KANSAS CITY KANSAS PUBLIC SCHOOLS / USD 500

PURCHASING OFFICE | 2010 N. 59TH STREET | ROOM 370 \ KANSAS CITY, KS 66104

WEB SITE: WWW.KCKPS.ORG/PURCHASING

ASBESTOS ABATEMENT
EMERSON ELEMENTARY SCHOOL

BID NO: IFB 19-039 **ISSUE DATE: DECEMBER 4, 2019**

Kansas City Kansas Public Schools will receive sealed bids, on this form at the Purchasing Office, 2010 N. 59th Street, Room 370, Kansas City, KS 66104 until **2:00 PM., December 20, 2019**, at which time bids received will be publicly opened and read, all in accordance with bid instructions, specifications and/or bid conditions attached hereto or as shown below.

Pre-Bid Walk through Date:	December 11, 2019
Time:	2:00 PM
Contractor Walk through Location:	KCKPS-USD 500 Shop Office 2220 N 59th St., Suite 229 Kansas City, KS 66104

Contact/Technical Contact:
Wayne C. Correll, Director of Purchasing | (913) 279-2270 | eMail: wayne.correll@kckps.org

BID INSTRUCTIONS:

FAXED BIDS WILL NOT BE ACCEPTED / EMAILED BIDS WILL NOT BE ACCEPTED.

Per attached specifications listed in this invitation to bid. Bidders must specify unit price on services/rates/deliverables on the Bid Form or bid may be determined to be non-responsive.

- Pricing shall be FOB Kansas City, KS (All freight and fuel charges must be included in the bid price).
- Award will be to ONE contractor.
- The District reserves the right to reject any or all bids, to waive any informalities, irregularities or technical defects in bids, and unless otherwise specified by the District to accept any item or groups of items in the bid, as may be in the best interest of the District.
- Time (days, weeks, etc.) required for delivery is a significant consideration with respect to this award process. The time required for delivery must be indicated in the space provided or your bid may be found non-responsive and may not be considered.
- Bid shall include copies of pertinent warranty information pertaining to the product or service offered. The bidder agrees that equipment furnished under any resultant purchase order

issued by Kansas City Kansas Public Schools shall be covered by commercial warranties the contractor gives to any customer for such supplies. All warranty information and certificates shall be furnished and become the property of the District upon delivery and acceptance of said items and/or the contractor must honor services and all rights and remedies stated in the warranties.

- All items are new manufacture unless otherwise specifically stated in this bid.
- All products must have passed the first line quality standard as set by the manufacturer and no seconds, blemished articles or items having defective workmanship are included.
- Bid may not be considered if a service charge, minimum dollar or minimum quantity order is applied.
- The outcome of this bid will be posted on the District's Purchasing site www.kckps.org/purchasing under Awards Section and will include a bid tabulation/summary.
- Bidder shall acknowledge all addenda for this bid and include the form acknowledgements with their bid.

See Attachment B for Additional Terms & Conditions

Bidding Information for the Removal of Asbestos-Containing Materials

Project Name:

Emerson Elementary School

Work Site:

Emerson Elementary School

1429 S. 29th Street, Kansas City, KS

Solicitation Number:

02177067-421

Prepared For:

Kansas City, KS Public Schools

Kansas City, KS

Prepared By:

Terracon Consultants, Inc.

Lenexa, KS

Document Date:

11/22/2019

Emerson Elementary School

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Emerson Elementary School

Section 1

Bidding Requirements

Emerson Elementary School

Section 1 - Bidding Requirements

Owner reserves the right to reject any and all bids. Owner also reserves the right to waive any irregularities in the bids or bidding process if it is in the best interest of the Owner to do so. Owner reserves the right to award this project to the lowest responsible bidder, therefore, this project may not necessarily be awarded to the bidder with the lowest price. Previous experience with the Owner may be one consideration in selecting the winning bidder.

Owner reserves the right to review and approve product, equipment, materials, and procedural submittals. Submit to the Owner at least five (5) working days prior to the beginning of the abatement project two (2) copies of any waivers (in jurisdictions where applicable) granted to the Contractor by the jurisdiction for review. The Owner reserves the right to reject waivers, in whole or part, at their discretion.

Owner reserves the right to terminate the contract for any reason, at any time. Owner agrees to pay for any portion of the contract previously performed by contractor according to percentage of work completed or established unit prices. Termination will not relieve the contractor of any penalties, damages, fines, bonding, insurance, fees, etc. already assessed to the project.

Owner reserves the right to hire additional Contractors to complete the work under this solicitation if winning bidder fails to meet project milestone dates.

The Owner agrees to assist the Contractor in every way feasible so that both may succeed on this project. Any major material changes from this scope of work, the specifications and design must be approved in advance and in writing by the Owner.

The Contractor, by submitting this bid, is stating that Contractor understands Contractor’s responsibility under all Federal, State, and Local laws and regulations with regards to the Work and worker safety, including proper work practices, training, medical surveillance, etc.

The Contractor further understands that it is the Contractor’s responsibility to make any and all supervisors and workers assigned to duties on the project for which this bid has been submitted aware of their duties under the Contract Documents, information provided during the walk through, project specifications, project design drawings, other documents presented as part of this project and all Federal, State, and Local laws and regulations.

The Contractor agrees to transmit to Terracon and Owner a copy of all notifications, waiver requests, certificates of workers participating on the project, waste disposal authorization, etc., and all other documents that Owner is legally required to maintain with regard to this project.

The bidding contractor shall perform all asbestos containing materials removal work under this solicitation. Simply, no sub-contracting is allowed for any asbestos containing materials removal work under this solicitation without approval by the owner.

All operations and work performed on the project will be conducted using state-of-the-art industry standards, and shall fully comply with all Federal, State, and Local laws and regulations.

Emerson Elementary School

Section 1 - Bidding Requirements Continued

The Contractor awarded this project shall guarantee all work executed under this contract for a period of twelve (12) months after the date of substantial completion. (Special guarantee provisions if any, specified elsewhere in this document shall take precedence.) Neither final payment nor any provision of the contract documents shall relieve the Contractor of any responsibility for faulty materials or workmanship. The Contractor shall remedy any defect and pay for any damages to other work that appears within a period of twelve (12) months from the date of final completion.

The Contractor is responsible to call to Terracon and/or the Owner's attention, prior to signing a contract, any omissions or errors noted in the drawings, specifications, or scope of work that is at variance with the intent of the bid documents, the project, or any Federal, State, or Local laws or regulations.

Estimated quantities of asbestos-containing materials are provided. Quantities are not a part of the contract. The Contractor is responsible for actual quantities for formulation of their Notification and Bid. If additional work is required, it will be performed at the discretion of the Owner, and only after written approval from the Owner.

A project walk-through is required for informational purposes, which allows for bidders the opportunity to quantify materials to be removed, familiarize themselves with the project, and to ask questions. The bid proposed herein for asbestos removal shall be all inclusive for the work to be performed. No change orders for specified materials will be allowed.

The specifications, project design drawings, scope of work, etc. are not intended to describe nor illustrate the material, labor and equipment necessary to perform the work. These documents represent the Owner's best estimate of the extent and presence of asbestos-containing material (ACM) to be removed during this project. It is the responsibility of the bidding contractor to determine the precise linear footage, number of mudded joint packings, square footage, etc. of ACM to be removed for bidding purposes. No extra compensation will be allowed for differences between the best estimate and actual quantities of material to be removed.

The listing or mention of any method of installation, erection, fabrication, or workmanship shall not operate to make the Terracon an agent of the Owner or Contractor, but shall be for the sole purpose of setting a standard of quality for the finished work. Alternate methods may be approved in writing by the Owner provided quality is not compromised.

Bidders shall inform themselves of the conditions under which the work is to be performed at the work-site and all obstacles which may be encountered during the work. Bidders shall also inform themselves of all other relevant matters concerning the work to be performed, and, the bidder, if awarded the contract, shall not be allowed any extra compensation by reason of any matter or thing concerning which the bidder might have fully informed themselves, but failed to do so prior to bidding.

Emerson Elementary School

Section 1 - Bidding Requirements Continued

It is understood that the bid provided will cover all abatement activities and expenses necessary to complete this project. The bid shall include, but is not limited to, all charges for mobilization, labor, materials, ACM removal/disposal expenses, reimbursables, etc., as needed to complete this project.

Federal, State, and Local Regulations always supersede any contradictory information in the scope of work or specifications. The scope of work and bid requirements supersedes the specifications.

By signing a contract with the Owner, the successful bidder agrees to the following: "The cost of defending against any/all notices of violation, disputes, citations, fines, and any other writ issued from any government agency that also names the Owner and/or the Terracon as respondents for Contractor's failure to complete all work within Federal, State and/or Local laws and regulations will be borne by the Contractor. If the Owner and/or the Terracon are listed as co-respondents for Contractor's failure to complete all work within Federal, State, and/or Local laws and regulations, the Owner and/or Terracon will make claim against the Contractor to recover the costs of their defense. These costs include, but are not limited to, the Owner's and/or Terracon's: time, lawyer's and attorney's fees, lawyer's and attorney's consultants, engineers, architects, and other professionals, all court costs, and all other costs associated with the Owner's defense and/or the defense of Terracon."

The Contractor agrees that any time a violation of Federal, State, and/or Local regulation, or a variance from the Contract Documents, Project Specifications, Project Design Drawings, or other documents presented as part of this project is brought to their attention, such violation or variance will be corrected immediately. A violation or variance not corrected immediately may result in suspension of the Contractor by the Owner from the Work.

The Contractor must have worker's compensation, asbestos liability and general liability insurance subject to the following:

Worker's Compensation as required by law and Employer's Liability with a loss limit of not less than $100,000 per occurrence and Unemployment Compensation that includes Occupational Disease Provisions for the work covered under this solicitation.

Occurrence Asbestos Liability Insurance. The insurance shall cover all asbestos liability aspects of the abatement project, including the project site, and the transportation of asbestos waste and unloading operations at the waste site. Additionally, coverage shall include all costs of the cleanup of any releases to the environment of any asbestos containing materials during the abatement and transportation for disposal. Such coverage shall have limits of no less than $3,000,000 per occurrence per project aggregate.

General Liability Insurance shall have limits of no less than $2,000,000 each occurrence, $2,000,000 aggregate for bodily injury, property damage, and personal injury. $1,000,000 each occurrence for contractual and products liability and completed operations. Automobile liability insurance with $1,000,000 combined single limit and $2,000,000 aggregate for bodily injury and property damage.

Emerson Elementary School

Section 1 - Bidding Requirements Continued

A standard Acord "Certificate of Insurance" shall be submitted prior to commencement of work showing the specified limits of insurance coverage required by all sections. The "Certificate of Insurance" must list the Owner and Terracon as additionally insured, prior to commencement of work.

Insurance policies and certificates must provide at least a thirty (30) day written notice to the Owner of any changes in coverage or coverages or cancellation or termination.

All regulatory-required waiting periods apply unless written waivers (in jurisdictions where applicable) are obtained.

All required engineering controls, negative pressure containments, critical barriers, critical and curtained openings, negative air machines, splash guards, decontamination units, signs, postings, etc. shall be in place and operational prior to potential or actual disturbance of ACM and remain intact and operational until final air clearance is achieved.

The Scheduled Start Date is the date when the Contractor can begin to setup for ACM removal. The Scheduled Completion Date is the date when the Contractor must have all critical barriers removed, all clean up completed and all Contractor equipment removed from the work area. The Schedule Completion Date is not the date the Contractor turns the wok area over for final visual and final air clearance.

All work must be completed in time for Terracon's representative to collect and have analyzed required or recommended air samples for clearance prior to re-occupancy.

Penalties when they are assessed are not part of liquidated damages and are treated separately. The Owner will deduct penalties when they are assessed from the removal contractor's contract amount with the Owner. Liquidated damages are in addition to penalties.

Project work hours are defined as the number of work hours that are required to complete the work as defined by Terracon in consultation with the Owner.

Abatement activities shall be deemed complete when final visual and/or final air clearance has been achieved for each work area.

The Contractor agrees that all work areas will be returned to the Owner in the same condition, less materials removed, and re-insulation or put-back if any, as when work started. Examples: Tape or spray adhesive residue removal and repainting if necessary on gypsum wallboard, door frames, etc. Cleanup or replacement of any water damaged floor coverings such as wood, floor tile, carpeting, etc.

The Contractor shall ensure that all building systems disturbed, if any, during the abatement are fully operational after final clearance has been achieved, all clean up and equipment is removed from the work area before leaving the work site. In other words, the abatement contractor shall repair at their costs any disruption in operational building systems such as telecommunication lines, electrical lines, etc. that are damaged due to the ACM removal.

Emerson Elementary School

Section 1 - Bidding Requirements Continued

Contractor Walk-through Information

A mandatory contractor walk-through will be conducted on this date and time.

Contractor Walk-through Date: 11-Dec-19

Contractor Walk-through Time: 2:00 PM

Contractor Walk-through Location: KCKPS - USD 500 Shop Office's
2220 N 59th St., Suite 229
Kansas City, KS 66104

Scheduled Work Dates

Scheduled Work Start Date: 26-May-20

Scheduled Work Completion Date: 28-May-20

Scheduled Project Work Hours: 30

Bidding Information

This project will be bid lump sum based upon information included in this bid package, the project specifications, and information disseminated at the mandatory contractor walk-through.

No FAX bids will be accepted.

All bidding documentation must be submitted in the sealed envelope provided. If no envelope is provided, submit bid in a sealed envelope with the following information clearly stated on the outside: The Solicitation Number, the Bid Due Date, the Bid Due Time, and the Project Name.

Intended Award Date: 17-Jan-20 Intended Award Time: 2:00 PM

Bid Due Date: 20-Dec-19 Bid Due Time: 2:00 PM

Send Bids To: Kansas City, Kansas Public Schools
Attention: Wayne Carrell
2010 N. 59 Street, Room 300
Kansas City, KS 66104

It is the winning bidder's responsibility to contact the Owner and execute a contract for the work with the Owner. Failure of the winning bidder to contact the Owner does not relieve the winning bidder from completing all work between the Scheduled Start Date and Scheduled Completion Date as stated above.

Emerson Elementary School

Section 1 - Project Bidding Requirements Continued

Bonding Requirements

A 5% bid bond is required with the bid for this project.

A 100% performance bond is required prior to starting the Work.

Liquidated Damages

Liquidated damages in the amount of $500 per day apply to this project for all specified deadlines.

General Bidding Requirements

Contractor can use building owner's electricity.

Contractor can use owner's water.

The owner will remove all non-affixed objects from the work area.

This contract is not subject to prevailing wage requirements.

There are no put-back requirements for this project.

A mandatory contractor walk-through is required for this project.

Bids for work covered under this project are good for 60 days.

Other Project Requirements

NOTE: ALL QUESTIONS ABOUT THIS PROJECT MUST BE SUBMITTED TO TERRACON IN WRITING BY December 13, 2019 by 5:00 P.M. FOR WRITTEN RESPONSE AS AN AMENDMENT. Written response will be provided by 5:00 PM Monday December 16, 2019. Any questions after this date will NOT be addressed in any additional amendments.

The ACM removal contractor will coordinate their work schedule with the JE Dunn - Construction Manager at Risk (CMR) to make sure ACM removal work does not interfere with the critical path of construction as determined by the CMR.

KCKPS will issue a purchase order to the lowest responsible bidder, along with a notice to proceed.

Work Areas as presented in Section 2 will have Scheduled Work Start Date and Scheduled Work Completion Date that must be met.

The Scheduled Work Start Date, is the date when the Contractor can begin setup for ACM removal. The Scheduled Work Completion Date is the date when the Contractor must have all critical barriers removed, all clean up completed, and all contractor equipment removed from the Work Area.

Simply the Contractor must plan and is responsible to complete all its work within

Emerson Elementary School

Section 1 - Project Bidding Requirements Continued

the Scheduled Work Start Date and Scheduled Work Completion Date. The Contractor must plan and allow adequate time for final air clearances as needed to enable them to meet the Scheduled Work Completion Date.

Scheduled Work Completion Dates are absolute. The contractor will have access to the school from 7:00 AM to 5:00 PM Monday thru Saturday. No work shall be performed on Sundays or Holidays.

Terracon will be providing daily project oversight, daily air monitoring and final clearances as necessary for this project. Terracon must be notified 24 hours in advance of the anticipated ACM removal completion date to enable scheduling of final visual and final air clearances.

Any ACM found not indicated as described in Section 2 and on the drawings provided will be verified by a representative of Terracon. Written authorization from Owner or Owner's Representative must be acquired before any additional work is undertaken.

It is the Contractor’s responsibility to understand the significance of the provisions in this bid document and any amendments that may be issued, and in the consequences of failure to perform within the perimeters stated herein. Contractor understands, accepts, and agrees that by entering into contract with the Owner, that this bid document and any amendments that may be issued becomes part of the contract with the Owner. The Owner will deduct from Contractor’s contract amount damages such as but not limited to liquidated damages and direct damages.

This completes Section 1 Bidding Requirements.

Emerson Elementary School

Section 2

Work Area Information

Emerson Elementary School

Section 2 - Work Area Information

Building Wherein Work Area is Located

Emerson Elementary School

1429 S. 29th Street

Kansas City, KS 66106

Work Area

1

Work Area Name

Base Bid Work Area 1 - Administration Offices

Work Area Specific Information

Scheduled Work Start Date is May 26, 2020. The Scheduled Work Completion Date is May 28, 2020 for this Work Area.

Coordinate asbestos containing material removal operations with JE Dunn the Construction Manager at Risk (CMR).

Remove identified asbestos containing materials (ACM) using regulatory approved work practices.

See Section 4, Drawing Exhibit 1 showing the general locations of ACM to be removed and Work Area boundaries.

Items that or considered fixed or stationary, located in the abatement area, should be cleaned using HEPA vacuuming and/or wet cleaning methods. Once cleaned the items must be covered and sealed with at least two layers of six mil poly sheeting to protect and keep surfaces free from dust or water damage during the removal of asbestos containing materials.

NOTE: The west wall of the multi-purpose room contains vermiculite. Due to access requirements for new utilities in this are the abatement contractor will coordinate core drillings in the wall with the CMR, who will be responsible for marking core drill locations. The asbestos abatement contractor will install appropriate controls including mini containment, negative pressure etc., to remove any vermiculite that may come out of wall during core drilling process. The door frame is to be removed also by the abatement contractor. All work to be done under containment. Once the project is completed PCM air clearance testing may be required, based on the amount of material removed.

The abatement, encapsulation, cleaning and final inspection in this Work Area to be completed by noon May 27, 2020 to enable PCM air clearance sample collection to be completed by the end of the day.

All work must be completed and all contractor equipment must be removed from this Work Area by 5:00 PM on May 28, 2020.

Emerson Elementary School

Section 2 - Work Area Information

Estimated quantities are provided. Quantities are not part of this contract.

