawings. (EC) shall assist in the Bidding Phase, review of submittals and RFI’s, provide periodic inspections or full-time oversight, final visual inspections and clearance air testing services and provide all close-out documents required for the abatement within renovation or demolition project areas. The (EC) shall also clarify the working relationship and expectations of the abatement contractor, (EHS), and all other participants.

d. The University requires the (EC) performing monitoring, periodic observations or inspections, final visual inspections and clearance air testing
e. The University requires (EC) of the following when performing hazardous materials inspections or assessments:

1. Daily Phase Contrast Microscopy (PCM) air sampling to be conducted during bulk sampling of building materials. All PCM air data results are to be included with inspection or assessment reports.

2. Include the date of the inspection, address of the building, name, address and phone number of the client on the report.

3. Include the name, signature, and asbestos hazard evaluation specialist number of the person writing the report.

4. Include a blueprint, diagram, or written description detailing the exact location where each sample was collected, the date of collection, and the homogeneous areas and footages where friable and non-friable suspected asbestos is assumed to be.

5. Include a blueprint, diagram, or written description that identifies the location of hazardous materials, type of materials, and approximate square or linear footages where materials where confirmed to be asbestos containing or hazardous.

6. A description of the manner used to determine sampling locations, and the name, signature, and asbestos hazard evaluation specialist number of each person collecting the samples.

7. A copy of the bulk sample analysis report, the name and address of any laboratory that analyzed the bulk samples, the date of analyses, and the name and signature of the person performing the analysis.

8. Document and consult with Environmental Health and Safety (EHS) when testing results find trace amounts of asbestos-containing materials (less than 1% asbestos). The University requires that all building materials containing trace amounts of asbestos as confirmed by the analysis of bulk samples analyzed by Polarized Light Microscopy (PLM) or Point Count Method and impacted by the scope of the renovation or demolition work be removed and legally disposed of in accordance with all applicable requirements.

f. The University requires (EC) of the following when performing on-site monitoring:

1. Ensure that the environmental abatement contractor is performing all work in compliance with all applicable federal, state, and local regulations; including, but not limited to: EPA, OSHA, and ODH.

2. Primary calibration source should be calibrated on an annual basis.
(3) Secondary calibration sources shall be calibrated quarterly.

(4) Environmental, ambient, area, and clearance samples shall be analyzed on a daily basis. The microscopist needs to participate in the American Industrial Hygiene Association (AIHA) Proficiency Analytical Program (PAT) program for fiber counting and analyze air samples via the National Institute of Occupational Safety and Health (NIOSH) 7400 method. In addition, the microscopist shall have completed the NIOSH 582 Equivalent course training.

(5) Ensure that all air samples are collected within the breathing zone at an approximate 45 degree angle. All pumps shall be connected to electric via a Ground Fault Circuit Interrupter (GFCI), which should be directly connected to the electric source.

(6) Provide daily access to a daily logs / field notes, air data, and inspection forms.

(7) Contact OSU EHS immediately should any regulatory agencies visit the project site.

The University requires (EC) of the following when preparing closeout documentation:

(1) Review all environmental contractor closeout documents, which at minimum should include the following: daily logs, sign-in sheets, contractor license, BWC certificate, liability insurance certificate, supervisor and worker submittals (certificate, license, medical, fit test) materials safety and data sheets, notifications (EPA, ODH, OSU EHS), waste manifest and signed landfill disposal receipt.

(2) Include the following documents within the closeout documents: a field report summarizing a description of the project and the hazardous materials abated copy of the specifications / drawings, daily logs, inspection forms, and air data.

(3) Combine contractor documents with environmental consultant documents and submit copies electronically. A hard copy of the original signed landfill receipt must be submitted to the university. Submit closeout documents to OSU within a timely manner of receiving signed landfill receipt.

.2 REGULATORY CONFORMANCE: When hazardous material work is involved, specifications must require conformance to all pertinent provisions of Federal, State of Ohio, and Local laws, codes, rules and regulations for removal or control of asbestos. These provisions include:


.2.2 U.S. Department of Labor Occupational Safety and Health Administration (OSHA) Asbestos standards: 40 CFR Part 29, Section 1910.10001 (General Industry) and 1926.1101 (Construction).


