



Appendix H Information Sheet
Qualification Questionnaire for Asbestos Contractors

Submit to:
Laura Tomlin
Manager, Environmental Programs
Environment, Health and Safety
Western Kentucky University
1906 College Heights Blvd. #11046
Bowling Green, Ky. 42101-1046

Company Name: _____

Type Asbestos Work Offered: _____

Individual Corporation Joint Venture Other

Contact Person: _____

Main Office Location: _____
(State in which Incorporated)

Address: _____

_____ Zip Code: _____

Telephone No.: _____ Facsimile No.: _____

----- *office use only* -----

Received by: _____ Date Received: _____

Reviewed by: _____ Date Reviewed: _____

Approved by: _____ Date of Approval: _____

Notified to: _____ Date Notified: _____

Notified by: _____ Date Notified: _____

Asbestos Contractor notified by: Phone Fax Mail E -mail In person



APPENDIX H

Asbestos Contractor Qualification Questionnaire

General Information and Instructions

All asbestos analytical, consultant, and removal contractors shall complete an initial Appendix H Asbestos Contractor Qualification Questionnaire and have approval from the Western Kentucky University Asbestos Program Coordinator prior to bidding asbestos-related work activities on all properties owned, operated, managed, or maintained by Western Kentucky University and renewed annually thereafter. Annual Appendix H renewals shall be submitted and approved, prior to January 1st. All Asbestos Contractors shall have a current approved Appendix H on file with the Western Kentucky University Asbestos Program Coordinator prior to bidding or conducting asbestos work.

All ANSWERS AND ENTRIES SHALL BE SPECIFIC AND COMPLETE and shall only be completed once a thorough and complete understanding of the Western Kentucky University Asbestos Operations and Maintenance Program has been established. Except for signatures, all shall be typed or hand printed with ink. Do not cross out any headings or instructions.

The signatory of this Asbestos Contractor Qualification Statement guarantees and acknowledges the understanding and comprehension of this document and the compliance of the Western Kentucky University Asbestos Operations and Maintenance Program and the truth and accuracy of all statements and of all answers to the interrogatories hereinafter made. Knowingly falsifying information shall void and terminate all contracts and agreements.

1.0 SPECIAL CONDITIONS

This program is for the specific purpose of controlling and managing asbestos-containing material (ACM) at all properties owned, operated, managed, or maintained by Western Kentucky University (WKU). Special Conditions shall supplement or amend the federal, state, and local asbestos regulations to allow asbestos management compliance utilizing an approved modified version of 401 KAR 58:010. All employees of all outside asbestos contractors and/or subcontractors whose work may involve existing ACM in properties owned or maintained by WKU shall be informed of the Asbestos Operations and Maintenance Program (AOMP) and the associated guidelines in the AOMP prior to commencement of work and are required to follow the guidelines contained herein as well. The AOMP can be viewed and obtained at the WKU Department of Environment, Health and Safety (EHS) web site:

[Western Kentucky University Asbestos Operations and Maintenance Program](#)

1.1 DEFINITIONS

The term "WKU" refers to Western Kentucky University and/or its designated and authorized representative having over-site to make decisions pertaining to asbestos-related work activities.

The term "Asbestos Contractor" refers to the person(s), company(s) contractor(s) or subcontractor(s) providing asbestos analytical, consultant, removal, or other asbestos-related services.

1.2 DESCRIPTION

The scope of work consists of any work activity involving asbestos-containing materials from existing facilities owned, operated, or managed by Western Kentucky University. .

1.3 WORK IN OCCUPIED AREAS

Erect and maintain weatherproof closures for exterior openings.

Erect and maintain temporary partitions (wood frame and/or polyethylene barriers) to prevent spread of dust, fumes, noise, and smoke to WKU occupancy.

Protect existing furniture and/or equipment that are to remain.

Protect occupants from injury, particularly when working overhead.

Conduct work in an orderly and careful manner.

Except where notified otherwise, immediately remove demolished materials from the site as work progresses. Demo debris shall not be allowed to accumulate.

Keep the work area on all WKU properties in a neat and orderly condition at all times.

The Asbestos Contractor shall assume full responsibility for damage caused or for personal injury because of their work, operations; all such damage or injury as does occur shall be corrected to original condition at no additional charge to WKU.

WKU shall be responsible for determining access and egress locations from both the facility and the work areas for Asbestos Contractor's personnel. WKU reserves the right to restrict Asbestos Contractor's personnel from designated areas of a facility at will.

1.4 ORDER OF WORK

The order of work shall be determined by WKU.

The sequence of work to be performed shall be determined by WKU.

1.5 CONSTRUCTION SCHEDULE

The Asbestos Contractor shall commence work upon written notification by WKU, such as but not limited to a purchase order. Work shall not start on the project prior to authorization by WKU.

WKU shall establish working hours at the sites to include seven days a week if necessary. However, if it becomes necessary for the Asbestos Contractor to extend the hours to evening or weekends, he shall notify WKU or the WKU's Representative at least 24 hours in advance. The Asbestos

Contractor's superintendent, or responsible equivalence, shall be present at the worksite during any regularly scheduled or extended work hours.

The Asbestos Contractor shall submit a written and graphic plan of operation and a day-by-day schedule for approval by WKU prior to beginning work on each project that will be reviewed at the pre-construction conference or by the WKU Asbestos Program Coordinator as determined by WKU.

The Asbestos Contractor must obtain written permission of WKU prior to subcontracting of any work.

1.6 INSURANCE AND HOLD HARMLESS CLAUSE

The Asbestos Contractor shall comply with the hold harmless and insurance requirements of Western Kentucky University, as found in sections 2.10 – 2.13 of this qualification.

2.0 ASBESTOS REMOVAL

2.1 SCOPE

This qualification covers requirements, work practices, and procedures to be followed by Asbestos Contractors when performing all asbestos-related work activities for WKU in conjunction with all other applicable regulations pertaining to that particular scope of work or project.

2.2 DESCRIPTION OF WORK

The qualification contained herein is generic in nature and shall be applied to all asbestos-related work activities conducted for Western Kentucky University. The scope of each specific project will be defined between WKU and the Asbestos Contractor at the outset of that project.

2.3 TERMINOLOGY (DEFINITIONS)

Abatement: Procedures to control fiber release from asbestos-containing materials. For this project, abatement means the removal from the building of all asbestos-containing materials in areas identified by Western Kentucky University or its representative.

Accredited or Accreditation: A person or laboratory accredited in accordance with section 206 of Title II of the Toxic Substances Control Act (TSCA).

Aerosol: A system consisting of particles, solid or liquid, suspended in air.

Air Cell: Insulation normally used on pipes and ductwork that is comprised of corrugated cardboard that is frequently comprised of asbestos combined with cellulose or refractory binders.

Air Lock: A system for permitting ingress and/or egress without permitting air movement between a contaminated area and an uncontaminated area, typically consisting of two curtained doorways at least three feet apart.

Air-monitoring: The process of measuring the fiber content of a specific volume of air in a stated period of time.

Amended Water: Water to which a surfactant has been added to decrease the surface tension to 35 or less dynes.

Asbestos: The asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite. For purposes of determining respiratory and worker protection, both asbestiform and non-asbestiform varieties of the above minerals and any of these materials that have been chemically treated and/or altered shall be considered asbestos.

Asbestos-containing Material (ACM): Any material containing more than 1% by weight of asbestos of any type or mixture of types.

Asbestos-containing Building Material (ACBM): Surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a building.

Asbestos-containing Waste Material: Any material that is or is suspected of being, or any material contaminated with an asbestos-containing material that is to be removed from a work area for disposal as asbestos-containing.

Asbestos Debris: Pieces of ACBM that can be identified by color, texture, or composition; dust, if it is determined by an accredited inspector to be ACM.

Authorized Visitor: WKU, WKU's representative, testing lab personnel, the Architect/Engineer, emergency personnel, or a representative of any federal, state, or local regulatory agency having authority over the project.

Barrier: Any surface that seals off the work area to inhibit fiber movement.

Breathing Zone: A hemisphere forward of the shoulders with a radius of approximately 9 inches.

Building Owner: WKU or authorized representative.

Certified Industrial Hygienist: An industrial hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene.

Clean Room: An uncontaminated area or room that is part of the worker decontamination enclosure system, with provision for storage of workers' street clothes and protective equipment.

Competent Person: Is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees, and has authorization to take prompt corrective measures to eliminate them. They shall be capable of identifying existing asbestos hazards and selecting the appropriate control strategy for asbestos exposure and has the authority to take prompt corrective measures to eliminate them. For Class I and Class II work, one who is specially trained in a course which meets the criteria for EPA's Model Accreditation Plan (40 CFR part 763) for supervisor, or its equivalent and, for Class III and Class IV work, one who is trained with EPA requirements for training of maintenance and custodial staff as set forth at 40 CFR 763.92(a) (2).

Confined Space: A space that: is large enough and so configured that an employee can bodily enter and perform assigned work; has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, and pits are spaces that may have limited means of entry); and is not designed for continuous employee occupancy.

Critical Barrier: A part of the containment barrier or existing partition, or other opening to the outside of the enclosure, which has been sealed with polyethylene plastic film, taped joints, and perimeter. The critical barrier is generally the dividing barrier between work areas and non-work areas. This shall not be removed until proper air clearances have been obtained.

Curtained Doorway: Allows ingress and/or egress from one room to another, permitting minimal air movement between rooms, typically constructed by placing two overlapping sheets of polyethylene over an existing or temporary framed doorway, securing each along the top of the doorway, securing the vertical edge of one sheet along one vertical side of the doorway, and the vertical edge

of the other sheet along the other vertical side of the doorway. Two curtained doorways spaced a minimum of 3 feet apart form an air lock.

Decontamination Enclosure System: A series of connected rooms, with air locks between each, for decontamination of workers, materials, or equipment.

Demolition: The wrecking or taking out of any building component, system, finish, or assembly of a facility together with any related handling operations.

Disposal Bag: A properly labeled 6-mil thick leak-tight plastic bag used for transporting asbestos waste from work and to disposal site.

Encapsulant: A material that surrounds or embeds asbestos fibers in an adhesive matrix, to prevent release of fibers.

Bridging encapsulant: Encapsulant that forms a layer on the surface of the asbestos matrix.

Penetrating encapsulant: Encapsulant that is absorbed by the asbestos matrix without leaving a surface layer.

Removal encapsulant: Penetrating encapsulant specifically designed to minimize fiber release during removal of asbestos-containing materials rather than for encapsulation.

Encapsulation: Treatment of asbestos-containing materials encapsulant.