The Contractor is responsible to formulate quantities from which to bid and with which to notify regulatory agencies.

Listing of asbestos-containing materials to be removed by Homogeneous Area (HA) Number. HA numbers can be the same across work areas.

HA	Material Description	Estimated Quantity	General Location
04	9" x 9" Floor Tile and Mastic - Gray/Blue/Pink/Green	725 Square Feet	Principal's office and closet, nurse's office, teachers workroom and closet

Sample Collection and Laboratory Analysis Information for this HA.

Sample #:	Sample Location:	Collection Date:	Asbestos %:
04-FT1-10	Principal's Office At Closet	5/16/2017	Floor Tile PC 1.8% Chrysotile
	Principal's Office At Closet	5/16/2017	None Detected
	Principal's Office At Closet	5/16/2017	Black Mastic PC 1.2 Chrysotile

21	Vermiculite Wall Insulation	2 Estimated Core Drills	Multi-purpose room - west wall. Abatement contractor to remove the north west door frame. Work should be done under containment in case vermiculite is encountered. If encountered elsewhere use appropriate caution.

Sample Collection and Laboratory Analysis Information for this HA.

Sample #:	Sample Location:	Collection Date:	Asbestos %:
21-AW4-59	Between Brick Walls In West Wall Of Multipurpose Room	1/30/2019	Vermiculite <1% Actinolite

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Emerson Elementary School

Section 2 - Work Area Information

This completes Section 2 Work Area Information.

Emerson Elementary School

Section 3

Bidding Forms

Emerson Elementary School

Section 3 - Bidding Forms

Contractor: _____

Address: _____

City/State/ZIP: _____

Telephone #: _____ **email** _____

Abatement License #: _____ **for state of** _____

Provide a unit price to access, remove and dispose of material(s) as listed below using approved methods. The unit price, as stated below, will be used in the event that 1) additional asbestos-containing materials are required to be removed during this project, other than those stated in Section 2 of this bid document, and/or 2) in the event the Owner chooses to narrow the scope of work as defined in Section 2 by removing less amounts of asbestos-containing materials.

Estimated quantities are provided. Quantities are not a part of the contract. The Contractor is responsible to formulate quantities from which to bid and with which to notify regulatory agencies.

By signing below, the bidder warrants the he/she has informed themselves of the conditions under which the work is to be performed at the work-site and all obstacles which may be encountered during the work, and all other relevant matters concerning the work to be performed. And the bidder, if awarded the contract, shall not be allowed any extra compensation by reason of any matter or thing concerning which they might have fully informed themselves, but failed to do so prior to bidding.

Total dollar amount: _____

Written total dollar amount: _____

Printed name of authorized agent: _____

Signature of authorized agent: _____

Date: _____

Required submittals with the bid.

A fully completed and authorized bid sheet. Amendment acknowledgements if any. A sworn affidavit stating that the bid is strictly and individual bid free from collusion. A statement of current insurance coverage.

Current State contractor license covering the state or states where work is being performed. Bid bond.

Emerson Elementary School

Section 3 - Bid Form

Bid the work described in Section 2 - Scope of Work, by Work Area #1 as lump sum inclusive of all fees, expenses, consumables, labor charges, disposal fees, notification fees, etc. to complete all work.

9" x 9" Floor Tile and Mastic - Gray/Blue/Pink/Green	725	Square Feet	X _____	per Square Feet	$ _____
Vermiculite Wall Insulation	2	Estimated Core Drills	X _____	per Estimated Core Drills	$ _____

Total (Carry forward to page Section 3-1) $ _____

Alternate Work

Alternate work is defined as the contractor performing work that is not included in the scope of work defined in Section 2 of this bid document. This work may include the removal of hidden materials discovered during demolition work performed by the CMR, or the abatement contractor.

Mobilization fee to return to the work site for work not covered in the scope of work as defined in Section 2. $ _____

Fee to remove additional floor tile/mastic per square feet not included in the scope of work as defined in Section 2. $ _____

Fee to perform wall penetrations in locations that have been identified to contain vermiculite, and remove the vermiculite not covered in the scope of work as defined in Section 2. $ _____

Fee to remove the northwest door frame from the multipurpose room that may contain vermiculite, not covered in the scope of work as defined in Section 2. $ _____

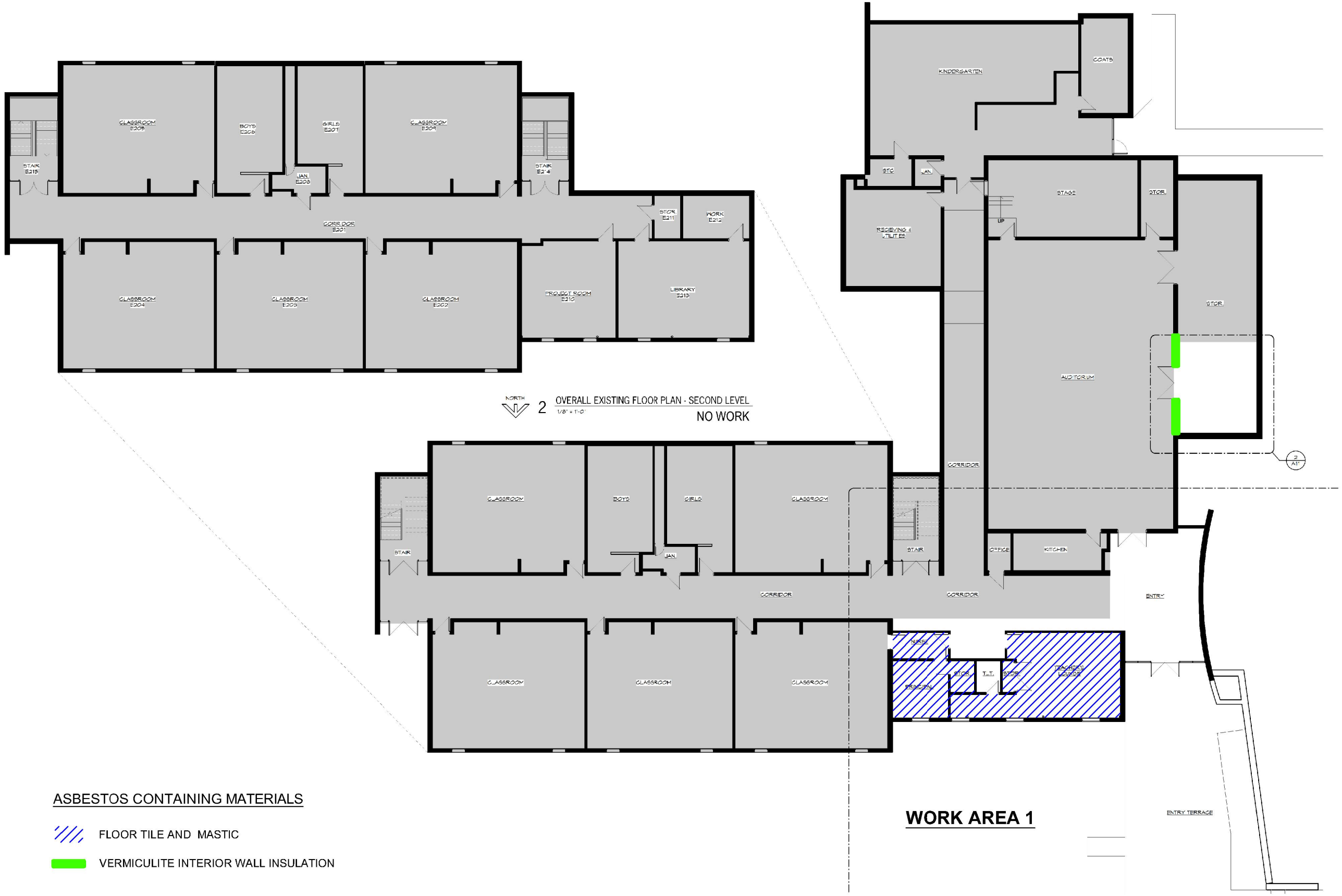
This Completes Section 3 Bid Form

Emerson Elementary School

Section 4

Drawings

N



NORTH 2 OVERALL EXISTING FLOOR PLAN - SECOND LEVEL
1/8" = 1'-0"

NO WORK

ASBESTOS CONTAINING MATERIALS

FLOOR TILE AND MASTIC

VERMICULITE INTERIOR WALL INSULATION

WORK AREA 1

DIAGRAM IS INTENDED FOR GENERAL USE ONLY, AND IS NOT FOR CONSTRUCTION PURPOSES. LOCATIONS ARE APPROXIMATE.

Project Mngr: PEF	Project No. 02177067	Terracon Consulting Engineers and Scientists	FIRST FLOOR PLAN
Approved By: TEE	Scale: NOT TO SCALE	15620 W 113TH STREET LENEXA, KS 66219	KANSAS CITY KANSAS PUBLIC SCHOOLS
Checked By: TEE	Date: 10/17/19	PH. (913) 492-7777 FAX. (913) 492-7443	EMERSON ELEMENTARY SCHOOL
Drawn By: DBM	File No. EMERSON.DWG		1429 S 29TH STREET
			KANSAS CITY, KANSAS

EXHIBIT 1

Emerson Elementary School

This completes Section 4 Drawings.

Emerson Elementary School

Section 5

Technical Specification

Table of Contents

Asbestos Removal Technical Specification

Chapter 1 General

1.1 Summary of Work:

1.1.1 **This technical specification, all project-related drawings, the bid document, and all other contract documentation, apply to the Work. The contract documents between owner and contractor show the work of the contract, related requirements, and conditions impacting the project. Related requirements and conditions include all applicable federal, state, and local codes and regulations, required notices and permits, restrictions on use of the site, requirements for partial owner occupancy during work, coordination of work with other contractors, and phasing of the work. Whenever there is a conflict or overlap of the above documentation with federal, state, and local regulations, the most stringent provisions apply.**

1.1.2 The scope of work is presented in Section 2 of this bid document.

1.1.3 Work summarized briefly as follows:

1.1.3.1 Pre-abatement activities includes but many not be limited to pre-abatement meetings, inspections, notifications, permits, submittal approvals, preparations, emergency arrangements and standard operating procedures.

1.1.3.2 Abatement activities include but may not be limited to removal and disposal of ACM and/or PACM, asbestos contaminated waste, record keeping, security, and inspection and monitoring.

1.1.3.3 Cleaning and decontaminating activities includes but may not be limited to final inspection and air testing, and certification of work completion and decontamination.

1.2 Owner's Responsibility:

1.2.1 The owner will be responsible for providing the following notifications to other building occupants concerning the work to be completed under these specifications:

1.2.1.1 Any prospective employer applying for or bidding for work whose employees reasonably can be expected to work in or adjacent to asbestos removal work areas.

1.2.1.2 Employees of the owner who will work in or adjacent to the asbestos removal work areas.

1.2.1.3 On multi-employer work sites, all employers who will be performing work within or adjacent to the asbestos removal work areas.

1.2.1.4 Tenants who are occupying the space adjacent to the asbestos removal work areas.

1.2.2 Any other specific owner’s responsibilities will be included in owner’s agreement with contractor and/or the scope of work for the project covered by these specifications.

1.3 Contractor's Responsibility:

1.3.1 The contractor will be responsible for the following:

1.3.1.1 To comply with all federal, state and local regulations including but not limited to OSHA 1910.1001 and OSHA 1926.1101.

1.3.1.2 Remove and dispose of all asbestos-containing materials, asbestos-containing waste and proper generation and distribution of waste shipment records and waste disposal manifest(s).

1.3.1.3 Ensure that all persons engaged in the asbestos removal project hold valid asbestos worker certificates.

1.3.1.4 Comply with all local, state and federal notifications.

1.3.1.5 Maintain all project records for as many years as required by local, state and/or federal regulatory requirements.

1.3.1.6 Provide any build-back re-insulation if required.

1.3.1.7 Perform personnel monitoring as required by OSHA.

1.4 Definitions:

ACE: Asbestos Contaminated Element

ACM: Asbestos Containing Material

ACS: Asbestos Contaminated Soil

ACWM: Asbestos Contaminated Waste Material

AWDF: Asbestos Waste Decontamination Facility

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

Aggressive Sampling: EPA defined clearance sampling method using air moving equipment such as fans and leaf blowers to stir the air.

Aggressive Method: Means removal or disturbance of a building material by sanding, abrading, grinding, or other method that breaks, crumbles, or disintegrates intact ACM and/or PACM.

Air Cell: Pre-formed, factory-made insulation normally used on pipes and duct-work. This corrugated cardboard almost always contains asbestos fibers combined with cellulose or refractory binder.

Air Sample Collection Filter: A membrane filter used to collect fibers/particulates which when processed is analyzed to determine fiber counts. The membrane is usually made of mixed cellulose material for Phase Contrast Microscopy (PCM), and polycarbonate or mixed cellulose for Transmission Electron Microscopy (TEM.)

Air Monitoring: The process of measuring the fiber content of a specific volume of air.

Amended Water: Water to which a surfactant has been added.

Asbestos: Asbestos is any one of a group of six similar minerals including chrysotile, crocidolite, amosite, actinolite, anthophylite and tremolite.

Asbestos Contaminated Element (ACE): Building elements such as ceilings, walls, lights and duct-work that are contaminated with asbestos.

Asbestos Containing Material (ACM): Any material containing one percent (1%) or more by volume of asbestos of any type or mixture of types. This is a Federal standard. Stricter State standards may apply.

Asbestos Containing Waste Material (ACWM): Any material which is known to be, suspected of, or contaminated with asbestos which is to be removed from a work area for disposal.

Asbestos Waste Decontamination Facility (AWDF): Airlock system consisting of drum/bag washing facility and temporary storage area for cleaned containers. Used as exit for waste and equipment leaving the abatement area. May be used in an emergency to evacuate personnel.

Authorized Person: Means any person authorized by the employer and required by work duties to be present in a regulated area.

Authorized Visitor: The owner or a representative of any federal, state and local regulatory or other agency having authority over the project.

Barrier: Any material that seals off the work area to inhibit the movement of fibers.

Breathing Zone: A hemisphere forward of the shoulders with a radius of approximately 6 to 9 inches.

Bridging Encapsulant: An encapsulant that forms a discrete layer on the surface of an in-place asbestos matrix.

Bulk Test: The collection and analysis of samples of suspected asbestos materials. A small amount, or bulk, of the material is physically removed from the structure and placed in a rigid airtight container for transportation to an accredited laboratory for analysis.

Category I Non-friable: (NESHAP definition) Category I non-friable ACM includes asbestos-containing gaskets, packings, resilient floor coverings, resilient floor covering mastic, and asphalt roofing products. Asbestos roofing products include built-up roofing, asphalt-containing single ply membrane systems, asphalt shingles, asphalt-containing underlayment felts, asphalt-containing roof coatings and mastics, and asphalt-containing base flashing. ACM roofing products that use other bituminous or resinous binders (such as tars or pitches) are also considered to be Category I ACM.

Category II Non-friable: (NESHAP definition) Category II are all other non-friable ACM, excluding Category I non-friable ACM.

Ceiling Concentration: The concentration of an airborne substance that shall not be exceeded.

Certified Industrial Hygienist (CIH): An industrial hygienist certified in comprehensive practice by the American Board of Industrial Hygiene.

Changing Area: Normally the first chamber of the Personnel Decontamination Facility, i.e., "clean room."

Class I Asbestos Work (OSHA): This means activities involving the removal of TSI and surfacing ACM and PACM.

Class II Asbestos Work (OSHA): This means activities involving the removal of ACM and/or PACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile, floor tile mastic, and asbestos cement product.

Class III Asbestos Work (OSHA): This means repair and maintenance operations, where ACM and/or PACM, including thermal system insulation and surfacing material, are likely to be disturbed.

Class IV Asbestos Work (OSHA): This means maintenance and custodial activities during which employees contact ACM and/or PACM and activities to clean up waste and debris containing ACM and/or PACM.

Clean Room: This means an uncontaminated room having facilities for the storage of employees' street clothing and uncontaminated materials and equipment.

Closely Resemble: This means that workplace conditions which have contributed to the levels of historic asbestos exposure and are no more protective than conditions of the current workplace.

Competent Person: This means a person properly trained and who is capable of identifying existing asbestos hazards in the workplace and selecting an appropriate control strategy for asbestos exposure and has the authority to take corrective measures to eliminate them, under requirements of 29 CFR 1926.1101

Count: Refers to "fiber count," or the average number of fibers greater than five micrometers in length per cubic centimeter of air.

Critical Barrier: This means one or more layers of plastic sealed over all openings into a work area or any other similarly placed physical barrier sufficient to prevent airborne asbestos in a work area from migrating to an adjacent area.

C.P.I.H.: Asbestos abatement contractor's professional industrial hygienist. Also known as "Competent Person."

Decontamination Area: This means an enclosed area adjacent and connected to the regulated area consisting of an equipment room, shower area, and clean room, which is used for the decontamination of workers, waste materials, and equipment that are contaminated with asbestos.

Demolition: The wrecking or taking out of any load-supporting building structural component and any related razing, removing, or stripping of asbestos products.

Disposal Bag: Six (6) millimeter thick leak-tight plastic bag used for transporting asbestos-containing waste material from work and to disposal site. Each is labeled as follows:

Disturbance: This means any contact which releases fibers from ACM and/or PACM, or debris containing ACM and/or PACM.

Drum: A rigid, impermeable container made of cardboard, metal or plastic which can be sealed in an air and liquid tight manner.

EDF: Equipment Decontamination Facilities

Employee Exposure: This means that exposure to airborne asbestos that would occur if the employee were not using respiratory protection.

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

Encapsulation: Treatment of asbestos-containing materials with encapsulant.

Enclosure: The construction of an air-tight, impermeable, permanent barrier around asbestos-containing materials to control the release of asbestos fibers into the air.

Entrance Port: A name sometimes used for the main entrance airlock in an OSHA defined negative air containment area.

Equipment Room: This means a contaminated room located within the decontamination area that is supplied with impermeable bags or containers for the disposal of contaminated protective clothing and equipment.

f/cc: Abbreviation for fibers per cubic centimeter of air, a standard measurement unit used to measure the level of fiber concentration in the air.

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

Friable Asbestos Containing Material: Material that contains more than one percent (1%) asbestos by weight that can be crumbled, pulverized, or reduced to powder by hand pressure.

Glovebag: This means an impervious plastic bag-like enclosure with glove-like appendages through which material and tools may be handled.

HEPA Filter: A high efficiency particulate air (HEPA) filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 microns in length.

HEPA Filter Vacuum Collection Equipment: HEPA filtered vacuum collection equipment with a filter system capable of collecting and retaining 99.97% of asbestos fibers greater than 0.3 microns in length.

High-Efficiency Filter: A filter which removes from air 99.97% or more of monodisperse dioctyl phthalate (DOP) particles having a mean particle diameter of 0.3 micrometers.