.2.5 EPA notification for the OSU Columbus and Newark Campuses goes to the Central District Office of Ohio EPA; for Lima, Mansfield, Marion and Stone Lab campuses goes to the North West District Office of Ohio EPA and for OARDC goes to the North East District Office of Ohio EPA. With exception of the abatement work performed by Facilities Operations and Development, the University holds the contractors responsible for making all required notifications.


.2.7 U.S. Department of Transportation: 49 CFR 171 and 172.

.2.8 Ohio EPA Asbestos Emission Control Rules: Ohio Administrative Code 3745-20.

.2.9 Ohio Department of Health (ODH) Asbestos Hazard Abatement Rules: Ohio Administrative Code 3701-34; and Ohio Revised Code Chapter 3710.

.3 QUALIFICATIONS FOR ASBESTOS ABATEMENT CONTRACTORS: Prior to bidding, contractors and/or subcontractors involved in hazardous materials abatement work shall be required to meet the following minimum requirements: These requirements and the documentation specified in .3.3 will be reviewed by University staff in determining whether the Abatement Contractor is acceptable to work on University projects:

.3.1 Required Certifications

.3.1.1 The Asbestos Abatement Contractor shall be certified by the ODH to perform asbestos abatement activities as required by Chapter 3701-34 of the Ohio Administrative Code.

.3.1.2 The Asbestos Abatement Contractor’s Supervisor shall be certified by ODH as an Asbestos Hazard Abatement Specialist.

.3.1.3 Each of the Asbestos Abatement Contractor’s employees, including full-time employees, temporary employees and contract labor, shall be certified by ODH as either an Asbestos Hazard Abatement Worker or as an Asbestos Hazard Abatement Specialist.

.3.2 Required Experience

.3.2.1 The Asbestos Abatement Contractor shall have a minimum of two (2) years experience in asbestos and hazardous materials abatement projects.

.3.2.2 The Asbestos Abatement Contractor shall have experience performing work in similar settings and shall provide substantial documentation summarizing these projects including the project location, duration, scope of work, monitoring, documents, client contact information and any additional information requested.

.3.2.3 The Asbestos Abatement Contractor shall have experience on at least three projects of a similar scope and extent.
.3.3 The Asbestos Abatement Contractor shall report any Public Health Emergency Violations issued by the ODH within the past two (2) years and not have any previous unresolved or pending Public Health Emergencies.

.3.4 The Asbestos Abatement Contractor shall provide the following documents prior to the post-bid review meeting:

.3.4.1 References from previous projects:
   a. Previous experience on at least three projects of a similar nature (such as pipe, ceiling, boiler insulation, etc.) and extent shall be documented.
   b. Three to five references specific to the Contractor’s proposed Supervisor for this project.
   c. Each reference to include contact information and phone number for the Owner, Architect, Construction Manager, and Subcontractors.
   d. Provide documentation of the project location, duration, scope of work, and client contact information.
   e. Verification of years experience in asbestos abatement projects, both for the contractor and for the supervisor.
   f. Photocopies of ODH licenses for each of the Contractor’s employees to be used on this project.
   g. Positive identification via photocopies of valid driver’s license or by other means as specifically approved by the Environmental Consultant for each of the Contractor’s employees to be used on this project.

.3.4.2 Resume of proposed Supervisor for the project.

.3.4.3 Summary of current abatement projects. Include contract value and completion dates.

.3.4.4 Summary and background of any EPA violations over the past 7 years; as well as a statement as to how the violations were resolved (if applicable).

.3.4.5 Summary and background of any ODH violations over the past 7 years; as well as a statement as to how the violations were resolved (if applicable).

.3.4.6 Summary and background of any OSHA violations over the past 7 years; as well as a statement as to how the violations were resolved (if applicable).

.3.4.7 Copy of license to conduct asbestos abatement activities.

.4 GENERAL REQUIREMENTS

.4.1 The contractor of a successfully bid project shall submit an asbestos abatement plan and have it reviewed by EHS and approved by the EC prior to commencing the work. The asbestos abatement plan shall have detailed written operating procedures describing control and removal techniques to be used as required by Chapter 3701-34-11 of the Ohio Administrative Code.