Enclosure: With respect to asbestos abatement, procedures necessary to enclose asbestos-containing materials within impermeable barriers during asbestos removal. Includes the following:

Full Enclosure: Work area completely enclosed and isolated with critical barriers plus at least 2 layers of 6-mil polyethylene on the floors and a minimum of 2 layers of 4-mil polyethylene on the walls, and at least 1 layer of polyethylene on the ceiling. Also includes complete worker and equipment decontamination enclosure system.

Modified Enclosure: Work area sealed with critical barriers, worker, and equipment decontamination enclosure system to be utilized. When several modified enclosures are in one restricted area of the project, two (2) chamber air locks may be utilized attached to work area and one (1) complete worker and equipment decontamination enclosure system may be used for the series of work areas.

Mini Containment: Work area sealed with critical barriers. Single airlock at entrance to work area (typically used in conjunction with glovebag removal).

Equipment Decontamination Enclosure System: A decontamination enclosure system for materials and equipment, typically consisting of a designated area of the work, a washroom, a holding area, and an uncontaminated area.

Equipment Room: A contaminated area or room that is part of the worker decontamination enclosure system, with provisions for storage of contaminated clothing and equipment.

Filter: A media component used in respirators to remove solid or liquid particles from an inspired air.

Fixed Object: A unit of equipment or furniture in the work area that cannot be removed from the work area; either stationary, permanent or as determined by the University.

Friable Asbestos Material: Contains more than 1.0% asbestos and can be crumbled, pulverized, or reduced to powder by hand pressure when dry.

Glovebag: A sack (typically made of 6-mil transparent polyethylene or polyvinylchloride plastic) with inward projecting long-sleeve gloves, designed to enclose an object from which asbestos-containing material is to be removed.

HEPA Filter: A High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 microns diameter.

HEPA Filter Vacuum Collection Equipment: High efficiency particulate air filtered vacuum collection equipment with a filter system capable of collecting and retaining asbestos fibers. Filters shall be a minimum of 99.97% efficient for retaining fibers greater than 0.3 microns in diameter.

High Efficiency Particulate Air (HEPA) Filter: Is capable of trapping and retaining 99.97% of monodispersed particles 0.3 microns in diameter or larger.

Negative Pressure Respirator: A respirator in which the air pressure inside the respiratory-inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.

Negative Air Pressure System: A pressure differential and ventilation system, utilizing HEPA filtration air filtering devices capable of maintaining a negative pressure inside the work area with respect to pressure outside the containment and a constant air flow from adjacent areas into the work area and exhausting that air outside the work area after proper filtration.

NIOSH: National Institute for Occupational Safety and Health.

Permit-Required Confined Space: A confined space that has one or more of the following characteristics: Contains or has a potential to contain a hazardous atmosphere; Contains a material that has the potential for engulfing an entrant; Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or Contains any other recognized serious safety or health hazard. Or as determined, or posted as, a *Permit-Required Confined Space* by the University

Personal Monitoring: Sampling of asbestos fiber concentrations in the breathing zone of an employee.

Pressure Differential and Ventilation System: A local exhaust system utilizing HEPA filtration capable of maintaining a pressure differential inside the Work Area at a lower pressure than adjacent areas, which cleans recirculated air or generates a constant airflow from adjacent areas into the Work Area.

Protection Factor: The ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.

Removal: All herein specified procedures necessary to strip all asbestos-containing materials from the designated areas and to dispose of these materials at an acceptable site in an acceptable and legal manner.

Repair: Returning damaged ACBM to an undamaged condition or to an intact state to prevent fiber release or further delamination.

Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.

Shower Room: A room between the clean room and the equipment room in the decontamination enclosure system, with hot and cold running water and suitably arranged for complete showering during worker decontamination.

Surfactant: A chemical wetting agent added to water to improve penetration.

Testing Laboratory: The term "testing laboratory" is defined as an independent entity engaged to perform specific inspections or tests of the work, either at the project site or elsewhere; or to report and (if required) interpret results of those inspections or tests. In this project, it shall mean the laboratory working in conjunction with WKU's representative for air-monitoring, clearance testing and bulk sample analysis.

Time Weighted Average (TWA): The average concentration of a contaminant in the air during a specific time or period.

Visible Emission: An emission containing particulate asbestos material that is visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.

Washroom: A room between the work area and holding area in the equipment decontamination enclosure system and comprises an airlock.

Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils that have been dampened with amended water and afterwards thoroughly decontaminated or disposed of asbestos-containing waste.

WKU: Western Kentucky University and/or its designated and authorized representative having over-site to make decisions pertaining to asbestos-related work activities.

Work Area: The area where asbestos-related work or removal operations are performed which is defined and/or isolated to prevent the spread of asbestos dust, fibers, or debris and entry by unauthorized personnel. Work area is regulated area as defined by 29 CFR 1926.

2.4 CODES AND REGULATIONS

General Applicability of Codes, Regulations, and Standards: Except to the extent that more explicit or more stringent requirements are written directly into the project documents, all applicable codes, regulations, and standards have the same force and effect (and are made a part of the project documents by reference) as if copied directly into the project documents, or as if published copies are bound herewith, or as stated in the University's Asbestos Operations and Maintenance Program.

Asbestos Contractor Responsibility: The Asbestos Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State, Local, and WKU regulations pertaining in any way to the asbestos-related work the asbestos contractor was hired to perform, including but not limited to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying adjacent areas.

The list of codes, regulations, and standards set forth below is intended to assist the Asbestos Contractor in determining which laws may be applicable. It is the responsibility of the Asbestos Contractor to ultimately determine which laws govern the particular work to be performed, and to determine if there are any other laws or standards applicable to the job.

The Asbestos Contractor is also responsible for providing medical examinations and maintaining medical records of their personnel as required by the applicable Federal, State, Local, and WKU regulations. The Asbestos Contractor shall hold WKU and WKU's

Representative harmless for failure to comply with any laws applicable to the work, including but not limited to those relating to asbestos inspection or survey, laboratory analysis, project design, air-monitoring, removal, hauling, disposal, safety, health, or other regulations on the part of himself, his employees, or his subcontractors.

Federal Requirements: Which govern asbestos-related work or hauling and disposal of asbestos waste materials include but are not limited to the following (or any rules, legislation, or standards superseding and/or supplementing those listed).

U. S. Department of Labor, Occupational Safety, and Health Administration (OSHA), including but not limited to:

- 29 CFR 1910.1001 General Industry Asbestos Standard
- 29 CFR 1926.1101 Construction Industry Asbestos Standard
- 29 CFR 1910.134 OSHA Respiratory Protection Standard
- 29 CFR 1910.145 Specification for Accident Prevention, Signs, and Tags
- 29 CFR 1910.146 Permit-Required Confined Spaces
- 29 CFR 1910.1200 Hazard Communication
- 29 CFR 1910.1020 Access to Employee Exposure and Medical Records

U. S. Environmental Protection Agency (EPA) including but not limited to:

- 40 CFR Part 61, Subpart A NESHAP National Emission Standard for Asbestos
- 40 CFR Part 61, Subpart M National Emissions Standards for Hazardous Air
(Revised Subpart B) Pollutants
- 40 CFR Part 61, Asbestos National Emission Standard for Hazardous Air
Revision (Nov. 20, 1990) Pollutants
- 40 CFR Part 763, Subpart E AHERA: Asbestos Hazards Emergency Response Act
- 40 CFR Part 763, Subpart G Worker Protection Rule

State Requirements: Which govern asbestos-related work or hauling and disposal of asbestos waste materials include but are not limited to the following (or any rules, legislation, or standards superseding and/or supplementing those listed).

- 401 KAR 58:005 Accreditation of Asbestos Professionals
- 401 KAR 58.010 Local Education Agencies
- 401 KAR 58:025 Asbestos NESHAP Standard
- 401 KAR 58:040 Requirements for Asbestos Abatement Entities

Local Requirements: Abide by local and WKU specific requirements that govern asbestos-related work or hauling and disposal of asbestos waste materials, including but not limited to the:

Western Kentucky University Asbestos Operations and Maintenance Program

2.5 STANDARDS

Standards: Which govern asbestos-related work or hauling and disposal of asbestos waste materials include but are not limited to the following:

American National Standards Institute (ANSI)
1430 Broadway
New York, New York 10018 (212) 354-3300

Fundamentals Governing the Design and Operation of Local
Exhaust Systems Publication, ANSI Z9.2-79

Practices for Respiratory Protection Publication Z88.2-80

American Society for Testing and Materials (ASTM)
1916 Race Street
Philadelphia, PA 19103

Specifications for Encapsulants for Friable Asbestos-containing Building Materials
Proposal P-189

Safety and Health Requirement Relating to Occupational Exposure to Asbestos 849-82

Underwriters Laboratories, Inc. (UL)

2.6 EPA GUIDANCE DOCUMENTS

EPA Guidance Documents: Thoroughly discuss and provide guidance pertaining to all asbestos-related work, hauling, and disposal of asbestos waste materials.

EPA maintains an information number (800) 334-8571, publications can be ordered from (800) 424-9065, (554-1404 in Washington, DC):

Asbestos-containing Materials in School Building - A Guidance Document
PART 1 & 2 (orange books)
EPA C00090 (out of print)

Guidance for Controlling Asbestos-Containing Materials in Buildings
(Purple Book) EPA 560/5-85-024

Friable Asbestos-containing Materials in Schools: Identification and Notification Rule
EPA 560/5-85-005

Asbestos in Buildings: National Survey of Asbestos-containing Friable Materials
EPA 560/5-84-006

Asbestos Waste Management Guidance EPA 530-SW-85-007

Asbestos Fact Book EPA Office of Public Affairs

Asbestos in Buildings Simplified Sampling Scheme for Friable Surfacing Materials EPA
50/5-85-030a

Commercial Laboratories with Polarized Light Microscopy Capabilities for bulk
asbestos identification.

A guide to Respiratory Protection for the Asbestos Abatement Industry EPA 560-
OPTS-86-001

2.7 NOTICES

The Asbestos Contractor shall send notification of planned asbestos abatement, as required by the US EPA National Emissions Standards for Hazardous Air Pollutants to the WKU Asbestos Program Coordinator (via e-mail only) at least ten (10) days prior to beginning any work on asbestos-containing materials not covered under the University's Long Term Notification or 2 hours prior to beginning any work covered under the University's long term Notification. **At no time shall the Asbestos Contractor send notification directly to Kentucky Division for Air Quality without written prior approval from the WKU Asbestos Program Coordinator or the designated appointee.**

All notification shall be via e-mail. A copy of this notification shall be present on the project site during all asbestos abatement work at WKU.