Industrial Hygienist (I.H.): A person who is professionally qualified by education, training, and experience to anticipate, recognize, evaluate and develop controls for occupational health hazards.

I.H. Technician: A person working under the supervisions of the I.H. with special training, experience, certifications and licenses required for the industrial hygiene work assigned to be performed.

Intact: This means that ACM and/or PACM has not crumbled, been pulverized, or otherwise deteriorated so that it is likely to remain bound with its matrix.

Lock-Back: Encapsulation of all surfaces in the regulated work area at the conclusion of ACM and/or PACM removal and before removal of primary barriers.

MCEF: Membrane Cellulose Ester Filter

Negative Exposure Assessment: This means a demonstration by the employer that employee exposure to airborne asbestos during an operation is expected to be consistently below the PELs.

Negative Pressure: Air pressure lower than surrounding areas, created by exhausting air from a sealed space such as a contained work area.

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

Negative Pressure Ventilation System: A local exhaust system, utilizing HEPA filtration capable of maintaining a negative pressure inside the work area and a constant air flow from adjacent areas into the work area and that exhausts that air through HEPA filters to air outside the work area.

NESHAP: National Emission Standards for Hazardous Air Pollutants

Non-friable Asbestos-Containing Material (NF-ACM): Material that contains more than one percent (1%) asbestos by weight but cannot be crumbled, pulverized, or reduced to powder by hand pressure when dry.

OSHA: Occupation Safety and Health Administration

Owner: The governmental or public body or authority, corporation, association, firm, or person with whom the contractor has entered into the agreement and for whom the work is to be provided and who is the authorized representative of the owner of the facility where the work is to be performed.

OV: Organic Vapor

PACM: OSHA acronym for “Presumed Asbestos Containing Material”

PAPR: Powered Air-Purifying Respirator

PCM: Abbreviation for Phase Contrast Microscopy. Phase contrast microscopy uses a light microscope for the purpose of counting fibers.

PDF: Personnel Decontamination Facilities

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

Personal Air Sampling: Air sample collected with a special battery-powered, portable, low-volume pump unit which is fitted on the body of the monitored person. The collection device (filter cassette) is located within the individual's breathing zone.

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

P.I.H.: Professional (qualified) I.H. who meets all the definition requirements of AIHA and OSHA of a "Competent Person" under 29 CFR 1926.1101, has completed at least three specialized courses on asbestos abatement, supervision, and management in EPA endorsed training programs, formal training in respiratory protection and waste disposal, and has a minimum experience of five (5) projects of similar complexity with this project of which at least three (3) projects, served as the supervisor, licensed when required by state or local regulations.

Plastic Sheeting: Barrier material not as strong as polyethylene.

PLM: Abbreviation for Polarized Light Microscopy with dispersion staining using light microscopy and refractive indices to identify type of asbestos present.

Polyethylene Sheeting: Strong, usually transparent plastic barrier material.

Positive/Negative Pressure Fit Check: A negative-pressure respirator fit check, performed by placing the palm of one hand over the exhalation valve and exhaling (positive pressure) and feeling for facepiece-to-face fit leakage and covering the filters cartridges with the palms of the hand and inhaling (negative pressure) while feeling for facepiece-to-face fit leakage.

Pressure Differential System: A system which restricts airflow from adjacent areas into work area and continuously re-filters air from the HEPA filtration machine. Minimal exhaust ventilation is utilized by

maintaining a pressure deferential of two hundredths of an inch (0.02") of water (H_20.) using a manometer.

Project Designer: This means a person who has successfully completed training requirements for an asbestos abatement project designer established by 40 CFR 763.

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.

QNFT: Quantitative Fit Test

RACM: EPA-NESHAP acronym for “Regulated Asbestos Containing Material

Regulated Area: An area established by the employer to demarcate areas where Class I, II, and III asbestos work is conducted, and any other adjoining area where debris and waste from such asbestos work accumulate; and a work area within which airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed, the permissible exposure limits (PEL.)

Removal: Means all operations (including demolition) where ACM and/or PACM is taken out or stripped from structures or substrates.

Removal Encapsulant: A penetrating encapsulant specifically designed for removal of ACM rather than encapsulation.

Renovation: The modifying of any existing structure, or portion thereof.

Repair: Overhauling, rebuilding, reconstructing, or reconditioning of, mechanical equipment, structures, or substrates, including encapsulation or other repair of ACM and/or PACM attached to mechanical equipment, structures, or substrates.

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

RPP: Respiratory Protection Program

RPPC: Respiratory Protection Program Coordinator

SAR: Supplied Air Respirator

SCBA: Self Contained Breathing Apparatus

Sealant: Another name for encapsulating material. This term also refers to the paint which is used to cover brown-coat ceilings after asbestos surfaces have been removed.

Sealed Work Area: Refers to the work area after containment barriers and decontamination facilities have been erected and a negative pressure air system installed.

Showers: Shower stalls installed in the PDF and used as part of the decontamination process, required for every person leaving the sealed work area. Also used in the EDF to wash disposal bags.

S.O.P.: Standard Operating Procedures

Station Sample or Area Sample: Refers to air samples collected at a specific spot, or station, with high-volume air pumps.

Surfactant: A chemical wetting agent added to water to improve penetration, thus increasing the effective wetting properties of water when applied to asbestos containing materials.

Surfacing Material: This means material that is sprayed, troweled-on or otherwise applied to surfaces (such as acoustic plaster on ceilings, fireproofing materials on structural members, or other materials on surfaces for acoustic, fireproofing, decorative texturing, and other purposes).

Surfacing ACM: This means surfacing material which contains more than 1% asbestos.

TEM: Abbreviation for Transmission Electron Microscopy. TEM is used for the purpose of fiber counting and has the analytical capacity of specifically identifying asbestos fibers.

Thermal System Insulation (TSI): This means ACM and/or PACM containing greater than 1% asbestos that is applied to pipes, fittings, boilers, breech, tanks, ducts or other mechanical/structural components to prevent heat loss or gain.

Testing: One of two types of testing done in relation to asbestos bulk and air testing.

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

VAT: Vinyl Asbestos Tile

Visible Emissions: Any emission containing particulate that is visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.

Wetting Agent: See Surfactant

Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with amended water or diluted removal encapsulant.

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

1.5 Contractor Use of Premises:

1.5.1 The contractor shall cooperate fully with the owner to minimize conflicts and to facilitate the owner's safe and smooth continued operational use of the building.

1.5.2 The contractor shall use existing facilities strictly within the limits shown in the contract documents and the approved pre-abatement plan of action

1.5.3 The Contractor must maintain emergency exits from the work areas and building in case of fire or medical emergencies. It is the contractor's responsibility to maintain these exits and to make sure all exits are easily accessible and easily opened from the inside.

1.6 Differing Site Conditions:

1.6.1 The quantities (if indicated) and location of ACM, PACM, and ACE indicated on the drawings and the extent of work included in Section 2 of the bid document is only best estimates. It is the contractor’s responsibility to notify the federal, state, and/or local regulators of the quantities to be removed. It is also the contractor’s responsibility to notify the owner of any newly discovered ACM and/or PACM within 24 hours of such discovery.

1.7 Authority to Stop Asbestos Removal:

1.7.1 If the owner presents a verbal and/or written "Stop Asbestos Removal" order, the contractor will immediately stop all asbestos removal and initiate fiber reduction activities. The contractor will not resume asbestos removal until authorized verbally and/or in writing by the owner. A "Stop Asbestos Removal" order will be issued at any time the owner determines abatement conditions are not within specification requirements. Stoppage will continue until conditions have been corrected. Standby time and cost required for corrective action is at the contractor's expense. The occurrence of the following events shall be reported in writing to the owner and shall require the contractor to automatically stop asbestos removal and initiate fiber reduction activities:

- Excessive airborne fibers outside the containment area (0.1 f/cc or greater).
- Any breach in containment barriers.
- Loss of negative air pressure.
- Serious injury on the job site.
- Fire and/or safety emergency.
- Respiratory system failure.
- Power failure.

- Excessive airborne fibers inside the containment (0.5 f/cc or greater when wet methods are employed).

1.8 Contractor Requirements:

1.8.1 This section covers furnishing of all labor, materials, services, equipment, supervision and permits necessary to perform the removal of ACM located at the site described herein.

1.8.1.1 This work shall be performed in accordance with this specification, contract documents, and any other applicable federal, state, and local government regulations concerning asbestos or related construction activities.

1.8.1.2 In the event of conflicting requirements, the most stringent provisions shall be applicable.

1.8.1.4 Work under this contract shall be performed in strict accordance with current OSHA, AHERA (when applicable), and NESHAP regulations.

1.9 Pre-Construction Conference:

1.9.1 The contractor may be required to attend a mandatory pre-construction conference meeting scheduled by the owner. At this meeting, the contractor shall present, in writing, to the owner three (3) copies of the following:

- Written negative exposure assessment when used.
- Project schedule breakdown in accordance with the time restraints.
- A plan for preparation of the work site, decontamination chamber, and shower/waste water disposal.
- Description of protective clothing and approved respirators to be used.
- Delineation of responsibility of work site supervision including a listing of emergency telephone numbers.
- Explanation of regulated area containment and isolation techniques.
- Brief description of removal methods to be used and equipment to be utilized.
- Description of the final clean-up procedures to be used.
- Brief explanation of the handling of ACM and/or PACM and ACWM and the disposal site to be utilized.

1.9.2 Additional job progress meetings may be scheduled by the owner during the course of the construction.

1.10 Contractor Logbook:

1.10.1 The contractor shall maintain a logbook at the job site, which shall be available at all times to the owner. Complete copies shall be submitted to the owner within fifteen (15) days of project completion. The logbook serves as a ready reference for this project and may be used in legal proceedings, thus, care must be taken to assure its completeness and its documentation accuracy. The logbook shall contain the following information at a minimum and shall be maintained in a three (3) ring binder. Any deviation shall be confirmed in writing by the owner.

- Date stamped copies of all federal, state and local project notifications and filings including waivers and copies of applicable regulations.
- Copies of certification by a physician of each employee's capability to wear a respirator per the OSHA Respirator Standards (29 CFR 1910.134).
- Copies of asbestos project notifications to the local fire, police and rescue services including telephone numbers.
- Name and home telephone numbers of key personnel including the on the job supervisor's immediate supervisor, the buildings owner's representative, security personnel, and appropriate federal, state and local regulatory personnel.
- Contractor's standard operating procedures and any deviations therefrom.
- Project technical specification including plans and drawings and any deviations therefrom.

- Sign-in and sign-out forms noting who entered the work area, their affiliation with the project, time and purpose of entry and departure time.
- Records of pertinent daily events, checks of containment and equipment and all accidents and injuries occurring on the job.
- Personal air sampling forms with results for final report inclusion.
- EPA generator identification number, copy of waste disposal manifest, and name of disposal site used. If a subcontractor is used, all information required above must still be provided. All the above documentation including trip tickets and land fill invoices shall be provided to owner after project completion.
- Reports of inspection by federal, state, and local authorities.
- Detailed reports of any problems and incidents that arose, the date and time, and how they were handled. These reports must be signed by supervisory personnel.
- Emergency procedures.
- Copy of the project schedule and any deviations therefrom.
- Organization of personnel at the job site including delineation of supervisory responsibility.
- The contractor shall submit a copy of the valid state business entity license for an asbestos abatement contractor. All certificates for proposed workers, foremen, and supervisors must be presented. Any changes or substitutions must be approved by the owner.
- In the event that glove bag removal techniques are used, the contractor shall submit a copy of the glove bag instructions.

1.11 Availability of Trained Personnel:

1.11.1 There shall be a sufficient number of trained workers and supervisors to accomplish the work within the required schedule. No individual person who has not been fully trained and qualified, as below, shall be employed to speed up completion of the work.

1.11.1.1 All personnel of the contractor involved with the asbestos abatement work must be trained, tested, and certified prior to any work and shall be familiar with the standard operating procedures of the contractor.

1.11.1.2 All workers and supervisors shall be thoroughly familiar with all applicable regulations and practices for asbestos abatement work and must possess valid state asbestos licenses.

1.11.1.3 All workers shall be trained in the use and care of respirators.

1.11.1.4 All workers shall have successfully completed training courses required for asbestos removal workers as required, recognized, sponsored, and supported by the United States Department of Labor, Occupational Safety and Health Administration, the United States Environmental Protection Agency, and all state and local regulatory agencies. Documentation of the successful completion of applicable courses is required with submittals and close-out report.

1.11.1.5 All workers shall have state and local certifications whenever state and local regulations require the workers to be certified and shall be available for owner inspection prior to work starting.

1.11.1.6 Any worker without the above qualifications shall not be allowed in the work area at any time.

1.12 Building Security:

1.12.1 The security of the premises and grounds are the responsibility of the owner unless otherwise specified in the bid document.

1.12.2 The security of the work area against inadvertent and/or willful entry of unauthorized personnel is the responsibility of the contractor. The contractor is responsible for all tools, equipment, materials, etc. whether they are in the work area or not.

1.13 Standard Operating Procedures (SOP):

1.13.1 The asbestos contractor shall have established standard operating procedures (SOP) in printed form, on site, consisting of simplified diagrams, sketches and pictures that establish and explain clearly the ways and procedures to be followed during all phases of work. The SOP must be modified as necessary to address any specific requirements of the project and shall be submitted for review and approval prior to the start of any abatement work. The minimum topics and areas to be covered by the SOP are:

- Minimum Personnel Qualifications
- Contingency Plans
- Security and Safety in the Workplace (including a worksite safety plan - see 1.15)
- Respiratory Protection Systems and Training
- Worker Protection, Medical Examinations, Record Keeping, Protective Clothing, Entering and Exiting Procedures
- Work Area Limitations
- Decontamination Facilities, PDF and EDF
- Negative Pressure Systems
- Containment Barriers and Coverings of Work Area
- Monitoring, Inspection, and Testing
- Removal of ACM and/or PACM and/or ACE
- Removal of ACS
- Glove bag applications and their instructions
- Enclosure of ACM and/or PACM
- Encapsulation of ACM and/or PACM
- Project close-out documents production and distribution
- Project Decontamination
- Work Area Clearance
- Disposal of ACM and/or PACM and/or ACE Waste
- Fire Protection, Emergency Evacuation, and Exit Plan
- A Plan for Blood Borne Pathogens

1.14 Contractor Pre-Work Submittal:

1.14.1 Submit before start of work the following:

1.14.1.1 Copies of current abatement contractor required licenses and insurance.

1.14.1.2 Product data for surfactants and/or removal encapsulants, lock back encapsulants or other hazardous materials, instruction for use and recommendations of manufacturer, and data substantiating compliance with requirements including MSDS's.

1.14.1.3 Certification from manufacturer that the wetting product will wet ACM as required by NESHAP 40 CFR 61, Subpart M.

1.14.1.4 The contractor shall prove they have an established asbestos abatement business for three (3) years. Have conducted within the last three (3) years, three (3) asbestos abatement projects three (3) of which are comparable in complexity and dollar value with this project. Have not been cited or has not been a defending party of any legal action for violation of asbestos regulations during the last three (3) years. Carries liability insurance for asbestos abatement work. Is licensed in whatever state it is doing business and has on file such records. Has an adequate number of qualified personnel available for this project. Has an established written SOP for training, medical surveillance, entry and exit procedures, respiratory protection, safety, emergency and monitoring. Has available equipment, materials and supplies in adequate quantity, capacity and number to perform the work of this project.

1.15 Work Site Safety Plan:

1.15.1 Taking all emergency precautions and following all emergency procedures is the responsibility of the contractor and shall at minimum have a work site safety plan which includes the following:

1.15.1.1 The contractor shall establish emergency and fire exits from the work area. All emergency exits shall be equipped with at least two (2) sets of protective clothing and respirators (for emergency entrance) at all times.

1.15.1.2 The contractor shall notify the local police and fire departments of the asbestos abatement project. The contractor must coordinate with the police all security aspects of the project. All emergency evaluation and safety aspects must be coordinated with the local fire department and/or emergency response teams. **A notice of verification that all of the above parties have been notified must be presented to the owner.**

1.15.1.3 The contractor shall be prepared to administer immediate first aid to injured personnel before and after decontamination. Seriously injured personnel shall be treated immediately or evacuated without delay for decontamination. When an injury occurs, the contractor shall stop and implement fiber reduction techniques such as, water misting the work area air until the injured person has been removed from the work area.

1.16 Codes and Regulations:

1.16.1 **Except to the extent that more explicit or more stringent requirements are written directly into the contract documents, all current applicable codes, regulations, and standards have the same force and effect (and are made a part of the contract documents by reference) as if copied directly into the contract documents, or as if published copies are bound herewith.**

1.16.2 The contractor shall assume full responsibility and liability for compliance with all applicable federal, state, and local regulations pertaining to notifications, work practices, hauling and disposal of ACM and/or PACM, and/or ACE, and/or ACS and protection of workers, visitors to the site and persons occupying areas adjacent to the site. The contractor is responsible for providing medical examinations and maintaining medical records for workers as required by the applicable federal, state, and local regulations. The contractor shall hold the owner harmless for failure to comply with any applicable work, hauling, disposal, safety, health and/or other actions on the part of himself, his employees, or his subcontractors. The contractor incurs all costs including all sampling/analytical costs for sampling to comply with OSHA regulations. In addition, the abatement contractor shall determine the applicability of any process patent that may be used and be responsible for paying any fees, royalties, or licenses that may be required for the use of patented processes.

1.16.3 Federal requirements which govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:

1.16.3.1 U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA):

- Code of Federal Regulations Title 29 Part 1910 Section 1001
- Code of Federal Regulations Title 29 Part 1926 Section 1101
- Code of Federal Regulations Title 29 Part 1910 Section 134

1.16.3.2 U.S. Environmental Protection Agency (EPA):

- Code of Federal Regulations Title 40 Part 763 Subpart E
- Code of Federal Regulations Title 40 Part 61 Subpart A
- Code of Federal Regulations Title 40 Part 61 Subpart M

1.16.3.3 U.S. Department of Transportation

- Code of Federal Regulations (applicable parts of) 49 CFR Parts 171-180

1.16.4 All state requirements which govern asbestos abatement work or hauling and disposal of asbestos waste materials shall apply.

1.16.5 All local requirements shall apply.

1.16.6 EPA guidance documents that discuss asbestos abatement work or hauling and disposal of asbestos waste materials are available on EPAs Web site www.epa.gov and are incorporated herein by reference.

- Guidance for Controlling Asbestos-Containing materials in Buildings (Purple Book) - EPA 560/5-85-024
- Asbestos Waste Management Guidance - EPA 530-SW-85-007
- A Guide to Respiratory Protection for the Asbestos Abatement Industry - EPA-560-OPTS-86-001

1.16.7 The contractor shall send written notification prior to beginning work on abatement of asbestos containing materials as required by NESHAP, 40 CFR 61, Subpart M to the regional asbestos NESHAP contact or their designee.