.4.2 The contractor shall electronically submit a notification form to EHS a minimum of five (5) business days prior to starting the abatement on-site.
4.3 The contractor shall notify EHS immediately should any regulatory agencies visit the project site.

4.4 The contractor shall ensure that a competent person remain outside of the work area during abatement activities. A minimum of one person meeting the qualifications described above for supervisor shall be present on site at all times during any abatement work or activities and be able to communicate effectively with the workers and all governing authorities.

Except in the case of an emergency, anyone entering an asbestos abatement work area, which is an OSHA-defined "regulated area," shall have received a minimum of 2-hour asbestos awareness training consistent with the EPA requirements.

4.5 The contractor shall ensure that a 3-stage decontamination (clean room, shower, dirty room) chamber system is established directly adjacent to all full containments or when abating more than 25 linear or more than 10 square feet of friable regulated asbestos containing material. Three-stage decontamination chamber shall be equipped with air lock chambers, working hot and cold water, and a 5 micron filter system.

4.6 The contractor shall ensure that the OSHA required asbestos danger signage in the English language is posted at all entrances to the work area. Areas of abatement work must be clearly demarcated. In all structures, whether partly occupied or not during asbestos removal, maintain clearly identified routes of egress.

4.7 The contractor shall ensure that GFCIs are directly connected to all electrical sources in use outside of the work areas.

4.8 The contractor shall ensure that street clothes are not worn beneath protective clothing when abating more than 25 linear feet or more than 10 square feet of friable regulated asbestos containing material. In the event that street clothes are worn beneath protective clothing, the contractor shall render these clothes as asbestos-containing and manage accordingly.

4.9 The contractor shall ventilate all air-filtration devices (AFD) to the exterior of the building. The preferred procedure is to direct the exhaust out a window. If this is not feasible due to the project conditions, submit alternative procedure to University Project Manager for approval.

Exhaust from AFDs shall not be directed into the airspace above a dropped ceiling or into existing laboratory hood ventilation.

4.10 The contractor shall collect daily OSHA personal PCM air samples and post analytical results on a daily basis. The laboratory needs to participate in the AIHA PAT program for fiber counting and analyze air samples via the NIOSH 7400 method. In addition, the microscopist shall have completed the NIOSH 582 Equivalent course training. Records shall be maintained to show air quality levels prior to, during and after asbestos abatement work on projects. These records shall show sample results of environmental and personal air data results.

4.11 The contractor shall ensure that all critical barriers are sealed with 6-mil polyethylene within the work area(s), all HVAC and electrical systems are de-energized within the work area, and all HVAC vents are sealed with two layers of 6-mil polyethylene.
4.12 The contractor shall ensure that all full containments contain a minimum negative pressure of 0.02 inches of water column.

4.13 The contractor shall ensure that all asbestos containing materials are adequately wetted with amended water during removal and disposal.

4.14 The contractor shall ensure that all asbestos waste disposal bags are labeling with the OSHA asbestos danger and generator labels.

4.15 The Asbestos Hazard Abatement Specialist (Supervisor) shall conduct a final visual inspection and ensure that all visible suspect and confirmed asbestos debris has been successfully removed and disposed of properly upon completion of the project.

4.16 The contractor shall dispose of all ACM waste in an Ohio approved landfill and obtain a copy of the signed disposal receipt as required by the EPA.

4.17 The contractor shall include the following as part of the closeout documents: daily logs, sign-in sheets, contractor license, BWC certificate, liability insurance certificate, supervisor and worker submittals (certificate, license, medical, fit test) materials safety and data sheets, notifications (EPA, ODH, OSU EHS), waste manifest and signed landfill disposal receipt.

.5 ABATEMENT DESIGN SPECIFICATIONS

.5.1 The EC should download and review the Abatement Design Checklist for use in preparing the Abatement Technical Specifications for each project.

5.1.1 The Abatement Design Checklist can be downloaded from the EHS website. Go to http://www.ehs.osu.edu and click on the “Environmental Affairs” tab; the “Hazardous Materials Management” page; DOCUMENTS (right side of the page/first listing).