The notification shall be submitted to the University's Asbestos Coordinator or a person designated by the WKU Asbestos Coordinator on the official Kentucky Division for Air Quality Notification of Asbestos Abatement/Demolition/Renovation form, via e-mail only, and shall include the following:

- Name and address of the Asbestos Contractor
- Legal owner; 1906 College Heights Blvd., Bowling Green, KY, 42101 as address
- Address and description of the building, including size, age, and prior use of the building, and amount of friable and non-friable asbestos-containing materials to be removed
- Scheduled starting and completion dates for the work
- Name and address of proposed, approved waste disposal site
- Documentation that the job will be supervised by a person who is certified as needed under state and federal requirements
- Procedures to be used to comply with requirements of NESHAPS

The abatement notification shall be sent to the Western Kentucky University Asbestos Program Coordinator at this email address:

[WKU Asbestos Program Coordinator](#)

2.8 LICENSES AND PERMITS

The Asbestos Contractor shall be expressly licensed in the Commonwealth of Kentucky as an asbestos-related entity. This license shall be current and in effect during the term of the project.

The Asbestos Contractor shall obtain and maintain current any additional licenses or permits required by federal, state, local, or WKU authorities for all work to be performed.

2.9 FURTHER REQUIREMENTS

Asbestos Contractor shall submit documentation to WKU indicating that each removal employee has had instruction on the hazards of asbestos exposure, on use and fitting of respirators, on protective dress, on use of showers, on entry and exit from work areas, and on all aspects of work procedures and protective measures and that each understands this instruction. *A Certificate of Worker Acknowledgement (WKU Appendix I) and Certificate of Worker Release (WKU Appendix J) shall be signed by all workers performing asbestos-related activities. A completed WKU Appendix I and J shall be provided to the WKU Asbestos Program Coordinator, before any Asbestos Contractors, representative or worker shall be allowed to perform any asbestos-related work activities on all properties owned, operated, managed, or maintained by WKU.*

Asbestos Contractor shall submit a list of all workers proposed to perform work on the project to the WKU Asbestos Coordinator for review prior to start of work.

Post warning signs in and around the work area to comply with OSHA Regulation 29 CFR 1926.1101 and in compliance with all other Federal, State, and Local Requirements.

WKU and Asbestos Contractor must agree in writing on building and fixture condition prior to commencement of work. It shall be the Asbestos Contractor's responsibility to replace or repair to WKU's satisfaction, prior to close out of the project, all items identified by WKU as missing or having been damaged by the Asbestos Contractor and not proven otherwise.

Submit documentation to WKU that all required permits, site location, and arrangements for transport and disposal of asbestos-containing or contaminated materials have been obtained.

Submit to WKU drawings for construction of decontamination enclosure systems and for isolation of the work areas in compliance with this qualification and all applicable regulations.

2.10 HOLD HARMLESS CLAUSE

The Asbestos Contractor shall indemnify, hold harmless, and defend WKU, its elected and appointed officials, employees, agents and successors in interest from all claims, damages, losses and expenses including attorneys' fees, arising out of or resulting, directly or indirectly, from the Asbestos Contractor's, or subcontractor's, performance provided that such claim, damage, loss, or expense is: (1) attributable to personal injury, bodily injury, sickness, death, or to injury to or destruction of property, including the loss of use resulting there from and (2) not caused by the negligent act or omission or willful misconduct of WKU or its elected and appointed officials and employees acting within the scope of their employment.

This Hold Harmless and Indemnification Clause shall in no way be limited by any financial responsibility or insurance requirements and shall survive the termination of the project.

The Asbestos Contractor shall comply at all times with all other laws, rules, regulations, codes, and ordinances; state, federal or municipal, applicable to services to be performed by the Asbestos Contractor. The Asbestos Contractor agrees to indemnify WKU and hold it harmless from all liability solely due to the violation of such laws or regulations by the Asbestos Contractor for any failure.

2.11 INSURANCE

Asbestos Contractor shall provide the following insurances through insurance companies licensed in Kentucky. Insurance written by non-admitted carriers will be considered acceptable, in accordance with Kentucky Insurance Law (KRS 304.10-040). Workers' Compensation written through qualified self-insurance programs in accordance with Kentucky Revised Statutes (KRS 342.350) will be acceptable. The Asbestos Contractor shall not work until all insurance required has been obtained and until copies of policies or certificates thereof are submitted to and approved by WKU. A current copy of Asbestos Contractor's applicable insurance statement(s) shall be enclosed with this qualification, policy renewals shall be submitted to the WKU Asbestos Program Coordinator.

The Asbestos Contractor shall not allow any subcontractor to work until the insurance required of such subcontractor has been obtained and copies of certificates of insurance retained by Asbestos Contractor evidencing proof of coverage.

Without limiting Asbestos Contractor's indemnification requirements, it is agreed that Asbestos Contractor shall maintain in force at all times during the performance of the project the following policy or policies of insurance covering its operations, and require subcontractors, if subcontracting is authorized, to procure and maintain these same policies until final acceptance of the work by WKU, or as separately specified hereinafter.

WKU may require Asbestos Contractor to supply proof of subcontractor's insurance via certificates of insurance, or at the WKU option, actual copies of policies.

The following clause shall be added to the Asbestos Contractor's (and subcontractors) Commercial/Comprehensive General Liability Policy and Contractors Pollution Legal Liability Policy:

"Western Kentucky University, its elected and appointed officials, employees, agents and successors are added as an "Additional Insured" as respects operations of the Named Insured performed relative to the asbestos-related work activity provided ."

The insurance to be procured and maintained minimum limits of liability shall be, unless different limits are specified by the project:

COMPREHENSIVE GENERAL LIABILITY/COMMERCIAL GENERAL LIABILITY, via the Occurrence Form, with a one million dollars (\$1,000,000) Combined Single Limit for any Occurrence for Bodily Injury, Personal Injury, and Property Damage including:

- Premises - Operations Coverage
- Products and Completed Operations
- Contractual Liability
- Broad Form Property Damage
- Independent Contractors Protective Liability
- Personal Injury

NOTE: Either this policy shall, by Endorsement, specifically state that the Pollution Hazard is covered, **via the Pollution Liability Coverage Extension Endorsement**, or a separate policy providing **Contractor's Pollution Legal Liability Coverage (CPLL)** shall be purchased.

If this coverage is written on a **CLAIMS-MADE** basis, the Asbestos Contractor shall, after work has been completed, furnish evidence to WKU that the liability coverage has been **maintained for at least two (2) years** after completion of the work, either by submitting renewal policies with a retroactive date of not later than the date work commenced under this project or by evidence that the Asbestos Contractor has purchased an **Extended Reporting Period Endorsement** that will apply to any and all claims arising from work performed at WKU.

AUTOMOBILE LIABILITY: Insuring all owned motor vehicles used to transport waste materials. **One million dollars (\$1,000,000)** is the minimum Combined Single Limit for any one accident. The Endorsement for "Motor Carrier Policies of Insurance for Public Liability under Sections 29 and 30 of the Motor Carrier Act of 1980" must also be attached to this policy, if required by law.

WORKERS' COMPENSATION: Insuring the employers' obligations under Kentucky Revised Statutes Chapter 342 at Statutory Limits, and Employers' Liability with Limits of \$100,000 Each Accident; \$500,000 Disease-Policy Limit; \$100,000 Disease Each Employee.

CONTRACTORS POLLUTION LEGAL LIABILITY COVERAGE: Required if above is not endorsed to provide Pollution Hazard coverage. Prefer coverage written on Broad Form basis, however, if written on a site-specific basis, this will be considered acceptable, if Asbestos Contractor supplies proof to WKU that this site is covered. Preferably, this policy *shall* include WKU as an **Additional Insured. \$1,000,000 per Occurrence** with a **\$2,000,000 Aggregate** is the minimum acceptable Limits.

NOTE: If this coverage is written on a **CLAIMS-MADE** basis, the Asbestos Contractor shall, after work has been completed, furnish evidence to WKU that the liability coverage has been maintained for at least *two (2) years* after completion of the work. Either by submitting renewal policies with a retroactive date of not later than the date work commenced or by evidence that the Asbestos Contractor has purchased an *Extended Reporting Period Endorsement* that will apply to any and all claims arising from work performed.

2.12 ACCEPTABILITY OF INSURERS

Insurance is to be placed with Insurance Companies with an A. M. Best Rating of no less than "**B+VI**", unless proper financial information relating to the insurance company is submitted to and approved by WKU prior to Asbestos Contractor qualification.

2.13 OTHER INSURANCE REQUIREMENTS

The Asbestos Contractor shall procure and maintain insurance policies as described herein and for which WKU shall be furnished Certificates of Insurance upon qualification. The Certificates shall include provisions stating that the policies may not be cancelled or materially amended without WKU having been provided at least thirty (30) days written notice. **The Certificates shall identify WKU** and shall include the name and address of the person executing the Certificate of Insurance as well as the person's signature. If policies expire before the completion of the project, renewal Certificates of Insurance shall be furnished to the WKU before the expiration date.

Approval of the insurance by WKU shall not in any way relieve or decrease the liability of the Asbestos Contractor hereunder. It is expressly understood that Western Kentucky University does not in any way represent that the specified Limits of Liability or coverage or policy forms are sufficient or adequate to protect the interest or liabilities of the Asbestos Contractor.

2.14 ASBESTOS CONTRACTORS PERSONNEL

The conduct of all Asbestos Contractor personnel performing work is expected to be courteous and respectful and shall be with honesty, professional, and ethical principles. *Personnel shall have the ability to communicate with English language and wear a visible I.D. card bearing the company's name, their name, and picture while working on University property.* WKU has a zero tolerance policy for threats, violence, and any acts that may create an intimidating and disruptive work environment. Personnel with prior convictions of felony crimes shall not be allowed to work at WKU.

Prohibited acts shall not be tolerated on University property, such as but not limited to:

- Possession or under the influence of alcohol or illegal substances.
- Use of tobacco products shall conform to University policy.
- Theft or unauthorized removal, use, or disposal of University property.
- Harassing, threatening, profane, or unwanted stares, comments, conversation, phone calls, letters, e-mails, or other communications.
- Possession and/or use of firearms, bombs, weapons or other items of destruction.
- Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature that constitute sexual harassment.
- Physical altercations or instigating and/or encouraging violent behavior by others.
- Stalking, threatening, or similar intimidation either directly or indirectly.

Violation of this provision shall be determined by WKU and may result in expulsion of the offending personnel and/or cancellation of this qualification.

2.15 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

General Superintendent: In addition to section 2.14 Asbestos Contractors Personnel, Asbestos Contractor shall provide a full-time General Superintendent who is experienced in administration and supervision of asbestos-related projects including work practices, protective measures for building and personnel, disposal procedures, etc. This person is the Competent Person as required by OSHA in 29 CFR 1926 for the Asbestos Contractor and is the Asbestos Contractor's representative

responsible for compliance with all applicable federal, state, and local regulations, particularly those relating to asbestos-containing materials as specified in 1926.1101.