1.16.7.1. Include, at a minimum, the following information in the notification sent to the NESHAP contact:

- Name and address of owner's facility.
- Description of the facility being demolished or renovated, including size, age, and prior use of facility.
- Estimate of the approximate amount of friable asbestos material present in the facility in terms of linear feet of pipe, and surface area on other facility components.
- Location of the facility being demolished or renovated.
- Scheduled starting and completion dates of demolition or renovation.
- Nature of planned demolition or renovation and method(s) to be used.
- Procedures to be used to comply with the requirements of NESHAP 40 CFR 61 Subpart M.
- Name and location of the waste disposal site where the friable asbestos waste material will be deposited.

1.16.7.2. If applicable, send written notification within required time-frames as required by state and local regulations prior to beginning removal of asbestos-containing materials.

1.16.7.3. Copies of NESHAP and other notifications shall be submitted to the owner for the facility's record in the same time-frame notification is given to the EPA, state, and local authorities.

1.16.8 A asbestos waster shipment document is required for transporting asbestos waste to a disposal site.

1.16.9 Maintain current licenses as required by applicable federal, state, and local jurisdictions for the removal, transporting, disposal or other regulated activities related to the work of this contract.

1.16.10 Maintain two (2) copies of applicable federal, state, and local regulations. Make available one (1) copy of each at the job site where workers will have easy access to the regulations. Keep on file in the contractor's office one (1) copy of each regulation.

1.17 Project Personnel:

1.17.1 The contractor and assigned personnel for this project shall meet the following minimum requirements:

1.17.1.1 The C.P.I.H. shall have at least three (3) years of experience monitoring and supervising abatement construction. Have participated as C.P.I.H. in five (5) abatement projects, three (3) of which are of comparable complexity and dollar value with this project. Have developed at least one (1) complete written standard operating procedure for abatement and has trained abatement workers for three (3) years. Have specialized training in asbestos abatement management, respiratory protection and training, asbestos waste disposal,

abatement, personnel monitoring, inspection and testing. Have medical records. Have certifications and licenses where required by state and/or local government.

1.17.1.2 Abatement workers shall have specialized training in abatement construction, OSHA and EPA regulations, the standard operating procedure of the company, asbestos hazards and respiratory protection. Have one (1) year of abatement construction experience. Have medical records and any other OSHA requirements. Have licenses where required by state and/or local government.

1.18 Contingency Plans and Arrangements:

1.18.1 Prepare a contingency plan for emergencies including fire, accident, failure of power, failure of negative air system, failure of supplied air system or any other event that may require modification of standard operating procedures during abatement, including specific procedures to ensure safe exiting and to provide medical attention in the event of an emergency. Post the telephone numbers and locations of emergency services including fire, ambulance, doctor, hospital, police, power company and telephone company in the clean room of PDF. Notify all these emergency services as to the danger of entering the containment area. The Contractor must ensure that all of its employees know of all fire and emergency plans, telephone numbers and exit procedures.

1.19 Project Security:

1.19.1 The contractor is responsible for providing 24 hour security for all regulated areas throughout the duration of the their work.

Chapter 2 Respiratory Protection

2.1 General:

2.1.1 The contractor shall provide respiratory protection in accordance with this specification, the OSHA regulation 29 CFR 1910.1001, 29 CFR 1910.134 and 29 CFR 1926.1101, EPA regulations 40 CFR 763.120 and 121, ANSI standards Z88.2, CGA Pamphlet G-7 and specification G-7.1, the NIOSH standards, and comply with all current state and local requirements. In case of conflict, the most stringent requirements are applicable for this project.

2.2 Respiratory Protection Program (RPP):

2.2.1 It is the responsibility of the contractor to develop, implement and maintain a respiratory protection program.

2.3 Written Statement of Company Policy:

2.3.1 The contractor shall provide a written statement of intent to provide a safe and healthful work place for workers. This written statement shall include assignment of individual responsibility, accountability, enforcement procedures and authority for required activities.

2.4 Respirators for Abatement Operations:

2.4.1 Where a person is or could reasonably be expected to be exposed during abatement operations to airborne asbestos, one of the following minimum levels of respiratory protection is required:

NIOSH Approved Respiratory Protection	Maximum Use Concentration
Half-Mask Air Purifying with HEPA Filters	1 f/cc
Full-Facepiece Air Purifying with HEPA Filters	5 f/cc
Powered Air Purifying (PAPR) Full Facepiece with HEPA Filters	10 f/cc
Full Facepiece - Supplied Air Continuous Flow with HEPA Filters	10 f/cc
Full Facepiece - Supplied Air operated in Pressure Demand mode	100 f/cc

2.4.1.1 Type "C" Compressed Air (OSHA 1910.134(d)(1) and CAS Z275.3.09) shall comply with the following requirements:

- Ø The compressor shall be sized according to the respirator manufacturer's recommendation for supply capacity.
- Ø The receiver shall be of the capacity and a size for emergency escape using decontamination procedures for all workers.
- Ø The compressor shall be equipped with a visual and audible compressor failure alarm so that all workers may be alerted of compressor failure.
- Ø The compressor shall be equipped with a high temperature alarm with shut off capability.
- Ø The compressor shall be equipped with a carbon monoxide monitor. This monitor should be equipped with an alarm that can be heard or seen by all workers using the system.
- Ø The system shall include an in-line air purifying absorbent bed and filters.
- Ø The compressor shall provide Grade D or better quality breathing air.

2.4.1.2 The contractor shall demonstrate, prior to its use, the air system including receiver capacity, etc., to the owner for approval.

2.4.1.3 A belt must be provided for the air hose. The hose length shall not exceed 300 feet.

2.4.1.4 The contractor shall have available for authorized visitors, two (2) extra or spare air hoses and connectors to allow entry into the work area at any time without removing a worker from the work area.

2.4.2 Combination pressure-demand SAR/SCBA or pressure-demand SCBA shall be equipped with full facepieces. Full facepieces shall be worn with either a bonnet-type disposable head cover/hood or with a full head cover/hood which is part of a fully enclosed protective garment. When bonnet type head cover/hoods are used with full facepieces, the respirators shall always be donned with the head straps located under the hood. This allows removal of the head covering prior to showering without disturbing the respirator (which is worn into the shower).

2.4.3 Reserve air shall be provided per OSHA regulations 29 CFR 1910.134 as part of any supplied air system used with the above respirators.

2.5 Use of Respirators:

2.5.1 The Contractor shall provide respirators to their employees as follows:

2.5.1.1 During all Class I and II asbestos jobs.

2.5.1.2 During all Class II and III work this is not performed using wet methods.

2.5.1.3 During all Class II and III asbestos jobs where the employer does not produce a “negative exposure assessment”.

2.5.1.4 During all Class III jobs where TSI or surfacing ACM and/or PACM is being disturbed.

2.5.1.5 During all Class IV work performed within regulated areas where employees performing other work are required to wear respirators.

2.5.1.6 During all work while employees are exposed above the TWA or excursion limit.

2.6 Worker and Supervisor Respirator Training:

2.6.1 Contractor shall provide formal instructions in the proper use of respirators to workers and supervisors. Supervisors shall have a more comprehensive training in addition to the basic worker training.

2.7 Respirator Fit Test:

2.7.1 Perform the appropriate fit test, either a quantitative fit test (QNFT) or qualitative fit test (QLFT) in accordance with OSHA regulations 29 CFR 1910.134 to determine satisfactory fit with any respirator which creates a negative pressure in the facepiece, such as negative-pressure air-purifying respirators or a SAR fitted with an emergency HEPA filter back-up.

2.7.2 Routine donning of respirators with tight fitting facepiece requires negative and positive pressure test to ensure adequate sealing. This shall be performed by the wearer prior to each entry into the work area.

2.7.3 For SCBA, SAR/SCBA, and SAR perform a negative pressure test, block the end of the breathing tube with the palm of the hand(s) and for negative pressure air-purifying respirators close off the cartridge(s) or filter(s) by covering with the palms of the hands. The wearer shall inhale gently and hold breath for at least ten (10) seconds. The facepiece shall collapse slightly without inward leakage of air into the facepiece.

2.7.4 For SCBA, SAR/SCBA, SAR perform a positive pressure test for negative pressure air-purifying respirators, the exhalation valve is closed off and wearer exhales gently for at least ten (10) seconds. A slightly positive pressure shall be built up inside the facepiece without any outward leakage of air from the facepiece.

2.8 Cleaning, Disinfecting, Inspection, Repair and Storage:

2.8.1 Respirators shall be cleaned after each use by the wearer at the end of each work shift. Every worker's respirator shall bear identification and shall always be assigned to the same worker.

Perform continuous inspection of respirators to identify malfunctions. Inspections shall be performed in accordance with manufacturer's instructions. Replacement parts for respirators shall be from the manufacturer of the respirator only. Substitution of parts from a different brand or type of respirator, or unauthorized modification will void the approval of the respirator. Store the respirator in a convenient, clean, and sanitary location to ensure proper function when used. Protect against dust, chemicals, sunlight, excessive heat and cold, and mechanical damage. Store thoroughly dried respirator in sealed plastic bag or in a container with a tight-fitting lid.

2.9 Regular Program Evaluation and Special Problems of Use:

2.9.1 The contractor shall periodically assess the effectiveness of the respiratory protection program during all phases of asbestos abatement operations. Contractor shall monitor supervisor and worker compliance with requirements of their program. In addition to general assessment of the overall respiratory protection program, specific evaluations of the respirator cleaning, inspection, maintenance, repair, storage, and use procedures shall be frequently conducted to ensure that the desired results of these operations are consistently achieved.

2.10 Proper Respirator Use Procedures:

2.10.1 The Contractor shall establish a well-defined procedure for donning and doffing of respirators when entering and exiting the work area through the PDF. Donning and doffing of respirators and work clothes shall be accomplished using the "buddy" system, involving two employees assisting each other to ensure full and satisfactory compliance with the establish procedures. The procedures described in this document for clean room (entry), shower room (entry), equipment room (entry),work area and equipment room (exit), shower room (exit) and clean room (exit) for pressure-demand SAR and pressure-demand SAR/SCBA are made, by reference, part of these specifications.

Chapter 3 Worker Protection

3.1 Training Prior to Engaging in Abatement Work:

3.1.1 The contractor shall ensure that workers are trained in accordance with OSHA 29 CFR 1926.1101 and this section. Workers shall be trained and be knowledgeable on the following topics:

- Methods of recognizing ACM and/or PACM.
- Health effects of asbestos exposure.
- Effects of smoking and asbestos exposure.
- Activities that could result in hazardous exposures.
- Protective controls, practices and procedures to minimize exposure including engineering controls, work practices, respirators, housekeeping procedures, hygiene facilities, protective clothing, decontamination procedures, emergency procedures, and waste transportation and disposal.
- Review OSHA 29 CFR 1910.134 for respirators.
- Medical surveillance program.
- Review OSHA 29 CFR 1926.1101.
- Review this section of the project specifications.

3.2 Medical Examination:

3.2.1 The contractor shall provide medical examination for all workers and any other employees entering the work area per OSHA 29 CFR 1926.1101 regardless of exposure level. In addition, the contractor's physician shall perform an evaluation of each individual's ability to work in heat stress environments.

3.3 Protective Clothing:

3.3.1 The contractor shall provide all safety clothing and equipment required by OSHA for personal protection for all workers. These items might include, but are not limited to, steel-toed boots, hard hats, eye protection, hearing protection, gloves, etc. for all workers. The contractor is required to ensure all equipment is well-maintained and meets OSHA requirements for personal protection. Provide all persons entering the work area with disposable full body coveralls, disposable head covers and eighteen inch (18") boot type covers. Ensure that disposable clothing integrity will not be compromised by employees. Provide disposable plastic or rubber gloves to protect hands. Cloth gloves may be worn inside the disposable gloves but shall not be used alone. Use tape to secure sleeves at the wrists and to secure foot coverings at the ankle.

3.4 Decontamination Procedures:

3.4.1 The contractor shall ensure that all workers adhere to the following personal decontamination procedures whenever they leave the work area:

3.4.1.1 Before exiting the work area, remove gross contamination from clothing using a HEPA vacuum.

3.4.1.2 When exiting the work area, remove disposable coveralls, and all other disposable clothes, head covers, and disposable footwear covers or boots in the equipment room.

3.4.1.3 Still wearing the respirator, and completely naked, proceed to showers. Showering is mandatory. Care must be taken to follow reasonable procedures in removing the respirator to avoid asbestos fiber inhalation while showering. The following procedure is required as a minimum:

- Thoroughly wet body including hair and face. If using a PAPR, hold blower unit above head to keep canister dry.

- With respirator still in place thoroughly wash body, hair, respirator facepiece, and all parts of the respirator except the blower unit and battery pack on a PAPR. Pay particular attention to clean seal between face and respirator and under straps.
- Take a deep breath, hold it and/or exhale slowly and completely wash face and respirator. While still holding breath, remove respirator and hold it away from face before starting to breath.

3.4.1.4 Carefully wash facepiece of respirator inside and out. If using PAPR, shut down in the following sequence, first cap inlets to filter cartridges, then turn off blower unit (this sequence will help keep debris which has collected on the inlet side of the filter from dislodging and contaminating the outside of the unit). Thoroughly wash blower unit and hoses. Carefully wash battery pack with wet rag. Be extremely cautious of getting water in battery pack as this will short out and destroy the battery.

3.4.1.5 Shower completely with soap and water. Rinse thoroughly.

3.4.1.6 Rinse shower room walls and floor prior to exit.

3.4.1.7 Proceed from shower to changing room and change into street clothes or into new disposable work items.

3.4.1.8 Dispose of wet filters from air purifying respirator.

3.4.1.9 Carefully wash facepiece of respirator inside and out.

3.4.1.10 Shower completely with soap and water. Rinse thoroughly.

3.4.1.11 Rinse shower room walls and floor prior to exit.

3.4.1.12 Proceed from shower to changing room and change into street clothes or into new disposable work items.

3.5 Limitations within Work Area:

3.5.1 The contractor shall ensure that workers do not eat, drink, smoke, chew gum or tobacco, or in any way break the protection of the respiratory protection system in the work area.

3.6 Emergency Fire Exit:

3.6.1 As per this specification and the abatement design drawings when provided, the contractor must maintain easy access to all emergency exits. If an emergency exit must be covered with 6 mil poly as a critical barrier for asbestos containment, do the following:

3.6.1.1 Post Exit signs.

3.6.1.2 Tape a utility knife to the wall next to the exit for cutting the poly.

3.6.1.3 Red paint or red duct tape should "frame" the exit and the knife, making it both visible and easy to find.

3.7 Emergency Fire Plan:

3.7.1 Go through the fire exit procedures with all persons working in the building.

3.7.2 In case of fire, use the stairs, not the elevator.

3.7.3 Post emergency telephone numbers.

3.7.4 Place easily accessible fire extinguishers in each work area.

Chapter 4 Decontamination Facilities:

4.1 Description:

4.1.1 Provide each work area with separate PDF and EDF when feasible. Ensure that the PDF is the only means of ingress and egress from the work area and that all equipment, bagged waste material and other material exit the work area only through the EDF.

4.2 General Requirements:

4.2.1 All persons entering and exiting the work area shall follow the entry and exit procedures required by the applicable regulations and this specification. Process all equipment and materials exiting the work area through the EDF and decontaminate as required by this specification. Construct walls and ceilings of PDF and EDF, airtight with at least six (6) millimeter opaque polyethylene sheeting and attach to existing building components or to a temporary frame-work. Use a minimum of two (2) layers of reinforced six (6) millimeter polyethylene to cover floor under PDF. Construct doors from overlapping polyethylene sheets so that they overlap adjacent surfaces. Weigh sheets at bottom so that they quickly close after release. Put arrows on sheets showing direction of overlap and travel. If the building is partially occupied, construct solid barriers on the public side to protect sheeting. Construct rigid enclosures as indicated on drawings or when necessary.

4.2.2 Adequate toilet facilities shall exist either in the clean room adjacent to the PDF or shall be readily nearby.

4.3 Temporary Utilities to PDF and EDF:

4.3.1 The contractor shall provide temporary water service connection to the PDF and EDF. Provide back-flow protection at the point of connection to the owner's system. Provide UL rated electric hot water heater to supply hot water at a minimum of 100^{o}F to the showers of the PDF.

4.3.2 Water supply must be properly pressurized and temperature balanced at shower discharge and be secured at the shower and at the source at the end of each work shift to prevent flooding or water damage to other building components from ruptured hoses.

4.4 Personnel Decontamination Facilities (PDF):

4.4.1 The contractor shall provide a PDF consisting of serial arrangement of clean room, shower room and equipment room. Provide adequately sized PDF to accommodate the number of employees scheduled for the project. The center chamber of the three chamber PDF shall be fitted with as many portable walk-through shower stalls as necessary so that all employees will be able to go through the entire decontamination procedure within 15 minutes. There shall be a minimum of one (1) shower per six full work shift persons calculated by the largest work shift. Construct PDF of opaque or colored polyethylene for privacy. Construct PDF so that it will not allow for parallel routes of exit without showering.

4.4.2 The clean room of the PDF must be physically and visually separated from the rest of the building for the purpose of workers changing into protective clothing or dressing into street clothing. Construct using six (6) millimeter minimum thickness polyethylene sheeting to provide an airtight room. Provide a minimum of two (2), three (3) feet wide flapped airlocks constructed from sheets of polyethylene. One (1) airlock shall be from the outside and one (1) of two (2) from the shower. Keep the floor of this room dry and clean at all times. Do not allow over-flow from shower into this room. Damp wipe all surfaces twice after each shift change with a disinfectant solution. Provide in this room an adequate supply of disposable bath towels and disposable protective clothing. Provide at a minimum, hooks for employees clothes and chair to sit on. Provide a portable Type "ABC" fire extinguisher in this room as per NFPA Standard 10. Require all persons to remove all street clothes in this room and dress in disposable protective clothing and respiratory protection equipment. Ensure that any person entering this room will do so either from the outside with street clothes or from the showers completely naked and thoroughly washed. If a female is required to

enter or exit the work area make all necessary provisions to ensure her privacy throughout the decontamination process.

4.4.3 The shower room of the PDF provides a completely water tight operational compartment to be used for transit of all personnel entering the work area from the changing room, or for showering by all persons headed out of the work area after undressing in the equipment room. Construct each stall and shower walls so that water running down the walls will drip into the shower pan. Install a freely draining smooth wooden floor on top of the shower pan. Separate this room from the rest of the building and the equipment room and clean room with airtight walls fabricated of a minimum six (6) millimeter polyethylene. Provide splash-proof entrances to clean and equipment rooms with two (2), three (3) feet wide flapped airlocks constructed of polyethylene.