For asbestos abatement this person must have completed a course at an EPA equivalent certificate course in asbestos abatement procedures, have had a minimum of two (2) years on-the-job training and meet any additional requirements set forth in 29 CFR 1926 for a Competent Person.

Asbestos Contractor shall, prior to working, provide WKU with written documentation that the Asbestos Contractor has such a person and that such person will be used at the job site at all times.

2.16 CONTINGENCY PLAN

Contingency Plan: Asbestos Contractor shall prepare a contingency plan for emergencies including fire, accident, power failure, negative air system failure, or any other event that may require modification or abridgment of decontamination or work area isolation procedures. Include in plan specific procedures for decontamination or work area isolation. Nothing in this specification shall impede safe exiting or providing of adequate medical attention in an emergency.

Asbestos Contractor Shall Post: In clean room of personnel decontamination unit telephone numbers and locations of emergency services including but not limited to the WKU Police Department, Asbestos Program Coordinator and, Department of Facilities Management.

2.17 LOCAL NOTIFICATIONS

WKU shall be responsible for notifying building occupants, and all other entities at the job site of the nature of the asbestos abatement activities, location of asbestos-containing materials, requirements relative to asbestos set forth in this qualification and applicable regulations. **All asbestos-related concerns shall be directed to the WKU Departmental Asbestos Coordinator who requested the work and/or the Asbestos Program Coordinator, at no time shall the Asbestos Contractor directly address building occupants, residents, general public, or media pertaining to asbestos-related issues.**

2.18 PERSONNEL PROTECTION

The disturbance or dislocation of asbestos-containing materials may cause asbestos fibers to be released into the building's atmosphere, thereby creating a potential health hazard to workers and building occupant. Asbestos Contractor shall apprise all workers, supervisory personnel, subcontractors, and consultants who will be at the job site of the seriousness of the hazard and of paper work procedure that must be followed.

Where in the performance of the work, workers, supervisory personnel, subcontractors, or consultants may encounter, disturb, or otherwise function in the immediate vicinity of identified asbestos-containing measures as necessary to protect all building occupants from the potential hazard of exposure to airborne asbestos. Such measures shall include the procedures and methods described herein, and compliance with regulations of applicable federal, state, and local agencies.

Prior to commencement of work, workers shall be instructed by the Asbestos Contractor and be knowledgeable of the dangers of asbestos exposure, respirator use, and decontamination. Asbestos Contractor shall provide workers with personally issued respiratory equipment approved by NIOSH and Mine Safety and Health Administration (MSHA) and suitable for the asbestos exposure level in the work area according to OSHA Standard 29 CFR 1926.1101 and/or other applicable laws. Where respirators with disposable filters are employed, provide sufficient filters for replacement as required by the worker or applicable regulation.

In addition to other legal requirements, the Asbestos Contractor shall ensure that its respirator program is in accordance with American National Standards Practices for Respiratory Protection ANSI Z88.2-1980, with the exception of Appendix A5, Suggested Procedures for Carrying Out Qualitative Respiratory-Filtering Tests, and Appendix A6, Suggested Procedures for Carrying Out Quantitative

Respiratory-Filtering Tests. Respiratory protection procedures shall be in accordance with recognized industry standards, as those described in the National Institute of Building Science "Model Asbestos Abatement Guide Specification:" 01562.

Asbestos Contractor shall provide workers and qualified visitors with sufficient protective full body clothing. Such clothing shall consist of full body coveralls, headgear, eye protection, and hard hats as required by applicable safety regulations.

Disposable type protective clothing, headgear, and footwear shall be used and disposed of as asbestos-contaminated waste. Asbestos Contractor shall post in the equipment room and the clean room, the work procedures to be followed by workers, as described in the qualification.

2.19 WORKER PROTECTION PROCEDURES

Reporting Accidents: Asbestos Contractor shall submit reports of significant accidents during work at WKU. Record and document date and actions and comply with industry standards. For this purpose, a significant accident is defined to include events where personal injury or property loss is sustained, or where the event posed a significant threat of personal injury.

The Asbestos Contractor is responsible for compliance with the following:

- Workers and authorized visitors entering the work area shall remove street clothes in the clean change room, put on a respirator with new filters, and clean uncontaminated protective clothing before entering the equipment room or the work area. Facemasks must always have proper seals and fit properly.
- Worker shall not eat, drink, apply cosmetics, or chew gum at the work site except in an established clean area.
- Workers shall be protected from the time of first disturbance of asbestos-containing or contaminated materials prior to commencing actual asbestos abatement and until final cleanup is completed and clearance testing has certified the area is uncontaminated if applicable. Initial, pre-cleaning of a work area shall be considered "first disturbance", dual HEPA cartridge half-face respirators shall be required as a minimum from that point.
- All workers and authorized visitors shall, each time they leave the work area: Remove gross contamination from clothing; proceed to the equipment room and remove all clothing except respirators. Still wearing the respirator proceed naked to the showers; clean the outside of the respirators while showering; remove the respirator, thoroughly shampoo and wash themselves; remove filters wet and dispose of filters in the container provided for the purpose; and wash and rinse the inside of the respirators.
- Following showering, workers and authorized visitors shall proceed to the clean change room and dress in clean clothes at the end of work, or before eating, smoking, or drinking. Before re-entering the work area from the clean change room, workers and authorized visitors shall put on a clean respirator with filters and shall dress in clean protective clothing, except that workers intending to re-wear contaminated protective clothing stored in the equipment room shall enter the equipment room wearing only respirators.
- Contaminated footwear shall be stored in the equipment room when not in use in the work area. Upon completion of asbestos abatement, dispose of footwear as contaminated waste or clean thoroughly inside and out before removing from work area or from equipment room for reuse or dispose of with other asbestos-contaminated materials.
- Workers removing waste containers from the equipment decontamination enclosure shall enter the holding area from outside wearing a respirator and dressed in clean coveralls. No worker shall use this system as a means to leave or enter the work area.

- ☑ Shirts and pants are required at all times. *Workers on asbestos projects shall be fully dressed in appropriate street clothing (no cut-off shirts or pants) at all times except while working inside negative pressure enclosures.*

2.20 EQUIPMENT REMOVAL PROCEDURES

The Asbestos Contractor shall clean external surfaces of contaminated containers and equipment thoroughly by wet wiping prior to moving to uncontaminated areas. Asbestos Contractor shall further ensure that personnel do not leave work areas through the equipment decontamination enclosure system.

2.21 MATERIALS AND EQUIPMENT

Deliver all materials in original package, container, or bundles bearing the name of the manufacturer and brand name. Deliver, store and handle products in accordance with manufacturer's recommendations, using methods that prevent damage, loss, theft, or injury.

Store all materials subject to damage off the ground, away from wet or damp surfaces, and cover sufficient to prevent damage or contamination.

Damaged or deteriorating materials shall not be used and removed from the premises. Materials that become asbestos-contaminated shall be disposed of in accordance with applicable regulations.

Polyethylene shall be a minimum of 6-mil thickness unless otherwise specified, in sizes to minimize the frequency of joints, splicing or cutting.

Tape shall be capable of sealing joints of adjacent sheets of polyethylene and for attachment of polyethylene sheet to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions, including use of amended water.

Amended water shall be applied only with pump sprayers or bucket water. No water hoses shall be allowed. Comply with the manufacturer's instructions and recommendations for installation of the products in the applications indicated.

Impermeable containers, to be furnished by Asbestos Contractor, suitable to receive and retain any asbestos-containing or contaminated materials until disposal at an approved site. The containers shall be labeled by the Asbestos Contractor in accordance with all laws including OSHA Regulation 29 CFR 1926.1101 DOT Regulation 49 CFR Parts 171 and 172, and NESHAP Regulation 40 CFR Part 61, Subpart M; Revision. Containers shall be airtight, watertight, and resistant to damage and rupture.

The Asbestos Contractor shall furnish warning labels and signs as required by all laws including OSHA Regulation 29 CFR 1926.1101 and Western Kentucky University.

2.22 TOOLS AND EQUIPMENT

Asbestos Contractor shall provide suitable tools for asbestos removal.

Negative Air Pressure Equipment: High efficiency particulate air (HEPA) systems shall be filtration equipment in compliance with ANSI Z9.2-79, local exhaust ventilation. No air movement system or air filtering equipment shall discharge unfiltered air outside the work area. Negative pressure shall be held on the work area (24 hours a day) from the start of work in the area until the area has been decontaminated and capable of extracting a minimum of 2000 CFM per 30,000 cubic feet and a maximum of 5000 CFM. All exhausted air shall be filtered and discharged outside the work area.

3.0 NEGATIVE AIR PRESSURE SYSTEM

Negative pressure machines and the process of setting up a negative pressure space may be subject to patent rights (E.G. U.S. Patent Number 4,604,111). It is the sole responsibility of the Asbestos Contractor to obtain any required permission and/or licenses for the use of any patented methods. Do not use any patented process without the permission and/or license.

Asbestos Contractor specifically agrees to indemnify and hold harmless WKU for any liability that WKU, its successor or assigns, may incur because of, or in any way related to, Asbestos Contractor's use of patented and/or proprietary processes without obtaining permission and/or license for use.

3.1 GENERAL

Supply and maintain the required number of asbestos air filtration units to the site in accordance with these Technical Specifications.

Cabinet: Constructed of durable materials able to withstand rough handling and transportation, width of cabinet should be less than 30 inches. Cabinet shall be factory sealed to prevent asbestos-containing dust from being released during use, transport, or maintenance. Access and replacement of all air filters shall be from intake end.

Fans: Rate capacity of fan according to usable air-moving capacity under actual operating conditions taking into consideration debris loaded filters.

HEPA Filters: The final filter shall be HEPA media completely sealed on all edges with a structurally rigid frame. A continuous rubber gasket shall be located between the filter and the filter housing to form a seal. Each filter shall be individually tested and certified by the manufacturer for an efficiency of not less than 99.97% when challenged with 0.3 um dioctylphalate (DOP) particles. Testing shall be in accordance with Military Standard 282 and Army Instruction Manual 136-300-175A. Each filter shall bear a UL586 label stating performance under specified conditions. Each filter shall be labeled with the name of the manufacturer, serial number, airflow rating, efficiency, resistance, and the direction of airflow. Filters 99.99% efficient shall be used if available.

Pre-filters: Which protect the final filter by removing the larger particles, are required to prolong the operating life of the HEPA filter. Two stages of pre-filtration are required. The first stage pre-filter shall be a low-efficiency type (e.g. for particles 10 um and larger). The second stage (or intermediate) filter shall have a medium efficiency (e.g. effective for particles down to 5 um). Pre-filters and intermediate filters shall be installed either on or in the intake grid of the unit and held in place.