4.4.3.1 Provide shower heads and controls, temporary cold and hot water, drainage, soap dish, and a continuous supply of soap. Maintain sanitary conditions at all times. Arrange controls so that a single individual can shower without assistance. Pump waste water to drain or storage drum for disposal. If pumped to drain, provide twenty (20) micron and five (5) micron waste water filters. Change filters daily. Locate filters inside shower so that water lost during filter changes drains into shower pan. Hose down all surfaces of the shower room after each shift and clean debris from the shower pan. Dispose of residue as asbestos contaminated waste.

4.4.4 The equipment room of the PDF provides a completely airtight compartment to be used to store work equipment, reusable footwear and warm clothing and as a transit and change station. Separate this room from the work area and showers with airlocks three (3) feet wide, constructed of three (3) six (6) millimeter polyethylene sheets on the work area side and two (2) on the shower side. Separate this room from the work area and other rooms with airtight walls and ceiling constructed of maximum six (6) millimeter polyethylene sheeting. If the airborne asbestos levels in the work area are expected to be higher than .5 f/cc, add an intermediate cleaning space between the equipment room and the work area. Clean all surfaces (by damp wiping) of the equipment room after each shift change. Provide an additional floor layer of six (6) millimeter clear polyethylene sheeting per work shift change and remove contaminated layer after each work shift. Provide temporary electrical sub-panel in this room to accommodate any power tools and equipment in work area. Provide benches for workers to sit. Provide a walk-off pan in the work area outside of the equipment room for persons to clean foot-wear when exiting the work area.

4.4.5 Small Asbestos Projects (mini-containment): Enclosure requirements. A personal decontamination enclosure system shall consist of, at least, a shower room and a clean room separated from each other by an airlock and from the work area and other areas by curtained doors. All other provisions for large asbestos projects shall apply. Equipment storage, personal gross decontamination, and removal of clothing shall occur in the work area just prior to entering the shower. **NOTE:** The full personal decontamination enclosure specified for large asbestos projects is recommended for mini-containments.

4.5 Equipment and Waste Decontamination Facilities (EDF):

4.5.1 The contractor shall provide an EDF consisting of a serial arrangement of wash room and holding room for removal of equipment and ACM and/or PACM waste from work area. Do not allow entry or exit of people through EDF other than in emergencies. Clean debris and residue from inside EDF on a daily basis. Wipe down or hose down all surfaces after each shift and clean wash pan of debris. See Chapter 15 for waste/equipment removal through EDF.

4.5.2 Pre-clean waste bags and equipment before moving into the wash room.

4.5.3 Provide wash room for cleaning of equipment and bagged or containerized ACWM passed from the work area. Construct wash room of framing and polyethylene sheeting, at least six (6) millimeter in thickness. Locate room so that ACWM, after being wiped clean, can be passed to a holding room. Separate this room from the work area by a triple flap airlock of six (6) millimeter polyethylene sheeting.

4.5.4 Provide a holding room as a drop location for equipment and bagged ACWM passed from the wash room. Construct holding room of framing and polyethylene sheeting, at least six (6)

millimeter thickness. Separate the holding room from the wash room with a triple flap airlock and another solid, lockable door to the outside.

4.5.5 Where there is only one egress from the work area, the holding area of the waste decontamination enclosure system may branch off from the equipment decontamination room, which doubles as a waste wash room, of the personal decontamination enclosure or pass completely through the PDF.

4.5.6 In small asbestos projects where only one egress from the work area exists, the shower room may be used as a waste wash room. In this instance, the clean room shall not be used for waste storage, but shall be used for waste transfers to carts, which shall be immediately removed from the clean room.

Chapter 5 Negative Pressure Filtration Systems:

5.1 General Negative Pressure Requirements:

5.1.1 The contractor shall provide enough HEPA filtered negative air machines (HEPA Units) to completely exchange the work area air four (4) times per hour. The contractor shall demonstrate the number of HEPA Units needed per work area for four (4) room air changes by calculating the volume flow rate (cfm) delivered by each HEPA Unit under a two inch (2") pressure drop across filters. Provide at least one standby HEPA Unit in the event of a HEPA Unit failure or emergency such as contamination in surrounding non-work area. All large and small asbestos projects shall employ HEPA Unit equipment ventilation.

5.2 HEPA Units:

5.2.1 The cabinet shall be constructed of steel or other durable materials able to withstand damage from rough handling and transportation. The width of the cabinet should be less than thirty (30) inches to fit through standard-size doors. The cabinet shall be factory-sealed to prevent asbestos-containing dust from being released during use, transport, or maintenance. Access to and replacement of all filters shall be from intake end. The unit shall be mounted on casters or wheels.

5.2.2 The rate capacity of the fan is the usable air-moving capacity under actual operating conditions. Use centrifugal-type fan.

5.2.3 The final filter shall be a HEPA type. The filter media (fold into closely pleated panels) must be completely sealed on all edges with a structurally rigid frame.

5.2.3.1 Locate a continuous rubber gasket between the filter and the filter housing to form a tight seal.

5.2.3.2 Each filter shall be individually tested and certified by the manufacturer to have an efficiency of not less than ninety-nine point ninety-seven (99.97) percent when challenged with three (3.0) µm dioctylphthalate (DOP) particles. Each filter shall bear an appropriate label to indicate ability to perform under specified conditions.

5.2.3.3 Each filter shall be marked with the name of the manufacturer, serial number, air flow rating, efficiency and resistance, and the direction of air flow.

5.2.4 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 for particles ten (10) µm and larger. The second-stage pre-filter shall have a medium efficiency effective for particles down to five (5) µm. Pre-filters shall be installed either on or in the intake grid of the unit and held in place with special housings or clamps.

5.2.5 Electrical components shall be approved by the National Electrical Manufacturers Association (NEMA) and Underwriter's Laboratories (UL). Each HEPA Unit shall be equipped with overload protection sized for the equipment. The motor, fan, fan housing, and cabinet shall be grounded.

5.2 Pressure Differential:

5.2.1 The contractor shall provide a fully operational negative air system within the work area continuously maintaining a pressure differential across work area enclosures of 0.02 inches of water. Demonstrate to the owner the pressure differential by use of a pressure differential meter or a manometer before disturbance of any ACM.

5.3 Auxiliary Generator:

5.3.1 When required, the contractor shall provide an auxiliary gasoline or diesel powered generator located outside of the building in a location protected from the weather. Arrange so that if a power failure occurs the generator automatically starts and supplies power to a minimum of fifty percent (50%) of the HEPA Units in operation.

5.4 Supplemental Make-up Air Inlets:

5.4.1 The contractor shall create, where required for proper air flow through the work area, make-up air inlets to allow air from outside the building into the work area. Locate auxiliary makeup air inlets as far as possible from the HEPA Unit (e.g., on an opposite wall), off the floor (preferably near the ceiling), and away from barriers that separate the work area from occupied clean areas. Cover with flaps to reseal automatically if the negative pressure system should shut down for any reason. Use spray adhesive on the flap and around the opening so that flap seals if it closes.

5.5 Testing the System:

5.5.1 The contractor shall test the negative pressure system before any ACM and/or PACM is wetted or removed. After the work area has been prepared, the decontamination facility set up, and the exhaust machines(s) installed, start the HEPA Unit one at a time. Demonstrate operation and testing of negative pressure system. HEPA Units connected in series shall be considered a single HEPA Unit for the test. A minimum of one HEPA Unit, having a capacity at least equal to the primary unit, shall be used as back-up and for primary unit filter changes.

5.6 Demonstration of Negative Air System Operation:

5.6.1 The contractor shall demonstrate the operation of the negative pressure system to include, but not limited to, the following:

5.6.1.1 Plastic barriers and sheeting should move lightly in toward work area.

5.6.1.2 Curtain of decontamination units move lightly in toward work area.

5.6.1.3 Noticeable 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.

5.6.1.4 Use a differential pressure meter or manometer to demonstrate a pressure difference of at least 0.02 inches of water across every barrier and to the outside. Modify the negative pressure system as necessary to successfully demonstrate the above.

5.7 Use of System During Abatement Operations:

5.7.1 Start HEPA Units before beginning work and before any ACM and/or PACM is disturbed. After abatement work has begun, run HEPA Units continuously to maintain a constant negative pressure until decontamination of the work area is complete. Do not turn off HEPA Units at the end of the work shift or when abatement operations temporarily stop.

5.7.2 Do not shut down negative air system during abatement operations procedures, unless authorized by the owner in writing.

5.7.3 Start abatement work at a location farthest from the HEPA Units and proceed toward them. If an electric power failure occurs, immediately stop all removal work and do not resume until power is restored and all HEPA Units are operating again.

5.7.4 At completion of abatement work, allow exhaust machines to run as specified under this specification or as required by regulation to remove airborne fibers that may have been generated during abatement work and cleanup and to purge the work area with clean air. HEPA Units may be required to run after decontamination if dry or only partially wetted asbestos material was encountered during any abatement work.

5.8 Openings in Enclosure:

5.8.1 Openings made in the enclosure system to accommodate these HEPA Units shall be made air-tight with tape and/or caulking. Where possible, only the intake and the filter access panel shall remain within the work area to permit filter changing, while minimizing HEPA Unit contamination and the likelihood of contamination of non-working areas.

5.9 Installation and Care:

5.9.1 HEPA Units shall be exhausted to the outside of the building or structure and away from occupied areas. Proper installation, air monitoring and daily inspections shall be conducted to insure that the ducts do not release asbestos into uncontaminated areas. Fans, ducts and joints shall comply with the following:

5.9.1.1 Ducts of at least equivalent shape and dimensions as that of the HEPA Unit exhaust shall be used to exhaust to the outside of the building or structure.

5.9.1.2 All fans, ducts and joints shall be sealed, braced and supported to maintain an air-tight system.

5.10 Exhaust Location:

5.10.1 At no time shall the HEPA Unit exhaust within 50 feet of air intake or adversely affect the air intake of the building or structure or other buildings or structures.

5.11 Dismantling the System:

5.11.1 When a final inspection and the results of the final air tests indicate that the area has been decontaminated, HEPA Units may be removed from the work area. Before removal from the work area, remove and properly dispose of pre-filters, and seal intake to the HEPA Unit with six (6) millimeter polyethylene to prevent environmental contamination from the pre-filter.

Chapter 6 Materials and Equipment

6.1 Materials:

6.1.1 It is the contractor's responsibility to furnish all materials and equipment to complete the asbestos removal project and all materials used for this project are subject to the following general requirements.

6.1.1.1 All materials delivered to the job site must be in the original packages, containers or bundles bearing the name of the manufacturer and the brand name. Replacement insulation/materials must be equivalent to those removed and in conformance with all acceptable codes, including installation.

6.1.1.2 The contractor shall store all materials that are subject to damage off the ground away from wet or damp surfaces and under sufficient cover to prevent damage or contamination.

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

6.1.1.3 The contractor shall provide plastic sheeting of 6 and 12 millimeter thickness in widths large enough to minimize the frequency of joints.

6.1.1.4 The tape used for sealing of adjacent sheets of plastic sheeting and for attachment of plastic sheets to finished and unfinished surfaces of dissimilar material must be capable of adhering under dry and wet conditions including use of amended water.

6.1.1.5 The surfactant (wetting agent) to be used consists of 50% polyoxyethylene ether and 50% polyoxyethylene/polyglycol ester or the equivalent. This shall be mixed with water to provide a concentration of one (1) ounce surfactant to five (5) gallons of water or to the manufacturer's recommendation. The Contractor shall have available a sufficient quantity of equipment to mix and spray the wetting agent.

6.1.1.6 The contractor shall supply a sufficient number of appropriately labeled six (6) millimeter clear plastic bags or other approved containers suitable to receive and retain any asbestos containing or asbestos contaminated materials until disposal at an approved site. These bags and/or containers must be both air and water tight.

6.1.1.6.1 These containers shall be labeled at a minimum in accordance with OSHA Regulation 1910.1001 and 1926.1101, and DOT Regulation 49 CFR Parts 171 & 172, Hazardous Substance: Final Rule.

6.1.1.6.2 Labeled asbestos bags shall not be turned inside-out for the disposal of non-asbestos containing materials. Any material placed in a labeled asbestos bag whether inside-out or not shall be treated as ACWM.

6.1.1.7 The contractor shall supply all warning signs and labels as required by OSHA regulation 29 CFR 1910.1001 and 1926.1101.

6.1.1.8 The contractor shall provide (if required) an encapsulant of the bridging and/or penetrating type.

6.1.1.8.1 The encapsulant selected should be able to withstand most impact or abrasion and protect the encapsulated surface.

6.1.1.8.2 The encapsulant selected for use by the contractor shall be one of the types demonstrating probable effective performance in tests conducted by an independent testing laboratory.

6.1.1.8.3 The encapsulant shall have high flame retarding characteristics and a low toxic fume and smoke emission rating. Ratings shall be as follows:

· ASTM 84 Flame Spread Class A

6.1.1.8.4 The encapsulant selected should not be noxious or toxic to application workers or to subsequent users of the building.

6.1.1.8.5 The encapsulant selected should have acceptable weathering and aging characteristics.

6.1.1.8.6 The encapsulant selected should be capable of adhering to the surfaces exposed during this removal project.

6.1.1.9 The contractor shall provide all other materials such as lumber, nails, hardware, etc., which may be required to construct and dismantle the decontamination area and the barriers that isolate the work area.

6.2 Tools and Equipment:

6.2.1 The contractor shall provide suitable tools for the stripping, removal, encapsulation and/or disposal activities including but not limited to: hand-held scrapers, nylon brushes, sponges, rounded edge shovels, brooms, carts, etc.

6.2.2 The contractor shall provide scaffolding as required to accomplish the specified work and shall meet all applicable safety regulations concerning the use of scaffolding and any open structural members on scaffolding shall be sealed to prevent incursion of asbestos.

6.2.3 The contractor shall also have on-site industrial dry/wet vacuums equipped with High Efficiency Particulate Air filtration approved for asbestos removal. Power tools used to drill, cut into, or otherwise disturb asbestos material shall be equipped with HEPA filtered local exhaust ventilation.

6.2.3.1 These HEPA filters must be capable of 99.97% efficiency at 0.3 microns or larger.

6.2.4 The contractor shall have available HEPA Units capable of filtering asbestos fibers of 0.3 microns or larger at 99.97% efficiency.

6.2.4.1 The contractor shall take whatever action necessary, including the installation of additional circuit breaker panel boards, if required, to ensure adequate circuits of sufficient amperage capable of powering HEPA Units uninterrupted for the duration of the project.

6.2.5 HEPA Units shall be maintained as per manufacturer’s requirements. The contractor shall produce evidence of proper maintenance and periodic testing if requested by owner.

6.2.6 The contractor shall have equipment of sufficient size and capacity to remove contaminated gravel/soil when required.

Chapter 7 Containment Barriers and Coverings of Work Area

7.1 Regulated Areas**:**

7.1.1 The contractor shall seal off the perimeter of the work area to completely isolate abatement areas and to contain all airborne asbestos contamination created by abatement work. Cover all surfaces of the work area to protect them from cross contamination, to facilitate more efficient clean-up, and to protect the finishes from the asbestos abatement work. Should the area beyond the seal off limits become contaminated as a consequence of the work, the contractor shall clean those areas in accordance with procedures described in this section at no additional cost to the owner.

7.2 Preparation Prior to Sealing-off:

7.2.1 Place all tools, scaffolding, staging, etc. necessary for the work in the area to be isolated prior to erection of temporary plastic sheeting enclosure. Remove all uncontaminated removable furniture, equipment, and/or supplies from the work area before commencing work, or completely cover with two layers of polyethylene sheeting at least six (6) millimeter thickness, secured in-place with duct tape. Such furniture and equipment shall be considered outside the work area unless covering plastic or seal is breached. Disable ventilating system or any other system bringing air into or out of the work area. Disable system utilizing positive means that will prevent accidental premature restarting of equipment, i.e., disconnecting wires, removing circuit breakers, lockable switch, etc. The environment of the work area shall be completely isolated from all other air flows in the building.

7.3 Control Access to Work Area:

7.3.1 The contractor shall ensure access to the work area is only through the PDF. All other means of access shall be closed off and sealed and warning signs displayed on the clean side of the sealed access. Where the work area is immediately adjacent to or within view of occupied areas, provide a visual barrier of opaque or black polyethylene sheeting at least six (6) millimeter in thickness so that the work procedures are not visible to building occupants. Where the area adjacent to the work area is accessible to the public, construct a solid barrier on the public side with nominal two inch (2") x four inch (4") wood or metal studs on sixteen inch (16") centers, securely anchored to prevent movement, covered with minimum one half inch (1/2") plywood.

7.3.2 Provide warning signs at each visual and physical barrier per OSHA requirements.

7.4 Critical Barriers:

7.4.1 The contractor shall completely separate the work area from other portions of the building and the outside with sheet plastic critical barriers of at least one (1) layer of six (6) millimeter in thickness and sealed with duct tape. Individually, seal all ventilation openings (supply and exhaust), lighting fixtures, clocks, doorways, windows, convectors and speakers, and other openings into the work area with duct tape alone or with polyethylene sheeting of at least one (1) layer of six (6) millimeter in thickness, secured in-place with duct tape. Maintain seal until all work including project decontamination is completed. Take care in sealing off lighting fixtures to avoid melting or burning of plastic sheeting. Provide sheet plastic barriers at least six (6) millimeter in thickness as required to completely seal openings from the work area into adjacent areas. Seal the perimeter of all sheet plastic barriers with duct tape or spray adhesive or additional means as necessary and with owner approval.

7.5 Primary Barriers:

7.5.1 The contractor shall clean all contaminated furniture, equipment and supplies when present with a HEPA vacuum cleaner or wet cleaning, as specified in this section, prior to being moved or covered. Clean all surfaces in work area with HEPA vacuum or by wet wiping prior to the installation of any sheet plastic.

7.5.1.1 The entire work area is enclosed with 2 of six (6) millimeter polyethylene sheeting. Cover floor of the work area with two (2) individual layers of clear polyethylene sheeting, each at least six (6) millimeters in thickness, turned up walls at least 12 inches (12"). Form a sharp right angle, bend at junction of floor and wall so that there is no radius which could be stepped-on causing the wall attachment to be pulled loosened or breached. Use both spray adhesive and duct tape on all seams in floor covering. Locate seams top layer at right angles to seams in bottom layer. Install sheeting so that top layer can be removed independently of bottom layer. Cover carpets and wood floors with additional polyethylene as necessary. Remove all electrical and mechanical items, such as lighting fixtures, clocks, diffusers, registers, escutcheon plates, etc., which cover any part of the surface to be worked on. Cover all walls in work area including critical barrier sheet plastic barriers with 2 layers of polyethylene sheeting, at least six (6) millimeters in thickness, mechanically supported and sealed with duct tape or spray adhesive in the same manner as "critical barrier" sheet plastic barriers. Tape all joints including those joining with the floor covering. It is the contractors responsibility to protect all surfaces, such as wood floors and carpets, from damage.