Safety and Warning Devices: The units shall have a lockout to prevent fan from operating without a HEPA filter. Units shall be equipped with automatic shutdown system to stop fan in the event of a major rupture in the HEPA filter or blocked air discharge. Warning lights are required to indicate normal operation, too high a pressure drop across the filters (*i.e. filter overloading*) and too low of a pressure drop (*HEPA filter rupture*).

Electrical Components: Shall be approved by the National Electrical Manufacturers Association (NEMA) and Underwriters Laboratories (UL). Each unit shall be equipped with overload protection sized for the equipment. The motor, fan, fan housing, and cabinet shall be grounded.

3.2 MANUFACTURERS

Manufacturer: Subject to compliance, manufacturers offering products that may be incorporated in the work include, but are not limited to:

Asbestos Control Technology, Inc. PO Box 183 Maple Shade, NJ 08052	"Micro-Trap"
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Control Resource Systems, Inc.	"Hog 2000"
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670 Mariner Drive
Michigan City, IN 46360

Global Consumer Services, Inc.
1721 N. Highland Avenue
Los Angeles, CA 90028

"Red Baron"

NOTE: This is a list of firms known to manufacture negative air machines. No manufacturers have been excluded and no attempt has been made to evaluate these products. Additional suppliers may exist. Product literature should be used to evaluate these machines to verify that products indicated are still being manufactured.

3.3 PRESSURE DIFFERENTIAL

Provide a fully operational negative air system within the work area maintaining continuously a pressure differential across work area enclosures no less than 0.01 inches of water. Assure required pressure differential before disturbance of any asbestos-containing materials.

3.4 PREPARATION OF THE WORK AREA

Determining the Ventilation Requirements: Provide operational negative pressure systems supplying a minimum of one air change every 15 minutes. Determine the volume in cubic feet for the work area by multiplying floor area by ceiling height. Determine ventilation requirement in cubic feet per minute (CFM) for the work area by dividing this volume by the air change rate.

Ventilation Required (CFM) = Volume of work area (cu. ft.) /15 min

- Determine Number of Units:* needed to achieve 15-minute change rate by dividing the ventilation requirement (CFM) above by capacity of exhaust unit(s) used. Capacity of a unit for purposes of this section is the capacity in cubic feet per minute with fully loaded filters in the machines operating characteristics.
- Number of Units Needed = Ventilation Requirement (CFM)
- Capacity of Unit with Loaded Filters (CFM)
- Add one (1) additional unit as a backup unit

Location of Exhaust Units: Locate exhaust unit(s) so makeup air enters the work area primarily through the decontamination chamber and traverses work area as much as possible. Accomplish this by positioning the exhaust unit(s) at a maximum distance from the worker access opening or makeup air sources pulling make-up air across work area(s).

Place End of Unit: Or its exhaust duct through an opening in the plastic barrier or wall covering. The plastic around the unit or duct shall be sealed.

Vent to Outside of Building

Supplemental Makeup Air Inlets: Required for proper airflow through the workspace by making openings in the plastic sheeting that allow air from outside the building into the work area. Locate auxiliary makeup air inlets as far as possible from the exhaust unit(s) (e.g., on an opposite wall), off the floor (preferable near the ceiling), and away from enclosure separating barriers.

Cover with flaps to reseal automatically if the negative pressure system should shut down for any reason. Spray flap and around opening with spray adhesive so that flap seals if it closes.

- IF MAKEUP AIR IS COMING FROM A CONTAMINATED SOURCE OR POTENTIALLY CONTAMINATED THEN IT SHOULD PASS THROUGH A HEPA FILTER BEFORE

ENTERING WORK AREA. IF THIS IS DONE, SUPPLY AIR FANS WILL BE NECESSARY TO OVERCOME THE RESISTANCE OF THE HEPA FILTER. USE OF A NEGATIVE AIR MACHINE MAY BE A PRACTICAL MEANS OF ACCOMPLISHING THIS. CAUTION MUST BE USED TO INSURE THAT WORK AREA REMAINS UNDER NEGATIVE PRESSURE.

3.5 USE OF THE NEGATIVE PRESSURE SYSTEM

GENERAL: Each unit shall be serviced by a dedicated minimum 115V-20A circuit with overload device tied into an existing building electrical panel that has sufficient spare capacity to accommodate the load of all negative pressure units connected.

It is the Asbestos Contractor's responsibility to foresee that a sufficient electrical supply is available prior to starting the removal procedure. The Asbestos Contractor is responsible for locating the circuit breaker disconnect for the respectable circuit being used prior to making their connection and tagging the breaker, or disconnect with an appropriate tag to identify that circuit supplies their equipment with project contact information.

The Asbestos Contractor shall make certain that no vital WKU equipment is connected to the circuit they choose to use. If satisfactory receptacles for the anticipated loads are not readily available, the Asbestos Contractor shall notify WKU with sufficient advance notice for WKU to make available such circuits. At no times shall the Asbestos Contractor make alterations to WKU electrical systems.

TESTING THE SYSTEM: Test negative pressure system before any asbestos-containing material is wetted or removed. After the work area has been prepared, the decontamination facility set-up, and the exhaust unit(s) installed, start the unit(s) (one at a time).

Testing shall include, but not be limited to the following:

- Plastic barriers and sheeting shall move lightly inward.
- Curtain of decontamination units should move lightly inward.
- There shall be movement of air through the decontamination unit. Use smoke tube to demonstrate air movement from Clean Room to Shower Room, from Shower Room to Equipment Room, and from Equipment Room to Work Area.
- Use smoke tubes to demonstrate a positive motion of air across Work Area.
- Use a differential pressure meter or manometer to demonstrate a pressure difference of at least 0.01 inches of water across every barrier separating the work area from the ambient air.

Modify the Negative Pressure System: As necessary to successfully demonstrate the above.

Use of System during Abatement Operations: Start exhaust units before beginning work (before any asbestos-containing material is disturbed). After abatement work has begun, run units continuously to maintain a constant negative pressure until decontamination of the work area is complete. *Do not turn off units at the end of the work shift or when abatement operations temporarily stop, negative air system shall be operational until work activity has clearance.*

Do not shut down negative air system during decontamination encapsulating procedures. Machines shall run 24 hours a day until final inspection and final air tests establish that the area has been decontaminated and the WKU representative has given final inspection approval.

Start abatement work farthest from the exhaust units and proceed toward them. If a power failure occurs immediately stop all abatement work, do not resume until exhaust units are operating.

At completion of abatement work, allow exhaust units to run to remove airborne fibers that may have been generated during abatement work and clean up and to purge the work area with clean

makeup air. The units may be required to run for a longer time after decontamination, if dry or only partially wetted asbestos material was encountered during any abatement.

Dismantling the System: When a final inspection and results of final air tests indicate the area has been decontaminated, exhaust units may be removed. Properly dispose pre-filter, and seal intake to the machine with 6-mil polyethylene to prevent environmental contamination from the filters.

4.0 SITE WORK

4.1 PREPARATION

Provide temporary power and lighting; ensure safe installation of temporary equipment per applicable electrical code requirements. *Temporary lighting shall be OSHA compliant.*

Pre-clean movable objects within the proposed work areas using High Efficiency Particulate Air (HEPA) vacuum equipment and/or wet cleaning methods. Remove such objects from work areas to a temporary location as designated by WKU. Protection of and accounting for the stored materials is the sole responsibility of the Asbestos Contractor.

Pre-clean fixed objects within the proposed work areas, using High Efficiency Particulate Air (HEPA) vacuum equipment and/or wet cleaning methods as appropriate, and enclose in minimum 6-mil polyethylene sealed with tape. Clean the proposed work areas using High Efficiency Particulate Air (HEPA) vacuum equipment or wet cleaning methods as appropriate. Do not use methods that raise dust, such as dry sweeping or vacuuming with equipment not equipped with HEPA filters.

4.2 EXECUTION

Carry out work in this section sequentially. Complete each activity before proceeding to the next.

Work Area: Is the location where asbestos-abatement work occurs. It is a variable of the extent of work of the contract. It may be a portion of a room, a single room, or a complex of rooms. A "work area" is considered contaminated during the work; it must be isolated from the balance of the building and decontaminated at the completion of asbestos-control work.

Completely Isolate: The work area shall be isolated from other parts of the building to prevent asbestos-containing dust or debris from passing beyond the isolated area. Should the area beyond the work area(s) become contaminated with asbestos-containing dust or debris because of the work, clean those areas in accordance with recognized procedures. All such required cleaning or decontamination shall be at no additional cost to WKU.

Disable Ventilating Systems: All HVAC systems bringing air into or out of the work area shall be properly disabled. Disable system by disconnecting wires, removing circuit breakers, by lockable switch or other positive means that will prevent unscheduled restarting of equipment.

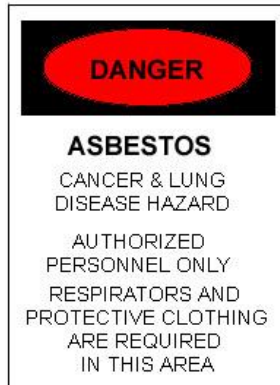
4.3 CONTROL ACCESS

Permit access: Access the work area only through the decontamination unit.

Visual Barrier: Where the work area is within view of occupied areas, provide a visual barrier of black 6-mil polyethylene sheeting so the work areas are not visible to building occupants.

Provide Asbestos Danger Signs: Affix proper signage at each visual and physical barrier.

Immediately inside door and outside critical barriers post an approximately 20 inch by 14 inch manufactured danger sign displayed with letters and styles as required by 29 CFR 1926.1101:



Provide spacing between lines at least equal to the height of the upper line.

Provide and display all signage required in accordance with Federal Regulations or State and Local Regulations. Warning signs shall be of a vertical format measuring twenty (20) inches in length and sufficient size and contrast as to be readily visible and legible.

Signs shall be posted at such a distance from regulated areas that an occupant may read the signs and take necessary protective steps before entering the marked area.

Provide all required emergency exits as required by the Kentucky State Building Code, Kentucky State Fire Marshal, and the Western Kentucky University Fire Safety Officer.

Remove and clean ceiling mounted objects, lights, etc., not sealed off and which interfere with asbestos abatement. Use localized water spraying or HEPA equipment during removal to reduce fiber dispersal. Use water only after electrical power has been turned off.

The Asbestos Contractor shall construct an approved airlock with curtained doorways of plastic sheeting at all entrances and exits to the work areas.

4.4 DECONTAMINATION UNITS

Asbestos Contractor shall provide personnel decontamination unit, on friable removal projects, consisting of connected rooms or spaces: clean room, drying room, shower room, equipment room.

All persons shall pass through decontamination unit into and out of work area.

Clean Room: Provide a room that is physically and visually separated for the purposes of changing into protective clothing.

Airlock: Airlocks shall be located between work area and equipment room, between equipment room and shower, between shower and clean room.

Drying Room: Provide an area for workers to dry after showering.

Shower Room. Provide a watertight, operational shower room.

Equipment Room: Require work equipment, footwear, and additional contaminated protective clothing to be left in this area prior to the worker advancing to the shower room.

The decontamination area shall be separated from the regulated area by an air lock. Air locks shall be used to separate the clean room, shower area and equipment room. An "air lock" is the area

used to separate the clean room, shower room, and equipment room from the work area. It is accessible through doorways protected by two overlapping polyethylene sheets.

An equipment room with two curtained doorways, one to the work area and one to the shower room sufficient to accommodate at least one worker, shall be constructed. The equipment room shall meet applicable regulations.

A shower room with two airlocks, one to the equipment room and one to the clean room, shall be constructed. The shower room shall conform to the requirements of applicable regulations and shall contain a minimum of one shower with hot and cold water. Attention shall be paid to the shower to ensure against leaking of the showers. Furnish soap at in the shower room. Shower drains must be filtered according to applicable regulations.

A "clean room" with one airlock into the shower and one entrance or exit to non-contaminated areas of the building shall be constructed. The clean room shall provide space for storage of workers' non-contaminated items. Construct with applicable regulations using polyethylene sheeting to provide an airtight seal between the changing room and clean areas. Locate so that access to work area from changing room is through shower room. Require workers to remove all clothing in this room, don clean disposable coveralls, and respiratory equipment.

Asbestos Contractor shall require all persons without exception pass through this decontamination unit for entry into and exiting from the work area for any purpose.

Do not allow parallel routes for entry or exit. Do not remove equipment or materials through personnel decontamination unit. Do not allow asbestos contaminated items in this room.

4.5 EQUIPMENT DECONTAMINATION

The Asbestos Contractor shall construct an equipment decontamination enclosure system consisting of two totally enclosed chambers:

- Washroom constituting an airlock, with a curtained doorway to a designated area of the work area and a curtained doorway to the holding area.
- Holding area constituting an airlock, with a curtained doorway to the washroom and a curtained doorway to an uncontaminated area.

Decontamination enclosures shall be lined with sealed plastic at all joints.

In all cases, access between contaminated and uncontaminated rooms or areas shall be through an airlock as described in these qualifications.

4.6 CRITICAL BARRIERS

Individually seal all ventilation openings (supply and exhaust), lighting fixtures, clocks, doorways, windows, convectors and speakers, and other openings into the work area with tape alone or with polyethylene sheeting. Provide sheet plastic barriers as required to completely seal openings from the work area into adjacent area. Seal the perimeter of all sheet plastic barriers with duct tape and/or spray cement.

Mechanically support sheet plastic independently of duct tape or spray cement so that seals do not support the weight of the plastic.

Cover floor of work area with two (2) individual layers of clear polyethylene sheeting, each at least 6-mil in thickness, turned up walls at least 12 inches. Form a sharp right angle at wall junction so that there is no radius that could be stepped on causing the wall attachment to be pulled loose.

Both spray-glue and duct tape all seams in floor covering. Locate seams in top layer 6 feet from or at right angles to seams in bottom layer. Install sheeting so that the top layer can be removed independently of bottom layer.

Cover walls in work area with two (2) layers of mechanically supported 6-mil polyethylene sheeting, sealed with tape, and/or spray-glue in the same manner as critical barriers. Tape all joints including the joining with the floor covering with tape or as directed by WKU's Representative.

4.7 MAINTENANCE OF ENCLOSURE SYSTEMS

Ensure that barriers and plastic linings with plywood are tightly sealed and taped. Repair damaged barriers immediately upon discovery.

Visually inspect enclosures at beginning of each work period.

Provide temporary power and lighting where no power source exists; ensure safe installation of temporary power sources and equipment for the duration of the project if necessary.

Asbestos work shall not commence until:

- Arrangements have been made for proper disposal of liquid and solid waste at acceptable sites; it must comply with Federal, State, and Local regulations.
- Work areas and decontamination enclosure systems and parts of the building required to remain in use are effectively segregated.
- Tools, equipment and material waste receptors are on hand.
- Arrangements have been made for building security.
- All other preparatory steps have been taken and applicable notices posted.

4.8 WET REMOVAL

General wet removal of surfacing material and other friable ACM shall be conducted utilizing negative pressure containment per KRS 401 KAR 58:040., and all applicable regulations including WKU EHS requirements by thoroughly wetting the ACM to be removed, prior to disturbance, by a fine mist of amended water prior to handling, scraping, stripping, and/or tooling to reduce fiber dispersal. Accomplish wetting by a fine mist of amended water, saturate material sufficiently to wet the substrate without causing excess dripping, allow time for water to penetrate material thoroughly.

Spray material repeatedly during the work process to maintain a continuous wet condition. Perforate outer covering of any insulation that has been painted and/or jacketed in order to allow penetration of amended water, or where necessary, carefully strip or scrape or lift away while spraying amended water on the material to minimize dispersal of asbestos fibers into the air. Remove saturated asbestos-containing material (ACM) in small sections from all areas. **Do not allow material to dry out.** As it is removed, simultaneously pack material while still wet in plastic bags, clean outside and move to wash down station adjacent to material decontamination unit.

4.9 GLOVEBAG PROCEDURE

To be used only where permitted under 29 CFR 1926.1101 and/or any other applicable laws. However, use of a glove bag procedure shall not affect the Asbestos Contractor's duty to comply with all other applicable laws and/or standards.

Glove bagging shall be in accordance with Appendix G to 29 CFR 1926.1101.

- Area shall be sealed with curtain of two (2) layers of 6-mil. polyethylene.

- ☑ Clean up gross contamination that is accumulated on the floors. This shall be accomplished by spraying debris with (water) wetting material and placing it in appropriate containers.
- ☑ For wetting material use either amended water or a removal encapsulant.
- ☑ Prior to installation of the glove bag, removal tools will be put in the bag.
- ☑ Wrap glove bag around pipe, fold edges over, and seal all openings.
- ☑ Insert nozzle of sprayer in glove bag and seal around hose with tape.
- ☑ Insert vacuum hose in glovebag and seal around hose with tape.
- ☑ Thoroughly wet pipe insulation, cut insulation and continue spraying in seams, allow the saturated material to fall to the bottom of the bag.
- ☑ Completely clean pipe with sponge and water.
- ☑ Replace tools in tool pouch of glove bag and squeeze glove bag below the pouch, separating work portion from waste portion and seal with tape.
- ☑ HEPA vacuum top chamber of glove bag, collapse and remove all material.

Dispose of glove bags in drums placed immediately outside the entrance to each area where removal will take place, for this process. The drums will be sealed prior to removal from the area. Label all drums with signs in accordance with OSHA Regulations 29 CFR 1910.1101.

NOTE: During all phases of the removal and cleaning operation, use work procedures that result in an 8-hour Time Weighted Average (TWA) airborne fiber count less than the maximum allowed by law. If airborne fiber counts exceed this level, immediately mist the area with amended water and revise work procedures to maintain airborne fiber levels within the required limit.

4.10 ASBESTOS-CONTAINING RESILIENT FLOOR TILE REMOVAL

The Asbestos Contractor shall cover all stationary fixtures and horizontal surfaces with 6-mil polyethylene sheeting located within the work area.

A demarcated "regulated area" must be established for the work area (e.g. using critical barriers or polyethylene sheeting to enclose a work area).

Air registers, diffusers, or return air ducts located in the walls, ceilings, and floors or above accessible ceilings shall be sealed with 6-mil polyethylene plastic, taped and made airtight.

If necessary, the air conditioning and heating system shall be shut down by WKU's personnel prior to start of the removal work, *shutdown arrangements shall be requested prior to start of work*. A temporary air curtain shall be erected at the entrance to each room or to the entrance to a series of interconnecting rooms in a manner that will ensure containment of fibers within the work areas. This air curtain shall consist of at least two sets of polyethylene flaps overlapping as specified in this qualification to create an airtight seal and reduce air currents when personnel are entering or leaving the work area. A shower is not required.

Reduced atmospheric pressure ("negative air") shall be maintained within the work area(s) from the start of floor tile disturbance until the area has been cleaned, a visual inspection may be conducted at the discretion of the WKU representative. This reduced air pressure shall be maintained between 0.01 and 0.02 inches of water static pressure. All work related to the release and removal of asbestos-containing resilient floor tiles and floor sheet covering shall be carried out in a manner that will prevent unnecessary breakage and release of asbestos fibers. Release of fibers will occur when tiles or sheets are broken, torn. Pulverizing or abrading shall not be permitted.

Workers shall be outfitted with all necessary safety gear as specified in OSHA standard 1926.1101 while working inside the work area. Disposable coveralls, including head covers and foot covers shall be worn. Respirators shall be worn as required by OSHA standard 1926.1101 and 1910.134.

Immediately before removal begins, the floor area to be removed shall be sprayed with amended water. The floor surface shall be kept wet throughout the removal operation, but amended water shall not be allowed to puddle on the floor or run off to other areas, especially to floor below.

Resilient floor tiles or sheet covering shall be released from the floor surface in whole tiles or sections as much as practical using straight hoes in a manual operation. Should dust become visible at any time during the releasing operation, the area shall be immediately misted with a garden type pump sprayer filled with amended water. Releasing of floor tiles or sheet covering shall cease until dust has been properly controlled.

Whole tiles and pieces broken during release from the floor shall be swept up using wetted brooms and shovels in a manner that will not create dust. Removed debris shall immediately be placed in doubled 6-mil polyethylene disposal bags. When bags have been filled, the bags shall be sealed.

Asbestos warning labels shall be attached to the bags. No bags shall be removed from the work area until a preliminary cleanup has been completed. Bags shall be wet-wiped twice before leaving work area. When all loose debris has been removed from the floor and placed in bags, the adhesive shall be removed which may also contain asbestos fibers. When floors have been cleaned of adhesive within practical limits, they shall be wet mopped twice and allowed to dry.

Remove all air curtains, seals, polyethylene, warning signs, and barriers following clearance and confirmation from WKU's representative.

Dispose of all waste material in a proper manner according to applicable regulations.

4.11 ASBESTOS-CONTAINING MASTIC ADHESIVE REMOVAL

A no-odor, water-base, non-hazardous, non-toxic, solvent must be used in this removal process. Acceptable solvents are Control No Odor Mastic Remover, as manufactured by Grayling Industries, Inc., 1008 Branch Drive, Atlanta, Georgia, 30201, phone number (404) 751-9095; or Sentinel 770 Odorless Adhesive Remover, as manufactured by Sentinel Chemical Co., Inc., 7714 Beech Street, Minneapolis, Minnesota, 55432, phone number (800) 373-0633, or equivalent. Asbestos Contractor shall submit to WKU's Representative a material safety data sheet on the proposed product.