7.5.1.2 Elevator: Cover walls, floor and ceiling of elevator with two (2) layers of six (6) millimeter polyethylene. Arrange entry to work area so that the elevator door is in a positively pressurized space outside the clean room of the decontamination unit. At completion of work the elevator shall be cleaned as per this specification.

7.5.1.3 Stairs and Ramps: Where stairs or ramps are covered with plastic, provide three quarter inch (3/4") exterior grade plywood treads securely held in place over plastic. Do not cover stairs or ramps with unsecured sheet plastic. Do not cover rungs or rails with any type of protective materials.

7.6 Extension of Work Area:

7.6.1 If the enclosure barrier is breached in any manner that could allow the passage of asbestos debris or airborne fibers, then, where possible, add the affected area to the work area. Enclose it as required by this section and decontaminate it as described elsewhere in this specification. If contaminated area cannot be added to the work area, decontamination measures shall start immediately after contamination is discovered and all abatement work will stop in the work area. Decontamination procedures will continue until exposure returns to background levels.

7.7 Secondary Barriers:

7.7.1 If required, provide an additional layer of plastic as a drop cloth to protect the primary layer from debris generated by the asbestos abatement work. Replace as necessary, but once a shift at a minimum.

Chapter 8 Work Area Preparation

8.1 Preliminary Procedures:

8.1.1 The contractor shall be responsible for preparing the entire work area for asbestos removal. This includes preliminary work area preparation, work area isolation and worker decontamination systems. Workers shall be fully protected with respirators and protective clothing during the preparation phase of the work area and immediately prior to the first disturbance of asbestos containing or asbestos contaminated materials and until clean-up is completed. Preliminary work area preparations are subject to the following procedures.

8.1.1.1 The contractor shall provide temporary power and lighting, and ensure safe installation of temporary power sources and equipment as per OSHA regulations for temporary electrical systems.

8.1.1.2 The contractor shall ensure that all furniture, machinery, equipment, draperies, blinds, etc., which the owner is required to remove have been removed prior to pre-clean. When movable objects are within the work area pre-clean using HEPA filtered vacuum equipment and/or wet wiping methods as appropriate. Remove such items from the work area and store in a location to be determined by the owner.

8.1.1.3 Shutdown and lock-out all electrical circuits. The contractor shall provide temporary power and lighting to all work areas. Exact electrical arrangements will be tailored to the particular space and systems involved. All electrical circuits will be turned off at the electrical panel box outside the removal area. Potential for electrical shock is a major threat to life in a work area where water will be sprayed on ceilings, conduits, lighting fixtures and other electrical items. Electrical lines which are used to power work lights and equipment will conform to all electrical safety standards and will be protected by a ground fault interrupter. The owner may monitor shutdown.

8.1.1.4 Positive pressurization shall be restricted to circumstances where HVAC must service the remainder of the building or structure and the HVAC equipment is in the work area or the ducts run through the work area. The appropriate HVAC duct and plenum outlets, inlets and exhaust dampers shall be sealed with sheathing and caulking, covered with a double layer of at least six (6) mil plastic sheeting and taped air-tight. The HVAC duct and plenum joints shall be taped air-tight. The mixing and balancing damper positions shall be altered and the return fan(s) shall be shut down to produce the required positive pressures. The supply fan(s) shall be placed in a manual "on" position to prevent shut down by fail safe mechanisms. Precautions shall be taken during abatement activities to insure that the ducts, seals and static pressure lines are not damaged.

8.1.1.5 Contaminated HVAC filters shall be handled and disposed of as ACWM. The ducts and filter assembly shall be wet cleaned and/or HEPA vacuumed where system air samples and/or dust samples indicate asbestos contamination.

8.2 Other Work Areas:

8.2.1 When abatement is to be performed within a boiler room, boilers shall be shut down and the burner and boiler accesses and breech shall be sealed until abatement is completed and satisfactory air monitoring results have been achieved.

8.2.2 Elevators running through the work area shall be shut-down except as noted herein:

8.2.2.1 In projects where the elevator cannot be shut-down, the hoist-way door frames shall be enclosed with nominal 2" x 4" framing, sixteen (16) inches center-to-center, covered with five-eighths ($^5/_8$) inch sheathing, preferably plywood or similar building material and caulked at all seams. The enclosures shall be covered with two (2) seamless layers of at least six (6) mil plastic sheeting taped air-tight. A final larger layer of at least six (6) mil plastic sheeting

shall be taped air-tight, but with slack, forming a larger perimeter diaphragm to sense air movement caused by elevator operation.

8.2.2.2 Elevator shaft ports for pressure equalization when within the work area, shall be vented to the outside or non-working area using oversized solid-walled ducts or chambers constructed of a minimum of three-eighths ($^3/_8$) inch sheathing over nominal two inch (2") x four inch (4") framing, sixteen inches (16") center-to-center. The joints shall be caulked and the ducts or chambers shall be sealed with two (2) layers of at least six (6) mil plastic sheeting and duct tape. This system shall be subjected to and pass a negative pressure test daily.

8.3 Glove Bag or Mini-Containment Projects:

8.3.1 All project areas shall be vacated by the occupants prior to work area preparation and until full abatement has been achieved.

8.3.2 The project area shall be isolated by cordoning it off with barrier tape and shall be accessible through only one entrance/exit.

8.3.3 Caution signs shall be posted at any location and approaches to a location wherever airborne concentrations of asbestos may exceed ambient background levels. Signs shall be posted that permit a person to read the sign and take the necessary protective measures to avoid exposure.

8.4 Pre-abatement Settling Period:

8.4.1 Upon completion of the construction of all plastic barriers and decontamination systems, but prior to actual abatement activities, adequate time shall be allowed to ensure that barriers settle in-place and remain intact.

8.5 Inspection of Barriers:

8.5.1 All plastic barriers including decontamination facilities shall be inspected at least twice a day by the abatement supervisor with observations entered in the daily log. Repair any damage immediately.

8.6 Testing of Barriers:

8.6.1 With the HEPA Units in operation, the abatement supervisor shall use smoke tubes to test work area barriers and enclosures. This shall be done prior to beginning abatement and once a day thereafter until clearance has been obtained. Record findings in the daily log.

Chapter 9 Worker Decontamination

9.1 Contractor's Written Decontamination and Work Procedures:

9.1.1 The PDF shall be provided outside the work area and attached where persons will enter or exit the work area. The contractor shall supply written decontamination and work procedures, to be posted in the clean room of the PDF.

9.2 Entering Work Area:

9.2.1 All personnel entering the work area shall adhere to the following procedures:

- Personnel shall remove all clothes and put on protective disposable coveralls.
- Personnel shall put on clean respirators.
- Personnel then may enter the work area.
- No clothing other than disposable coveralls shall be worn into the work area and subsequently be removed from the work area (i.e., all clothing worn into the work area shall be treated as asbestos waste.)

9.3 Decontamination Procedures:

9.3.1 Personal decontamination procedures shall be followed by all personnel (workers and visitors) each time they leave the work area per Chapter 3 - Worker Protection, Section 3.4 Decontamination Procedures.

9.4 Activities Not Permitted:

9.4.1 Workers and visitors shall not eat, drink, smoke or chew gum or tobacco in the clean room. The clean room shall not be used for equipment or tool storage or as an office.

9.5 First Disturbances:

9.5.1 Workers shall be fully protected with respirators and protective clothing during the preparation phase of the work area and immediately prior to the first disturbance of asbestos-containing or asbestos contaminated materials and until clean-up is completed.

9.6 Posting of Signs:

9.6.1 The entrance of the clean room should have a lockable door that has a sign in English, Spanish, and any/all other appropriate languages that may be required that reads:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY RESPIRATORS AND
PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA

9.6.2 Signs shall be posted at all entrances to the work area including all sealed entrances.

9.7 Inspection of Work Area and Decontamination Enclosures:

9.7.1 It is the contractor's responsibility to contact the owner upon completion of the enclosure system. The following applies: Prior to any asbestos containing material being removed, the contractor shall notify the owner that the enclosure system is completed so that it may be inspected.

9.7.2 All plasticizing and sealing of work area, building of worker and equipment decontamination enclosure systems, preparation of the negative air system, and all equipment required for the project shall be completed, tested and properly stored or placed prior to notification of the owner.

9.8 Maintenance of the Work Area and the Decontamination Enclosure

9.8.1 It is the contractor's responsibility to maintain the work area and decontamination systems.

Chapter 10 Removal of ACM and/or PACM

10.1 Competent Person Supervision:

10.1.1 All Class I and II Work (as defined by OSHA), including installation and operation shall be supervised by a competent person as defined in 29 CFR 1926.1101. ACM and/or PACM removal work areas are specified in Section 2 of the bid document.

10.2 Wetting Materials:

10.2.1 Provide water to which a surfactant has been added. Use a mixture of surfactant and water which results in wetting of the ACM and/or PACM and retardation of fiber release during disturbance of the material.

10.2.2 Provide a penetrating type encapsulant designed specifically for removal of ACM and/or PACM. Use a product which results in encapsulating of the ACM and/or PACM and retardation of fiber release during disturbance of the material.

10.2.3 During removal procedures involving amosite/crocidolite, special care must be taken to ensure proper wetting.

10.3 Wet Removal of ACM and/or PACM:

10.3.1 Thoroughly wet ACM and/or PACM to be removed prior to stripping and/or tooling to reduce fiber dispersal into the air. Use a fine spray (mist) of amended water or penetrating encapsulant. Saturate material sufficiently to wet to the substrate without causing excess dripping. Allow time for water or penetrating encapsulant to penetrate material thoroughly. If amended water is used, spray material repeatedly during the work process to maintain a continuously wet condition. If a penetrating encapsulant is used, apply in strict accordance with manufacturer's written instructions. Perforate outer covering of any insulation which has been painted and/or jacketed in order to allow penetration of amended water or penetrating encapsulant, or where necessary, carefully strip away while simultaneously spraying amended water or penetrating encapsulant on the installation to minimize dispersal of asbestos fibers into the air.

10.3.2 If ACM and/or PACM does not wet well with amended water because it is coated or thick, remove as follows:

10.3.2.1 Mist work area continuously with amended water whenever necessary to reduce airborne fiber levels.

10.3.2.2 Remove saturated ACM and/or PACM in small sections from all areas. Do not allow material to dry out. As it is removed, simultaneously pack material while still wet into disposal bags. Twist neck of bags, bend over and seal with minimum three wraps of duct tape. Clean outside and move to wash down station adjacent to material decontamination facility.

10.3.2.3 Spray fireproofing or architectural finish on scratch coat with a fine mist of amended water or penetrating encapsulant. Allow time for materials to saturate to substrate. Do not over saturate causing excess dripping. Scrape materials from substrate. Remove materials in manageable quantities and control the descent to staging or floor below. If over ten feet (10'), use drop chute to contain material through descent. Remove residue remaining on scratch coat after scraping using stiff nylon bristled hand brush. If a penetrating encapsulant is used remove residue completely before encapsulant dries. Keep residue wet until completely removed.

10.3.2.4 Spray fireproofing or architectural finish on wire lath with a fine mist of amended water or penetrating encapsulant. Allow time to completely saturate material. Do not over saturate to cause excess dripping. If surface of material has been painted or otherwise coated, cut small holes as required and apply amended water or penetrating encapsulant from above. If entire ceiling system is to be removed, cut wire lath into two feet by six feet (2' x 6') sections and cut hanger wires. Roll up complete with ACM and/or PACM and hand place in disposal

bag. Do not drop on floor. After removal of lath and ACM and/or PACM, remove any over spray on decking and structure above using stiff nylon bristled brush. Depending on hardness of over-spray, scrapers may be necessary to remove over-spray.

10.3.2.5 Remove outer layer of pipe wrap while spraying amended water in order to saturate ACM and/or PACM. Spray with a fine mist of amended water or penetrating `encapsulate. Allow time to saturate material to substrate. Cut bands holding performed pipe insulation, silt jackets at seams, remove and hand place in a disposal bag. Remove job molded fitting insulation in chunks and hand place in a disposal bag. Do not drop to floor. Remove any residue on pipe or fitting with stiff bristle nylon hand brush or scraper/wire brush. In locations where pipe fitting insulation is removed from pipe insulated with non-asbestos containing material, remove approximately 6 inches (6”) of the non-asbestos containing material adjacent to ACM removed.

10.4 Limited Removal of ACM and/or PACM with Glove Bag:

10.4.1 If any conflict between the below supplied information and OSHA 1926.1101 arises, OSHA 1926.1101 shall apply. In using the glove bag method for removing pipe insulation, decontamination procedures may not be required. However, disposable clothing, respirators, critical barriers and negative air may be required. Discard the clothing in accordance with applicable regulations. Glove bags will be utilized in work areas specified in Section 2 of the bid document.

10.4.1.1 The negative air requirement may be satisfied in either of two ways:

10.1.1.1.1 Create negative air in the glove bag, relative to the room; or

10.4.1.1.2 Create negative air in a "mini containment" relative to outside the "mini containment."

10.4.1.2 The former can be accomplished using a powered HEPA vacuum source. **Caution:** If too much vacuum is achieved, the glove bag may collapse.

10.4.2 Procedures are as follows.

10.4.2.1 Prior to any glove bag ACM and/or PACM removal:

10.4.2.1.1 Turn off heating, ventilation and air conditioning systems in work area. Provide temporary heating and cooling as required. Critical barrier all openings and cover entrance with a polyethylene flap.

10.4.2.1.2 Polyethylene sheets (10' x 10' - 6 millimeter minimum) shall be used as drop cloths on the floor or platform under glove bag removal.

10.4.2.1.3 Purchase or fabricate bags of 6 millimeter (minimum) thick clear plastic material. Have present in the work area all materials and equipment for installation of glove bags and the removal and disposal of asbestos.

10.4.2.1.4 Have for each individual project both an emergency bag repair and an emergency "spill" plan for the entire work area.

10.4.2.2 Install the glove bag according to the manufacturer’s recommendations. At completion of the installation, conduct a smoke test to confirm that there are no leaks at any of the seals.

10.4.2.3 Cut the material covering along the top seam and begin wetting the material. Cut covering all around the section to be removed. Remove ACM and/or PACM in small sections. Lower the material gradually into the glove bag. Do not permit material to drop. Dropping material is more likely to cause loss of glove bag seal.

10.4.2.4 Remove approximately 6 inches (6”) of the non-asbestos containing material adjacent to ACM removed. Wash pipe clean.

10.4.2.5 Provide HEPA filter vacuum. Run vacuum during cutting, removal and to clean area after removal.

10.4.2.6 When ACM covered piping and fittings are to demolished and removed from the work area, wet the section of piping and pipe fitting(s) to be removed, wrap with 6 millimeter polyethylene sheets, cut out the entire pipe section including pipe fitting(s) in such a way to minimize damage, seal the cut ends and place in labeled container for transporting to approved disposal site.

10.4.2.7 Where piping and/or fitting(s) are to remain, remove the asbestos from the pipe fitting and pipe section with a 6 millimeter plastic glove bag as follows:

- Spray asbestos with amended water to enhance penetration.
- Remove saturated asbestos material in small sections with tools in bag by teams, on staging platforms, if needed.
- Spray exposed pipe with amended water and clean with a nylon brush to ensure that no insulation materials remain on the pipe or joint.
- Spray the inside of the glove bag with water to ensure that there are no airborne asbestos fibers.
- Following removal of the ACM and/or PACM insulation, ensure that all visible material is inside the glove bag.
- Spray all tools in the glove bag with amended water while it is still attached.
- Pull one of the gloves inside out to the outside of the glove bag and place cleaned tools in the glove.
- Twist and tie off the glove in two places to facilitate keeping both the tools and the glove bag sealed as the glove is cut between the ties to remove the glove.
- Immerse the glove holding the tools in water. Remove the tools from the immersed glove and re-clean the tools.
- Evacuate the glove bag with a portable HEPA vacuum and while the bag is collapsed, squeeze bag below tool pouch, and twist bag. Seal bag with tape or locking ties, separating the waste from the removal area.
- Vacuum the inside of the top of the glove bag and unsealed portion of the glove bag below. Keep HEPA vacuum connected until the glove bag is removed.
- Cut the glove bag along the top and sides, then remove from the pipe.
- Wet pipe and wash the removal area thoroughly. Dispose of glove bag, material and disposable equipment at an approved disposal site.

10.4.2.8 Packed and sealed containers with the required labeling shall be delivered, by the contractor, to an approved disposal site. Labels and all necessary signs shall be in accordance with EPA and OSHA regulations.

10.4.3 Final Clearance and Removal:

10.4.3.1 Encapsulate surfaces formerly covered with ACM and/or PACM using a colored encapsulant that will be readily visible when dry.

10.4.3.2 Following this encapsulation, the immediate area around the removal location, including all poly sheets, shall be wet wiped with amended water and HEPA vacuumed.

10.4.3.3 Critical barriers at a given work area may only be removed after air-clearance is achieved in the work area as determined by either PCM or TEM air clearance methods. Section 2 of the bid document will provide details of clearance methods for each work area.

10.4.3.4 In the event that air clearance fails, re-cleaning is required using HEPA vacuuming and wet wipe cleaning the work area and re-taking air clearance sampling. These steps must be repeated alternately until the air clearance is achieved. Only then can critical barriers be removed.

10.4.4 Worker Protection:

10.4.1.1 An exposure assessment must be performed if workers are exposed to airborne asbestos fibers. Workers shall shower immediately after removal and proper disposal of work cloths. Glove bag workers shall wear full respiratory protection and protective clothing.

10.4.5 Personnel Decontamination Unit:

10.4.5.1 If wet decontamination is to be used, see section 3.4 “Decontamination Procedures.” The following describes use of dry decontamination procedures typically used in glove bag operations.

10.4.5.1.1 Require all persons, without exception, to pass through this decontamination sequence for exiting from the work area for any purpose.

10.4.5.1.2 Workers enter the work area wearing disposable coveralls and respirator.

10.4.5.1.3 One worker or supervisor shall use the brush attachment on the HEPA vacuum to vacuum another worker or supervisor who will then reciprocate in kind.

10.4.5.1.4 While still wearing respiratory protection, each worker or supervisor shall remove their coverall suit, turning it inside out while removing it. Roll up the suit, pack it in the hood and place the suit in a disposal bag. Then HEPA vacuum one another a second time.

10.4.5.1.5 After each worker or supervisor has disposed of their coverall suit, HEPA evacuate the air from the disposal bag and twist the bag shut forming a neck. Triple wrap the bag with duct tape. Bend the neck back into itself (goose neck it) and seal the bag with a triple wrap of duct tape.

10.4.5.1.6 If using PAPR, shut down by first capping inlets to filter cartridges. Then turn off the blower unit. Thoroughly wash the blower unit and hoses. Carefully wash the battery pack with a wet rag. Be extremely cautious to avoid getting water in the battery pack, as that would cause the pack to short out and would destroy the battery. Wash the respirator facepiece inside and out. At the completion of these steps, thoroughly wash face and hands with soap and water.