Approval must be obtained from WKU's Representative in writing before the project begins.

The Asbestos Contractor shall certify in writing to WKU that utilization of the proposed solvent will not cause the waste materials generated to be classified as a hazardous waste under any existing federal, state, or local regulations. The Asbestos Contractor shall further ensure that the solvent will not damage painted wall surfaces or other surfaces with which it may come into contact.

Workers shall be supplied proper respiratory protection and protective clothing.

The adhesive material shall never be removed by sanding or grinding.

4.11.1 EXECUTION

- Apply adhesive solvent per manufacturer's instructions to areas within the workspace. Scrape or mop dissolved adhesive from area as required.
- Proceed with this process until the entire project area has been completed, repeat sequence as necessary to remove all visible remains of adhesive. When floors have been cleaned of the adhesive, they shall be wet mopped twice.
- Remove all air curtains, seals, polyethylene, warning signs, and barriers following clearance and confirmation from WKU's Representative.
- Dispose of all waste material in a proper manner according to applicable regulations and the contract Technical Specifications.

4.12 REMOVAL OF ASBESTOS-CONTAMINATED SOIL AND DEBRIS

SCOPE: This section shall be applied to the immediate areas only where visible debris is detected.

Begin all removal at the point of greatest distance from the entrance to the crawlspace or area and proceed toward the entrance. Remove the top two inches (2") of wet soil and place in plastic disposal bags as work progresses. Do not permit travel over fresh soil surface.

Reduced air pressure system (air filtering device) shall be operating continuously so that airflow is from the starting point of removal.

After the entire first layer of applicable soil is removed completely, workers shall change into clean coveralls, including fresh foot covers, at the crawlspace entrance. Remove a second two-inch (2") layer of soil following the same procedures as for the first layer. If buried asbestos-containing materials are found during this process, such material shall be dug up with approximately one inch (1") of surrounding uncontaminated soil and disposed of in plastic disposal bags.

Wet clean or encapsulate all barriers enclosing the work area. Maintain reduced air pressure (air filtering device) leaving area undisturbed to allow units to extract airborne contamination.

Removed soil shall be placed in plastic-lined drums for transportation to disposal site. Clean up work area, removing all bagged materials, tools, containers, equipment, etc.

Final Clearance testing shall be conducted under static conditions using NIOSH 7400 method. A final clearance value of 0.01 f/cc will be employed.

4.13 REMOVAL OF ASBESTOS CEMENT PANELS

The Asbestos Contractor will be responsible for removing any furniture and equipment from the rooms included in the wall panel removal areas of this project and for securing all items, which can be damaged, broken, or stolen within the area of the building where work will be undertaken.

Corridors leading to the work area shall be barricaded prior to setup operations. Unauthorized WKU personnel and public traffic shall be prohibited from the work areas and adjoining corridors.

Barricades as necessary to prevent entrance by those not involved in the abatement. Asbestos warning signs are to be posted in conspicuous places.

Air-monitoring consultants may monitor (at WKU discretion) fiber concentrations within the work area, inside adjacent rooms, or connecting hallways, The Asbestos Contractor shall comply as requested.

Air registers, diffusers and return air ducts located in the walls, ceilings, and floor or above accessible ceilings shall be sealed with 6-mil polyethylene plastic, and made airtight. If necessary, the air conditioning and heating system shall be shut down by WKU's personnel prior to start of the removal work, shutdown arrangements must be requested prior to start of work.

Walls, windows, door openings, and vertical room surfaces shall be covered with one layer of 6-mil polyethylene plastic held in place with tape, nailers, or adhesive as necessary to secure it in place throughout the work area. In rooms containing counters, fixed items or other objects which are not connected to the walls intended for removal, 6-mil polyethylene plastic shall be draped over and extended out onto the floor one foot and be sealed.

A temporary air lock shall be erected at the entrance to each room or to the entrance to a series of interconnecting rooms in a manner that will ensure containment of fibers within the work area. This airlock shall consist of at least two sets of polyethylene flaps overlapping as specified in the contract specifications to create an airtight seal at the wall and reduce air currents as required in the personnel decontamination chamber for this type work. Reduced atmospheric pressure (negative air)

shall be maintained within the work area(s) from the start of panel disturbance until the area has been cleaned, encapsulated, and given clearance.

Prior to removal of asbestos-containing wall panels, all mounted items shall be carefully removed by skilled workers. Work related to the release and removal of asbestos-containing wall panels shall be carried out in a manner that will prevent the unnecessary release of asbestos fibers. Release of fibers will occur when panels are broken (especially into small pieces), pulverized, or abraded. Breaking of panels probably cannot be avoided, but shall be continuously controlled and held to a minimum. Pulverizing or abrading shall not be permitted.

Workers shall be outfitted with all safety gear specified in OSHA standard 1926.1101 while working inside the work area. Disposable coveralls, including head covers and foot covers shall be worn. Respirators shall be as required by OSHA standards. Hard hats are required during overhead work.

Immediately before removal, the area to be removed shall be sprayed with amended water to reduce the release of asbestos fibers from panels. The surfaces shall be kept wet throughout the removal operation, amended water shall not be allowed to puddle on the floor or run off.

Panels shall be manually removed in whole panels as much as practical using the appropriate tools. Remove screws or fasteners so that fibers released are captured by a HEPA vacuum. Should dust become visible during the operation, the area shall be immediately misted with amended water. Removing of wall panels shall cease until dust has been controlled. Panels shall be wrapped with 6-mil polyethylene, sealed airtight. Pieces broken during removal shall be swept up using wetted brooms and scoop shovels in a manner that will not create dust. Pieces shall be immediately placed in disposal containers, which have been lined with 6-mil polyethylene plastic bags. When a container has been filled, the plastic bag shall be sealed airtight and then the container lid installed and sealed. Asbestos warning labels shall be attached to the containers and packages.

No container shall be removed from the work area until a preliminary cleanup has been completed. Containers shall be wet wiped twice before passing through the outbound airlock.

4.14 REMOVAL OF ASBESTOS-CONTAINING ROOFING MATERIALS

Before beginning work in the area, fresh air intakes or other air supply registers located within the project area shall be sealed with 6-mil polyethylene sheeting, taped, and airtight.

Note: This shall be approved by WKU Department of Facilities Management prior to application.

The Asbestos Contractor shall comply with all provisions of 29 CFR Part 1926 Subpart M for Fall Protection, Subpart E for Personal Protective Equipment, Subpart N for equipment used to transfer material to and from roof, and all other applicable OSHA related standards for the work specified.

The Asbestos Contractor shall properly demarcate the asbestos-related work area by utilizing appropriate banner tape and signage and maintain the demarcation until project completion.

Workers shall be equipped with proper protective clothing including but not limited to disposable full-bodied coveralls, and gloves. Workers shall utilize respiratory protective equipment as required by the Kentucky Occupational Safety and Health Administration.

Work shall begin by applying a mist of amended water to the surface being abated. The roofing or flashing material shall be removed in whole pieces where possible. Roofing components shall be kept sufficiently wet during removal operations so that no visible emissions are released. Caution shall be exercised in the application of water to avoid interior building damage.

Remove sections of roofing/flashing and place material into pre-labeled 6-mil disposal bags or wrap all waste in 6-mil polyethylene sheeting for disposal purposes. All material shall be disposed of as

ACBM waste. Tape and seal bags or polyethylene sheeting completely. Place appropriate warning labels on the wrapped waste packages as required by applicable regulations.

Note: The Asbestos Contractor shall use an enclosed dumpster lined with two layers of six-mil poly in lieu of double bagging with the acceptance of WKU and the waste disposal company. The double lining must fold over the top of the dumpster to meet and overlap. The dumpster shall be covered with a tarp that shall be tied in place when the dumpster is not in use.

Asbestos waste materials shall be lowered from the roof via lifts/cranes or shall be placed directly into a plastic lined dumpster via an enclosed chute. Asbestos waste materials shall be loaded into an appropriate container for transportation. This may be a polyethylene lined dumpster or dump truck provided approval has been obtained from the disposal site.

Dispose of all waste products generated by the process as asbestos waste in accordance with applicable rules and regulations.

4.15 POST-REMOVAL ENCAPSULATION OF AFFECTED AREAS

Following removal of friable asbestos-containing material, encapsulant shall be applied using airless spraying equipment, to all areas where friable asbestos-containing materials have been removed.

Approved Encapsulants (or equal):

- Asbestite 2000 - Arpin Engineering, Inc.
- Cable Coating No. 22P - American Coatings Corp.
- Protector 32.22 - H.B. Fuller Co., Foster Products Division

Encapsulation shall be done following air testing; worker protection equipment shall be worn. All encapsulation shall be conducted in accordance with recognized procedures, such as described in the National Institute of Building Sciences "Model Asbestos Guide Specification," 09805.

4.16 PROJECT DECONTAMINATION

Decontamination of the work area following asbestos abatement shall proceed as described.

If the asbestos abatement work is on damaged or friable materials, then the building space is deemed contaminated before start of the work and in need of decontamination. In this case, the work is a four-step procedure with two cleanings of the primary barrier plastic prior to its removal and two cleanings of the room surfaces to remove any new or existing contamination.

During this phase, as in all phases of the operation, the negative pressure system is used to remove airborne fibers generated by the abatement work.

4.16.1 EXECUTION

Work includes the decontamination of air in the work area which has been, or may have been contaminated by the elevated airborne asbestos fiber levels generated during abatement activities, or which may previously have had elevated fiber levels due to friable asbestos-containing materials.

Work includes cleaning, decontamination, and removal of temporary facilities installed prior to abatement work including:

- Primary and Critical Barriers Erected
- Decontamination Unit
- Negative Pressure System

Work includes the cleaning, and decontamination of all surfaces (ceiling, walls, and floor) or the work area, and all furniture, equipment, etc. in the work area.

4.17 FINAL CLEANING

Final Cleaning: Carry out cleaning of all surfaces of the work area including remaining sheeting, tools, scaffolding, and/or staging by use of damp cleaning and mopping, and/or a High Efficiency Particulate Air (HEPA) filtered vacuum. Do not perform dry dusting or dry sweeping. Use each surface of a cleaning cloth one time only and then dispose of as contaminated waste. Continue this cleaning until there is no visible debris from removed materials or residue on barriers or surfaces.

Remove all filters in air handling system(s) and dispose of as asbestos-containing waste in accordance with legal requirements.

4.18 POST REMOVAL ENCAPSULATION

An appropriate encapsulant shall be applied, using airless spraying equipment, to all areas of the project where friable asbestos-containing materials have been removed.

Encapsulation shall be performed by the Asbestos Contractor in all areas after the WKU's Representative has completed a satisfactory visual inspection, prior to final clearance air-monitoring.