10.5 Removal of Vinyl Asbestos Floor Tile (VAT):

10.5.1 Remove vinyl asbestos floor tile (VAT) and associated asbestos containing mastic in accordance with these specifications and OSHA 1926.1101. VAT and associated asbestos containing mastic removal work areas are specified in Section 2 of the bid document.

10.5.2 When VAT and associated asbestos containing mastic is to be removed and such VAT and associated asbestos containing mastic is in a work area, remove the primary barriers from the floor only but not the walls, and remove VAT and associated asbestos containing mastic so that it does not become friable during removal. After removal of VAT and associated asbestos containing mastic, proceed with decontamination and final inspection and if required by contract documents air testing of the work area. Clearance requirements are stated in Section 2 of the bid document.

10.5.3 Where VAT and associated asbestos containing mastic is the only ACM and/or PACM to be removed in a room, the room shall be secured against entry by any unauthorized or untrained personnel. Post warning signs and erect temporary barricades. The removal shall be executed under the guidance and monitoring of the C.P.I.H. so that the non-friable VAT and associated asbestos containing mastic does not become friable during removal. After removal of VAT and associated asbestos containing mastic, the C.P.I.H. shall perform a final inspection of the room. Clearance requirements are stated in Section 2 of the bid document.

10.5.4 Removal of VAT and associated asbestos containing mastic shall be performed with wet methods and hand scrapers. Heating and/or the application of dry ice may be used also. Power tools, grinders or other machines which may produce any dust during removal of VAT and associated asbestos containing mastic are not allowed.

10.6 "Lock-back" Encapsulant:

10.6.1 Lock-back encapsulant is an integral part of ACM and/or PACM removal. At the conclusion of ACM and/or PACM removal and before removal of the primary barriers all surfaces shall be encapsulated with a bridging type encapsulant. When dry, lock-back encapsulant shall be of such color that it can be easily seen.

10.6.2 Deliver encapsulant to the job site in original, new and unopened packages and containers bearing the manufacturer's name and label, thinning instructions and application instructions. A copy of the OSHA material safety data sheet (MSDS) for the encapsulant is required to accompany the encapsulant.

10.6.3 Before beginning work read the encapsulant MSDS and provide workers with the required protective equipment. Require that appropriate protective equipment be used at all times. In addition to protective breathing equipment required by OSHA requirements or by this specification, use painting pre-filters on respirators to protect the dust filters when organic solvent based encapsulants are in use.

10.6.4 Apply two (2) coats of encapsulant to the exposed surfaces after all ACM and/or PACM has been removed. Apply in strict accordance with the manufacturer's printed instructions for use of the encapsulant.

10.6.5 Apply encapsulant with an airless spray gun and nozzle orifice as recommended by the encapsulant manufacturer or by hand wiping methods. Apply the first coat encapsulant while the scratch coat or piping is still damp from the asbestos removal procedures. If the surface has been permitted to dry, wet wipe or vacuum surface with a HEPA filtered vacuum prior to spraying with the encapsulant. Apply second coat over the first coat in strict conformance with the manufacturer's instructions.

10.6.6 Seal edges of ACM and/or PACM exposed by removal at inaccessible ports such as a sleeve, wall penetration, etc. with two (2) coats of encapsulant. Prior to sealing, permit the exposed edges to dry completely to permit penetration of the encapsulant.

Chapter 11 Monitoring, Inspection and Testing

11.1 General:

11.1.1 The contractor shall perform throughout abatement work monitoring, inspection and testing inside the work area in accordance with OSHA requirements and this specification. The C.P.I.H. shall periodically inspect and oversee the performance of the contractor's workers. The C.P.I.H. shall continuously inspect and monitor conditions inside the work area to ensure compliance with this specification. In addition, the C.P.I.H. shall personally manage air sample collection, analysis and evaluation for personnel samples to satisfy OSHA requirements.

11.1.2 The owner may employ an independent industrial hygienist to perform various consulting services on behalf of the owner. The independent industrial hygienist will perform monitoring, inspection, testing, and other support services to ensure that the abatement work proceeds in accordance with this specification and that the abated areas have been successfully decontaminated. The work of the independent industrial hygienist will in no way relieve the abatement contractor from their responsibility to perform their work in accordance with contract documents, to perform continuous inspection, monitoring and testing for the safety of their employees, and to perform other such services as specified in this specification. The cost of the independent industrial hygienist and his services will normally be borne by the owner. Exceptions include repeat final inspections and final testing that may be required due to unsatisfactory results. Costs associate with repeated final inspections and testing, if required, will be paid for by the contractor.

11.1.3 If fibers counted by the independent industrial hygienist during abatement work outside the work area utilizing NIOSH 7400 air monitoring methods exceed the specified respective limits (i.e. permissible exposure limit), then the contractor shall stop work. The asbestos contractor may request confirmation of above results by analysis of samples with TEM. Request must be in writing and submitted to the owner. Cost for the TEM confirmation of results will be borne by the contractor for both the collection and analysis of samples, and for the time delay that may result, for this confirmation.

11.2 Monitoring, Inspection and Testing by Abatement Contractor:

11.2.1 The C.P.I.H. is responsible for managing all personnel monitoring, inspecting and testing required by this specification, the OSHA regulation 29 CFR 1926.1101, and for continuous monitoring of all sub-systems and procedures affecting the safety of the contractor's employees. Safety of the contractor's employees and providing safe conditions inside and outside the work area shall be the primary concern of the C.P.I.H. The analytical laboratory that will be used by the contractor to analyze the personal air samples shall participate in the PAT rounds, at a minimum. Keep a daily log of personal samples taken and analyzed and make such log available to the owner. The daily log for personnel shall contain information on the person sampled, the date of sample collection the time of sample start and finish, flow rate, sample volume and fiber/cc. Collect and analyze personal samples for at least twenty percent (20%) of the workers on each shift.

Chapter 12 Project Decontamination

12.1 General:

12.1.1 The entire work of project decontamination shall be monitored by the owner.

12.2 Work Area Clearance:

12.2.1 Air testing and other requirements which must be met before release of the contractor and re-occupancy of the work area are specified elsewhere in this specification.

12.3 Work Description:

12.3.1 The work of decontamination includes the decontamination of the air within the work area and the decontamination and removal of project equipment and temporary facilities installed prior to abatement work including primary and critical barriers, Decontamination facilities (PDF and EDF) and negative pressure systems.

12.3.2 The work of decontamination includes the cleaning, and decontamination of all surfaces ceilings, walls, floor, etc. of the work area, and all equipment in the work area.

12.4 Pre-Decontamination Conditions:

12.4.1 Before decontamination work starts, all ACM and/or PACM, ACE, secondary barriers (drop cloths) of polyethylene sheeting, and ACWM shall be removed and disposed along with any gross debris generated by the work.

12.4.2 At the start of work for decontamination, the following will be in place:

12.4.2.1 Primary barrier consisting of two (2) layers of polyethylene sheeting on floor and 2 layers on walls.

12.4.2.2 Critical barriers which forms the sole barrier between the work area and other portions of the building or the outside.

12.4.2.3 Critical barrier sheeting over lighting fixtures and clocks, ventilation openings, doorways, convectors, speakers and other openings.

12.4.2.4 Decontamination facilities for personnel and equipment and negative air pressure system are operating.

12.5 First Cleaning:

12.5.1 Carry out a first cleaning of all surfaces of the work area including items of remaining sheeting, tools, scaffolding and/or staging by use of damp-cleaning and mopping, and a 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 ACWM. Continue this cleaning until there is no visible debris from removed materials or residue on plastic sheeting or other surfaces. Replace pre-filters in HEPA unit(s) and dispose of as ACWM. If two (2) wall layers of poly are used, the cleaned, exposed layer of poly shall be removed from walls and floors and disposed of ACWM. If only one layer of wall poly is used, it shall remain in place until after the second cleaning. Use oscillating fans as necessary to assure circulation of air in all parts of the work area during this period.

12.6 Pre-clearance Inspection and Testing:

12.6.1 The owner will perform a thorough and detailed visual inspection at the end of the first cleaning to determine whether there are any signs of visible ACM and/or PACM or dust in the work area. If the visual inspection is satisfactory, the owner will notify the contractor that the work area is ready for lock-back encapsulation. The owner reserves the right to utilize their own independent industrial hygienist to perform a pre-clearance inspection and air sampling for verification.

12.7 Lock-back Encapsulation:

12.7.1 With the express permissions of the owner, perform a lock-back encapsulation of all surfaces from which ACM and/or PACM was removed. Execute in accordance with provisions specified elsewhere in this specification. Maintain negative pressure in work area during encapsulation work. Wait 24 hours to allow HEPA Units to clean air of airborne fibers after lock-back encapsulation has been applied.

12.8 Second Cleaning:

12.8.1 Following the lock-back encapsulation and after the required waiting period, perform a thorough cleaning of all surfaces of the work area in the same manner as the first cleaning. Immediately following the second cleaning, remove all primary barrier sheeting and EDF, leaving only:

12.8.1.1 Critical barrier which forms the sole barrier between the work area and other portions of the building or the outside.

12.8.1.2 Critical barrier sheeting over lighting fixtures and clocks, ventilation openings, doorways, convectors, speakers and other openings.

12.8.1.3 Decontamination facilities for personnel in operating condition.

12.8.1.4 Negative pressure system in continuous operation.

12.8.1.5 Allow 24 hours to elapse after the second cleaning to allow HEPA Units to clean the air of fibers.

12.9 Aggressive Air Cleaning:

12.9.1 After the required waiting period which follows the second cleaning, an air stream from a high speed leaf blower or equivalent device shall be swept across all surfaces within the work area for a period of not less than five (5) minutes for each 1,000 square feet of surface area. Allow 24 hours to elapse after the aggressive air cleaning to allow HEPA Units to clean the air of fibers. Final clearance sampling may be conducted as per Chapter 14.

12.10 Additional Cleaning and Waiting Periods:

12.10.1 If final air clearance fails, carry out a third cleaning of all surfaces in the work area in the same manner as the first cleaning. The cleaning is now being applied to existing room surfaces. Take care to avoid water marks or other damage to surfaces. The HEPA Units shall be in continuous operation and critical barriers and the decontamination units remain in place and operational.

12.10.2 Federal, state, and local regulations may require waiting periods after a failed clearance and before re-sampling of air. The most stringent regulations apply. Use oscillating fans as necessary to assure circulation of air in all parts of work area during the waiting period. Maintain negative pressure system in operation. Where waiting periods are not required by federal, state, or local regulations or by contract, the owner and contractor may agree to shorten waiting periods. However, the contractor is responsible for the results of final air clearance regardless of the amount of waiting period selected.

12.11 Final Clean-up:

12.11.1 All accumulations of ACWM shall be containerized and removed from the work area.

12.11.2 All decontaminated tools and equipment shall be removed from the work area.

12.11.3 All containerized waste shall be removed from the work area and the holding area.

12.11.4 All surfaces in the work area shall be wet cleaned using rags, mops and sponges. HEPA vacuums shall be used to clean all surfaces after gross clean-up. The work area should be ready for re-occupancy.

12.11.5 Clearance air monitoring shall be satisfactory as specified or as required by regulation.

12.11.6 The critical barriers shall be removed only after satisfactory clearance air monitoring results have been achieved.

12.12 Glove Bag or Containment Failure:

12.12.1 If a glove bag or containment is used and fails or loses its integrity, the following shall be required:

12.12.1.1 As necessary, isolation barriers shall be constructed.

12.12.1.2 Area HVAC systems shall be shut down immediately and all openings shall be sealed with a least six (6) millimeter plastic sheeting.

12.12.1.3 Passageways to uncontaminated areas of the building or structure shall be sealed with a least six (6) millimeter plastic sheeting.

12.12.1.4 Negative air pressure equipment ventilation shall be installed and utilized.

12.12.1.5 Clean-up shall be accomplished as follows:

12.12.1.6 All accumulations of asbestos waste material shall be containerized. Metal shovels or HEPA vacuums may be used to pick up or move waste except in the vicinity of any isolation barriers which could be breached. The areas around the isolation barriers shall be cleaned utilizing rubber or plastic dust pans, squeegees or shovels. HEPA vacuums shall be used to clean all surfaces after gross clean up.

12.12.1.7 All surfaces in the work area shall be first wet cleaned using rags, mops and sponges.

12.12.1.8 After the first cleaning, at least twelve (12) hours shall be allowed for asbestos to settle. Thereafter all objects and surfaces in the work area shall be HEPA vacuumed and/or wet cleaned. The isolation barrier shall be breached for entry and exit with minimal frequency and shall be resealed immediately. All windows, doors, HVAC system vents and all other openings shall remain sealed.

12.12.1.9 Removal of contaminated equipment and ACWM and all containerized waste shall be removed from the work area.

12.12.1.10 Clearance air monitoring shall be conducted.

12.12.1.11 The isolation barrier shall be removed only after satisfactory clearance air monitoring results have been achieved.

12.12.1.12 Federal, state, and local requirements, regarding waiting periods are to be observed by the contractor, unless contractor gets a written “waiver” from the governing regulatory agency.

Chapter 13 Final Inspection and Testing

13.1 General:

13.1.1 The contractor shall notify the owner twenty four (24) hours in advance for the performance of the final visual inspection and testing. The final visual inspection will be performed by the owner or owner's representative at the conclusion of the first cleaning and after the on-site contractor supervisor completes and signs the "Certification of Visual Inspection by Contractor."

13.2 Final Inspection:

13.2.1 Final inspection will include the entire work area, the PDF, EDF, all plastic sheeting, seals over ventilation openings, doorways, windows and other openings. If any debris, residue on surfaces, dust or other matter is detected cleaning shall be repeated. Bulk or dust samples may be collected and analyzed to confirm visual findings. When the area is visually clean, the lock-back encapsulation and second cleaning will commence after the required waiting periods.

13.3 Final Testing:

13.3.1 After a satisfactory final visual inspection by the owner, the owner will undertake the final testing. Air samples may be taken and analyzed in accordance with the procedures for PCM or TEM, whichever is required by federal, state or local regulations or by contract. If release criteria are not met, the contractor shall repeat final cleaning and continue decontamination procedures from that point. Additional inspection and testing will be at the expense of the contractor. If contractor prefers TEM analysis when only PCM is required, the cost of TEM will be borne by contractor.

13.3.2 If release criteria are satisfactory, remove the critical barriers and shut-down and remove the HEPA units as specified. Any small quantities of residue material found upon removal of the plastic sheeting shall be removed with a HEPA vacuum cleaner with localized isolation. If significant quantities, as determined by the owner, are found then the entire area affected shall be decontaminated as specified in 12.12.

13.4 Final Testing Procedures:

13.4.1 Work in an area is complete when the work area is visually clean and airborne fiber levels have been reduced to or below 0.01 f/cc as measured with PCM or 70 structures per square millimeter based on an arithmetic mean concentration of five (5) samples or the fiber concentration within the work area is not statistically larger than the average background count as measured by TEM.

13.4.2 To determine if the elevated airborne fiber counts encountered during abatement operations have been reduced to the specified level, the owner may secure samples and analyze them according to the following procedures:

13.4.2.1 "Fibers" referred to in this section shall be either all fibers regardless of composition as counted in the NIOSH 7400 methods, or asbestos fibers of any size as counted using TEM.

13.4.2.2. Final air testing samples will be taken using aggressive sampling techniques when appropriate. Before sampling pumps are started, the exhaust from forced air equipment (leaf blower with at least one (1) horsepower electric motor) will be swept against all walls, ceilings, floors, ledges and other surfaces in the room. This procedures will be continued for 5 minutes per 1,000 square feet of surface area. High velocity fans will be used to continually circulate air during sample collection. Air samples will be collected in areas subject to normal air circulation away from room corners, obstructed locations, and sites near windows, doors and vents. Fans will be shut down only after air sample collection is complete. The negative air system will continue to operate.

Chapter 14 Air Sampling Procedures for Asbestos Projects

14.1 General:

14.1.1 The following general air sampling procedures shall be followed. A supporting document provides details the type of air sampling that will be performed for this project.

14.2 Pre-abatement Air Sampling:

14.2.1 Five (5) area air samples will be collected from random locations throughout contiguous air areas prior to beginning any abatement activities.

14.2.2 The sampling volume for TEM analysis shall be greater than 1,200 liters with a flow rate not to exceed 10 liters per minute

14.2.3 The sampling volume for PCM analysis shall be greater than 3,850 liters with a flow rate not to exceed 16 liters per minute.

14.3 Daily Area PCM Air Sampling During Removal:

14.3.1 A daily area air sampling scheme shall be developed and should meet the following requirements.

14.3.1.1 Two (2) area samples from outside and adjacent to the work area.

14.3.1.2 One (1) area sample from the clean room of the decontamination unit.

14.3.1.3 One (1) area sample from a maximum distance of five (5) feet from the exhaust of the negative air machine.

14.3.1.4 One (1) area sample adjacent to the exhaust duct of the negative air machine.

14.4 Final TEM Air Clearance Sampling:

14.4.1 Collect ten (10) TEM air samples - five (5) area samples from inside the work area and five (5) area samples outside the work area.

14.4.2 The sampling volume shall be greater than 1,200 liters with a flow rate not to exceed 10 liters per minute.

14.4.3 The final clearance release criteria for TEM analysis shall be less than 70 structures per square millimeter as determined by the arithmetic mean of five (5) inside samples or less than the outside ambient air as determined by the Z test, whichever is greater.

14.4.4 All final TEM air samples shall be collected using aggressive collection techniques.

14.4.5 All TEM samples will be analyzed using the AHERA method.

14.5 Final PCM Air Clearance Sampling:

14.5.1 Collect a five (5) air samples from inside the work area.

14.5.2 The sampling volume shall be greater than 3,850 liters with a flow rate not to exceed 16 liters per minute.

14.5.3 The final clearance release criteria will be less than .01 fibers per cc. for five (5) samples in accordance with the NIOSH 7400 Method.

14.6 PCM Analytical Method:

14.6.1 PCM air sample shall be analyzed using Phase Contrast Microscopy (PCM) in accordance with the NIOSH 7400 Analytical Method.

14.6.2 All sample pumps shall be fitted with 25 millimeter ester cellulose filter cassettes.

14.7 OSHA Personal Air Sampling:

14.7.1 The Contractor is responsible for OSHA personal air monitoring. Personal air samples shall be collected daily for the purpose of determining an eight hour time weighted average (TWA) and an excursion limit by the Contractor during the asbestos removal process.

14.7.2 Personal air samples shall be collected from the breathing zone of a minimum of twenty percent (20%) of the workers performing asbestos removal.