4.19 FINAL CLEARANCE

Following the completion of clean-up operations, the Asbestos Contractor shall notify WKU's Representative that work area(s) are ready for final clearance.

WKU shall arrange (at WKU discretion) to visually inspect the work area for any potentially suspect asbestos-containing material remaining in the work area.

If an unsatisfactory visual inspection is encountered, it shall be the responsibility of the Asbestos Contractor to re-clean the area at his own expense until the area is clear of all visible asbestos-containing material. If air-monitoring is to be conducted, it shall be the responsibility of the air-monitoring, solely, to determine if the area is satisfactorily clean. A visual inspection of the entire work area shall be conducted including: decontamination unit, all plastic sheeting, seals over ventilation openings; looking for debris from any sources, residue on surfaces, dust, bulk materials, or other matter. Upon completion of a successful visual inspection, the air-monitoring (at the discretion of WKU) shall sample the air in the work area for airborne fiber concentrations.

The air sampling (at WKU discretion) shall be conducted using sampling pumps calibrated at a flow rate of at least 10.0 and not more than 16.0 liters per minute using collection media and procedures in accordance with NIOSH Standard Analytical Method 7400.

Air volumes shall be sufficient to provide reliable results down to a concentration of 0.005 fibers per cubic centimeter of air. Minimum air volumes of 3000 liters shall be collected.

Aggressive sampling techniques shall be employed for clearance testing. Clearance samples shall indicate concentrations of airborne fibers <0.01 f/cc for release of the work area. Clearance air sampling shall be conducted with applicable regulations including but not limited to 401 KAR 63:042.

4.20 COMPLETION OF ABATEMENT WORK

Seal negative air machines with 6-mil polyethylene sheet and duct tape to form a tight seal at intake and before being moved from work area.

Asbestos abatement is complete upon meeting the work area clearance and fulfilling the following:

- Remove all equipment, materials, debris from the work site.
- Dispose of all asbestos-containing waste material as required by law. (See Section on Disposal of Asbestos-Containing Waste Material.)
- Dispose of all sheeting, seals, or other debris as asbestos-contaminated waste.
- Repair or replace all finishes damaged during the course of asbestos abatement.
- Fulfill Project Closeout Requirements.

4.21 DISPOSAL OF ASBESTOS-CONTAINING WASTE MATERIAL

Disposal bags - Note: Asbestos Contractor may choose to utilize poly-lined dumpster and enclosed chute as alternate method for asbestos-containing roofing disposal vessels.

Provide 6-mil thick leak-tight polyethylene bags labeled with three (3) labels with text as follows:

4.21.1 *First Label:* Provide in accordance with 29 CFR 1910.1200(f) of OSHA’s Hazard Communication Standard:

**DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
AVOID BREATHING AIRBORNE ASBESTOS**

4.21.2 *Second Label:* Provide in accordance with US Department of Transportation (D.O.T.) shipping requirements as found in 49 CFR Parts 171 and 172 - Hazardous Substances: Final Rule.

**RQ HAZARDOUS SUBSTANCE
CLASS 9
NA2212
P. G. III**

Also, affix D.O.T. "Class 9" Shipping label to each container

4.21.3 *Third Label:* Name of generator, location of generated waste, and date of waste generation:

NAME: Western Kentucky University

ADDRESS: 1906 College Heights Blvd.
Bowling Green, Ky. 42101

DATE: _____

Rigid containers or drums: When asbestos waste bags are placed in rigid containers or drums, the outside of the container must be labeled the same as waste disposal bags, labeling includes:

4.21.4 *First Label:* Provide in accordance with 29 CFR 1910.1200 of OSHA’s Hazard Communication Standard:

**DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD**

AVOID BREATHING AIRBORNE ASBESTOS

- 4.21.5** *Second Label:* Provide in accordance with US Department of Transportation (D.O.T.) shipping requirements as found in 49 CFR Parts 171 and 172 - Hazardous Substances: Final Rule.

RQ HAZARDOUS SUBSTANCE
CLASS 9
NA2212
P. G. III

Also, affix D.O.T. "Class 9" Shipping label to each container

- 4.21.6** *Third Label:* Name of generator, location of generated waste, and date of waste generation:

NAME: Western Kentucky University

ADDRESS: 1906 College Heights Blvd.
Bowling Green, Ky. 42101

DATE: _____

4.22 **Disposal of Waste**

Dispose of asbestos-containing waste at a landfill licensed and approved to accept asbestos waste. Make necessary notification to landfill that asbestos-containing waste will be delivered for disposal.

At disposal site, unload containerized waste:

- At disposal site, containerized waste shall be carefully unloaded from the truck. If containers are broken or damaged, return to work site for re-bagging. Clean entire truck and contents using procedures set forth in: Project Decontamination.
- At storage, site truck and loading area are a controlled work area; containerized waste is transferred to storage area by site personnel. All containers, including damaged ones, will be transferred. Clean truck with asbestos-specific decontamination procedures.

At completion of hauling and disposal of each load, submit copy of waste manifest, chain of custody form, and landfill receipt to WKU.

Asbestos-containing waste material that is packaged and labeled in accordance with applicable regulations shall be disposed of at designated sanitary landfills by the Asbestos Contractor after:

- Notice to appropriate agencies, including Western Kentucky University.
- Notice and Permit from Appropriate Federal, State, and Local Agencies.
- The Asbestos Contractor shall assure that friable and non-friable asbestos-containing material is disposed of in accordance with applicable regulations.
- Carefully load containerized waste on sealed trucks or other appropriate vehicles for transport. Exercise care before and during transport, to insure that no unauthorized persons have access to the materials.
- Do not store disposal-bagged material outside of the work area. Take bags from the work area directly to a sealed truck or dumpster.
- Do not transport disposal-bagged materials on open trucks, double-bagged material may be transported on open trucks in sealed drums. Label drums with same labels as bags, uncontaminated drums may be reused. Contaminated drums shall be disposed of as asbestos-containing waste per this specification.

4.23 RE-ESTABLISHMENT OF OBJECTS AND SYSTEMS

When cleanup is complete, it shall be the responsibility of WKU to:

- Relocate objects moved to temporary locations in the course of the work to their proper positions. Re-clean objects after they are in position.
- Re-secure mounted objects removed in the course of the work in their former positions. Reclean objects after they are re-secured.
- Re-establish HVAC mechanical and electrical systems.
- As the work progresses, and to prevent exceeding available storage capacity on site, the Asbestos Contractor shall remove containers of asbestos waste and dispose of such containers at an authorized disposal site in accordance with the requirements of Federal, State and Local disposal authorities.
- Disposal shall be the responsibility of the Asbestos Contractor.
- All runoff liquids from work areas, decontamination areas, and otherwise contaminated areas shall be disposed of in accordance with Federal, State and Local wastewater disposal requirements.

4.24 STANDARDS, DOCUMENTS, REFERENCES, AND REGULATIONS

Compliance by the Asbestos Contractor with all applicable Federal, State, Local, and WKU regulations and use of the best available technology, procedures, and methods for, identification, preparation, execution, cleanup, disposal, and safety is required and shall be utilized. *The current WKU Asbestos Operations and Maintenance Program along with all applicable Federal, State, and Local regulations shall be consulted and followed for all asbestos-related work activities conducted on properties owned or maintained by Western Kentucky University.*

5.0 QUALIFICATION QUESTIONNAIRE

All ANSWERS AND ENTRIES SHALL BE SPECIFIC AND COMPLETE and shall only be completed once a thorough and complete understanding of the Western Kentucky University Asbestos Operations and Maintenance Program has been established. Except for signatures, all shall be typed or hand printed with ink. Do not cross out any headings or instructions.

The signatory of this Asbestos Contractor Qualification Statement guarantees and acknowledges the understanding and comprehension of this document and the compliance of the Western Kentucky University Asbestos Operations and Maintenance Program and the truth and accuracy of all statements and of all answers to the interrogatories hereinafter made. Knowingly falsifying information shall void and terminate all contracts and agreements.

1. How many years have your current firm conducted business as an Asbestos Contractor under its present name? _____; under what other names has the firm operated under? _____ (attach supporting documentation).

2. How many years experience in asbestos-related work has your firm had as an Asbestos Abatement General Contractor? _____; as an Asbestos Abatement Subcontractor? _____; as an Asbestos Consultant? _____; as an Asbestos Inspector? _____

3. List the **major** asbestos-related projects that the firm has performed within the last ten years.

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4. On a separate sheet(s), provide a description of each of the projects listed above including information about the work site, volume of asbestos-related work activity, and ancillary demolition required. Areas of specific experience include projects involving power plants, boilers, industrial sites, universities or colleges, and other larger facilities.
 5. Has your firm ever failed to complete *any* asbestos-related project that you were hired to perform? ____ If so, why, where, and when? _____

 6. Has any owner, officer, or partner of your firm ever failed to complete a project handled in his own name or other name? _____ If so, state name of individual, name of owner, reason therefore, and bonding company that covered the failure. _____

 7. In what other lines of business is this firm affiliated with directly or indirectly? _____

 8. Has your firm preformed past asbestos-related work for Western Kentucky University? ____, If so when, and where? _____

 9. List the **asbestos-related** experience of the **principal officers (forepersons and supervisors)** of your organization. All Asbestos Contractors providing removal for friable asbestos materials shall provide the services of a Commonwealth of Kentucky Department of Environmental Protection, Division for Air Quality accredited **Asbestos Project Designer** for the design of friable asbestos removal projects on properties owned or operated by Western Kentucky University. Attach **asbestos-related** experience documentation for **all personnel** including **current** Commonwealth of Kentucky Department of Environmental Protection and Division for Air Quality Asbestos Accreditations, conforming to 401 KAR 58:005 for each employee who may perform work on properties owned or operated by the University. If new employees are added to the workforce, this same documentation shall be provided prior to the employee actively starting work on University asbestos-related projects. _____

 10. Attach documentation demonstrating the existence of programs for personal air-monitoring, employee training and medical surveillance as required by OSHA 29 CFR parts 1910 and 1926.
 11. Provide a listing of **all citations and/or notices of violation received for asbestos-related work activities** including source, problem, and disposition. _____

12. Provide a listing of **all** insurance policies for asbestos-related work including carrier, coverage, and limits. _____

_____ (attach supporting documentation).
13. Indicate firm's current Commonwealth of Kentucky Division for Air Quality Asbestos Abatement Certificate number and provide a copy. _____
14. Indicate firm's current Bowling Green/Warren County Contractor License number and provide a copy (or submit within 5 working days after the bid is awarded). _____
15. Provide a Material Safety Data Sheet (MSDS) for **all** goods and supplies to be used on University worksites. **MSDS's shall be updated and kept current throughout the project.**

(Signature) (Date)

Thank you, please sign and date upon completion

Revised 9/9/2009