14.7.3 The sampling flow rates shall be between .5 to 2.5 liters per minute.

14.7.4 Results of the OSHA personal air samples must be provided within twenty four (24) hours.

Chapter 15 Waste Removal Through the Equipment Decontamination Facilities (EDF)

15.1 General:

15.1.1 The contractor is responsible for all waste removal and decontamination systems. In addition, the contractor is responsible for keeping the material adequately wet during the entire operation from initial bagging through waste disposal. The asbestos waste containers shall be sealed by the contractor in the work area. The following general procedures apply:

15.1.1.1 The contractor shall place caution labels on the containers in accordance with OSHA Regulation 29 CFR 1910.1101. These caution labels shall be clearly visible and shall contain the following Statements:

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

15.1.1.2 As required by EPA 40 CFR Part 61 NESHAP Revision; Final Rule, each individual waste container shall be tagged with the name or EPA Identification number of the waste generator and the location at which the waste was generated.

15.2 Project Procedures:

15.2.1 The external surfaces of the containers and equipment shall be thoroughly cleaned of gross contamination in the work area before they are placed into the EDF airlock. Workers who perform the cleaning in the work area shall not enter the EDF airlock.

15.2.2 The containers shall then be moved in the EDF by workers stationed inside the EDF. The workers shall again wet clean each container thoroughly.

15.2.3 Upon completion of the second wet cleaning process, each container shall be placed into uncontaminated six (6) mil poly plastic sheeting or bags and sealed tight.

15.2.4 The contractor shall then move the containers into the airlock entering the holding area. Ensure that the workers in the holding area have entered from the uncontaminated side of the EDF. The washroom workers shall not enter the holding area or the work area until waste removal is finished for that period.

15.2.5 Containers and equipment shall be removed from the airlock to the holding area by workers dressed in clean personal protective equipment who have entered from the uncontaminated area.

15.2.6 Workers who only move the waste containers from the holding area to uncontaminated areas (trailer, trucks, etc.) may utilize half-face, dual cartridge type respirators and must be outfitted with proper protective clothing.

15.2.7 The cleaned containers of asbestos material and equipment may be placed in water-tight carts with doors or tops that shall be closed and secured. The carts shall be wet cleaned and/or HEPA vacuumed at least once each day.

15.2.8 The exit from the decontamination enclosure system shall be secured with a lockable door to prevent unauthorized entry.

15.2.9 Where the waste removal enclosure is part of the PDF, waste removal shall not occur during shift changes or when otherwise occupied. Precautions shall be taken to prevent cycling of air outward through the shower and clean room.

Chapter 16 Asbestos Waste Disposal

16.1 Applicable Regulations:

16.1.1 All asbestos waste shall be stored, transported and disposed of as per, but not limited to, the following regulations:

16.1.1.1 All applicable federal, state, and local regulations.

16.1.1.2 USEPA Asbestos NESHAP 40 CFR 61

16.1.1.3 US Department of Transportation 49 CFR 171-180

16.2 Transporters or Haulers:

16.2.1 Transporters and haulers of asbestos waste are subject to the following:

16.2.1.1 The contractor's transporter and disposal site shall be approved by the owner.

16.2.1.2 The contractor shall give twenty four (24) hour notification to the owner prior to removing any asbestos waste from the site. All asbestos waste shall be removed from the site only during normal working hours. No asbestos waste may be taken from the site without authorization from the owner.

16.2.1.3 The contractor shall have the transporter give the dates and times of arrival at the disposal site.

16.2.1.4 The transporter with the contractor shall inspect all the transport containers prior to taking possession and signing the asbestos waste manifest. **The transporter shall not have any off-site transfers or combine this asbestos waste with any other sites asbestos materials**.

16.2.1.5 During loading or unloading, mark vehicles used to transport asbestos-containing waste with the following sign, which must be visible:

DANGER ASBESTOS HAZARD
CANCER AND LUNG DISEASE HAZARD

16.3 Waste Storage Container:

16.3.1 All asbestos waste hauling storage containers are subject to the following procedures:

16.3.1.1 All asbestos waste hauling containers shall be fully enclosed and lockable (i.e., enclosed dumpster, 40' trailer, etc.) **No open containers will be allowed** (i.e., open dumpsters with canvas covers, etc.) unless a waiver is granted.

16.3.1.2 The asbestos waste hauling containers shall be plasticized and sealed with a minimum of one (1) layer of six (6) millimeter polyethylene on the sides and two (2) layers of six (6) millimeter polyethylene on the floor.

16.3.1.3 The asbestos waste containers shall be labeled with an OSHA Label with the following Statements:

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

16.3.1.4 The waste transport container (truck, dumpster) must be appropriately labeled as required by the U.S. Department of Transportation.

16.3.1.5 The asbestos waste containers will not be permitted to leave the work site without the proper signatures.

16.3.1.6 The owner may initiate random checks at the disposal site to ensure that the procedures outlined herein are complied with.

16.4 Waste Disposal Manifest:

16.4.1 The asbestos waste disposal manifest is subject to the following procedures:

16.4.1.1 An asbestos waste disposal manifest as provided for under NESHAP and/or individual state or local jurisdictions shall be provided by the contractor and is the only manifest to be utilized.

16.4.1.2 The contractor shall complete the asbestos waste disposal manifest and verify that all information and amounts are accurate and that the proper signatures are in place.

16.4.1.3 The asbestos waste disposal manifest shall have the signatures of the contractor and the transporter prior to any waste being removed from the work site.

16.4.1.4 The asbestos waste disposal manifest shall be signed by the disposal facility owner or operator to certify receipt of the asbestos-containing materials covered by the asbestos waste disposal manifest.

16.4.1.5 An original copy of the completed asbestos waste disposal manifest shall be returned to the owner by the contractor within 30 days of removal from the site.

16.5 Compliance:

16.5.1 Compliance with the procedures described herein is mandatory and subject to the following:

16.5.1.1 Failure to adhere to these procedures shall constitute a material breach of the contract and the owner shall have the right to and may terminate the contract. Termination shall not relieve the contractor from future compliance.

16.5.1.2 All asbestos containing waste and/or asbestos contaminated materials must be disposed of as asbestos waste. This includes, but is not limited to, asbestos containing waste, all plastic sheeting, contaminated coveralls or "tyvek" suits, filters, foot covering, tape, etc.

16.5.1.3 As work progresses, the contractor shall remove sealed and labeled containers so that available storage space is not exceeded.

16.5.1.4 Disposal of such containers shall be at an authorized disposal site in accordance with the requirements of the appropriate disposal authorities.

16.5.1.5 The contractor shall submit to the owner the completed asbestos waste disposal manifest form and attached receipts.

16.5.1.6 Waste materials must be transported in enclosed trucks to prevent loose containers from falling off the vehicle.

16.5.1.7 At the disposal site, the bags or barrels must be carefully lowered into approved landfills by the workers.

16.5.1.7.1 Damaged bags shall remain in the drum (if used) and the entire contaminated and sealed drum shall be buried.

16.5.1.7.2 Uncontaminated drums may be recycled, if applicable.

16.5.1.8 The contractor shall notify the owner of proposed dates and times of transportation of waste to the landfill.

16.5.1.9 The workers shall perform this activity in approved disposable suits and appropriate respirators.

16.5.1.10 If temporary storage at the job site is to occur, the area must be secured from entrance by unauthorized persons. Temporary storage off the job site is not permissible.

Chapter 17 Abatement Close-out and Certificate of Compliance

17.1 Completion of Abatement Work:

17.1.1 Seal negative air machines with six (6) millimeter polyethylene sheet and duct tape to form a tight seal at intake end before being moved from work area. Complete the work upon meeting the work area clearance criteria and fulfilling the following:

17.1.1.1 Remove all equipment, materials, debris from the work site.

17.1.1.2 Dispose of all asbestos containing waste material as specified elsewhere in this specification.

17.1.1.3 Fulfill other project close-out requirements as specified elsewhere in this section.

17.2 Certificate of Completion by Contractor:

17.2.1 The C.P.I.H. shall complete and sign a "Certificate of Completion" at the completion of the abatement and decontamination of a work area.

End Technical Specification

USD 500 STANDARD TERMS AND CONDITIONS

1. SCOPE: The following terms and conditions shall prevail unless otherwise modified by U.S.D. 500 within this bid document. U.S.D. 500 reserves the right to reject any bid which takes exception to these terms andconditions.
2. DEFINITIONS AS USED HEREIN:
   a. The term "bid request" means a solicitation of a formal sealedbid.
   b. The term "bid" means the price offered by thebidder.
   c. The term "bidder" means the offeror orvendor.
   d. The term "U.S.D. 500" means Unified School District No. 500.
   e. The term "Board of Education" or "BOE" means the governing body of Unified School District No.500
3. COMPLETING BID: Bids must be submitted ONLY on the form provided in this bid document. All information must be legible. Any and all corrections and /or erasures must be initialed. Each bid sheet must be signed by the authorized bidder and required information must be provided.
4. CONFIDENTIALITY OF BID INFORMATION: Each bid must be sealed and submitted in or under cover of the enclosed envelope to provide confidentiality of the bid information prior to the bid opening. Supporting documents and/or descriptive literature may be submitted with the bid or in a separate envelope marked "Literature for Bid (Number)." Do NOT indicate bid prices on literature. All bids and supporting bid documents become public information after the bid opening and are available for inspection by the general public in accordance with the Kansas Open RecordsAct.
5. ACCURACY OF BID: Each bid is publicly opened and is made part of the public record of U.S.D. 500. Therefore, it is necessary that any and all information presented is accurate and/or will be that by which the bidder will complete the contract. If there is a discrepancy between the unit price and extended total, the unit price willprevail.
6. SUBMISSION OF BID: Bids are to be sealed and submitted to the Purchasing Department Office, 2010 North 59th Street, Room 370, Kansas City, Kansas, 66104, prior to the date and time indicated on the coversheet.
7. ADDENDA: All changes in connection with this bid will be issued by the Purchasing Office in the form of a written addendum. Signed acknowledgement of receipt of each addendum must be submitted with thebid.
8. LATE BIDS AND MODIFICATION OR WITHDRAWALS: Bids received after the deadline designated in this bid document shall not be considered and shall be returned unopened.
9. BIDS BINDING: All bids submitted shall be binding upon the bidder if accepted by U.S.D. 500 within sixty (60) calendar days after the bid opening.
10. EQUIVALENT BIDS: When brand or trade names are used in the bid invitation, it is for the purpose of item identification and to establish standards for quality, style and features. Bids on equivalent items of substantially the same quality, style and features are invited unless items are marked "No Substitute." Equivalent bids must be accompanied by descriptive literature and/ or samples may be required and shall be supplied at no charge to the school district.
11. NEW MATERIALS, SUPPLIES AND EQUIPMENT: Unless otherwise specified, all materials, supplies or equipment offered by a bidder shall be new, unused, of recent manufacture, first class in every respect, and suitable for their intended purpose. All equipment shall be assembled and fully serviced, ready for operation whendelivered.
12. WARRANTY: Supplies or services furnished as a result of this bid shall be covered by the most favorable commercial warranties, expressed or implied, that the bidder and/or manufacturer gives to any customer. The rights and remedies provided herein are in addition to and do not limit any rights afforded to U.S.D. 500 by any other clause of this bid reserves the right to request from bidders a separate manufacturer certification of all statements made in the Proposal.
13. METHOD OF AWARD AND NOTIFICATION: Bids will be analyzed and the award made to the lowest and best, responsive and responsible bidder(s) whose bid conforms to the specifications and whose bid is considered to be the best value in the opinion of U.S.D. 500.
14. U.S.D. 500 reserves the right to reject any or all bids and any part of a bid: to waive informalities, technical defects, and minor irregularities in bids received: and to award the bid on an item by item basis by specified groups of items or to consider bids submitted on an "all or nothing "basis if the bid is clearly designed as such or when it is determined to be in the best interest of U.S.D. 500.
15. The signed bid shall be considered an offer on the part of the bidder: such offer shall be deemed accepted upon the issuance by U.S.D. 500 of a Purchase Order or other contractual document.
16. DELIVERY TERMS: All deliveries shall be F.O.B. Destination and all freight charges shall be included in thebidprice.
17. DAMAGED AND/OR LATE SHIPMENTS: U.S.D 500 has no obligation to accept damaged shipments and reserves the right to return at the vendor's expense damaged merchandise even though the damage was not apparent or discovered until after receipt of the items. The Vendor is responsible to notify U.S.D. 500 Purchasing Office of any late or delayed shipments. U.S.D. 500 reserves the right to cancel all or any part of an order if the shipment is not made aspromised.
18. CREDIT TERMS: Bidder shall indicate all discounts for full and/or prompt payment. Discounts shall be considered as a cost factor in the determination of award, except discounts offered for payment within less than ten (10) calendar days. Discounts offered shall be computed from date of receipt of correct invoice or receipt and acceptance of products, whichever islater.

19. SELLER'S INVOICE: Invoices shall be prepared and submitted in duplicate to address shown on the Purchase Order. Invoices shall contain the following information: Purchase Order number, contract number, item number, description of supplies or services, sizes, unit of measure, quantity, unit price and extended totals.
20. TAX EXEMPT: U.S.D. 500 is exempt from Federal, State and local taxes by KS-FZLEKBLQ. Sites of all transactions under the order(s) that shall be derived from this bid request shall be deemed to have been accomplished within the State of Kansas.
21. SAFETY: All practices, materials, supplies and equipment shall comply with the federal Occupational Safety and Health Act, as well as any pertinent Federal, State and/or local safety or environmental codes.
22. DISCLAIMER OR LIABILITY: U.S.D. 500 will not hold harmless or indemnify any bidder for any liability whatsoever.
23. TERMINATION RIGHTS: KCKPS shall have the right to terminate/cancel the Agreement for its convenience and without penalty upon thirty (30) days prior written notice to the contractor.
24. HOLD HARMLESS: The contractor agrees to protect, defend, indemnify and hold the Board of Education, its officers, employees and agents fee and harmless from and against any and all losses, penalties, damages, settlements, costs, charges, professional fees or other expenses or liabilities or every kind and character arising out of or relating to any and all claims, liens, demands, obligations, actions, proceedings or causes of action of every kind and character in connection with or arising directly or indirectly out of this agreement and/or the performance hereof. Without limiting the generality of the foregoing, any and all such claims, etc., relating to personal injury, infringement of any patent trademark, copyright (or application for any thereof) or of any other tangible or intangible personal or property right, or actual or alleged violation of any applicable statute, ordinance, administrative order, rule or regulation, or decree of any court, shall be included in the indemnity hereunder. The contractor further agrees to investigate, handle, respond to, provide defense for and defend any such claims, etc., at his/her sole expense and agrees to bear all other costs and expenses related thereto, even if such claim is groundless, false or fraudulent.

    NO MUTUAL INDEMNIFICATION:

    K.S.A.72-8201a: Contracts; indemnification or hold harmless provisions, void.

    (a) It is the public policy of the state of Kansas that all contracts entered into by the board of education of a school district, or any officers or employees thereof acting on behalf of the board, provide that the school district and board of education shall be responsible solely for the district's or board's actions or failure to act under a contract.

    (b) The board of education of a school district or any officers or employees thereof acting on behalf of the board shall not have the authority to enter into a contract under which the school district or board agrees to, or is required to, indemnify or hold harmless against damages, injury or death resulting from the actions or failure to act on the part of any party to a contract other than the board or district.

    (c) The provisions of any contract entered into in violation of this section shall be contrary to the public policy of the state of Kansas and shall be void and unenforceable.
25. INSURANCE: Upon receipt of award, Contractor shall provide Certificate of Insurance as required within three (3) days after notification issued by the Purchasing Department.
    A. The following general insurance requirements apply to any and all work under this contract by all Contractors and subcontractors of any tier.
        (1) Any and all insurance required by this contract with each and any and all insurance required by this contract shall be maintained during the entire length of this contract, including any extensions thereto, and until all work has been completed to the satisfaction of the Kansas City Kansas Public Schools. Any and all insurance must be on an occurrence basis.
        (2) No Contractor or subcontractor shall commence work under a contract until all insurance requirements contained within the solicitation have been complied with and until evidence of all insurance requirements in each and every contract with each and every subcontractor of any tier and shall require the same to comply with all such requirements.
        (3) The Kansas City Kansas Public Schools shall be covered as an Additional Insured under any and all insurance required by this contract. Confirmation of this shall appear on all certificates of insurance and on any and all applicable policies. The title of the awarded contract shall also appear on any and all applicable policies.
        (4) The Kansas City Kansas Public Schools shall be given no less than thirty (30) days' written notice of cancellation. The Kansas City Kansas Public Schools shall be given not less than thirty (30) days' prior written notice of material changes of any insurance required under this contract. The Kansas City Kansas Public Schools shall be given written notice of renewal of coverage not less than thirty (30) days prior to the expiration of any particular policy.
        (5) Each and every agent shall warrant when signing the certificate of insurance that he is acting as an authorized representative on behalf of the companies affording insurance coverage under the contract and that he is licensed by the State of Kansas to conduct insurance business in the State of Kansas and that the companies affording insurance coverage are currently licensed by the State of Kansas and are currently in good standing with the Commissioner of Insurance for the State of Kansas.
        (6) Any and all companies providing insurance required by this contract shall meet the minimum financial security requirements as set forth below. The rating for each company must be indicated on the certificate of insurance.

            For all contracts, regardless of risk, companies providing insurance under this contract must have a current:

            (a) Best's Rating not less than A, and

            (b) Best's Financial Size Category not less than Class VII

(7) In the event the Contractor neglects, refuses, or fails to provide insurance required by the contract documents, or if such insurance is canceled for any reason, Kansas City Kansas Public Schools shall have the right, but not the duty, to procure the same, and the cost thereof shall be deducted from monies then due or thereafter to become due to the Contractor or Kansas City Kansas Public Schools shall have the right to cancel the contract.

B. Worker's Compensation and Employer's Liability Insurance
The Contractor shall procure and maintain Worker's Compensation and Employer's Liability Insurance in the following limits. Such insurance is to cover each and every employee who is or may be engaged in work under this contract.

Worker's Compensation.....Statutory
Employer's Liability
Bodily Injury by Accident .....$1,000,000 each accident
Bodily Injury by Disease.....$1,000,000 each employee
Bodily Injury by Disease.....$1,000,000 policy limit

C. Comprehensive General Liability Insurance
The Contractor shall procure and maintain Comprehensive Insurance in an amount not less than $1,000,000 for bodily injury and property damage combined single limit. The following specific extensions of coverage shall be provided and indicated on the certificate of insurance:
(1) Comprehensive Form
(2) Contractual Insurance
(3) Personal Injury
(4) Broad Form Property Damage
(5) Premises – Operations
(6) Completed Operations
This coverage shall cover the use of all equipment, hoists, and vehicles on the site(s) not covered by Automobile Liability under this contract. Policy coverage must be on an occurrence basis.

D. Automobile Liability Insurance
The Contractor shall procure and maintain Automobile Liability Insurance in an amount not less than $1,000,000 for bodily injury and property damage combined single limit. The following extensions of coverage shall be provided and indicated on the certificate of insurance.
(1) Comprehensive Form
(2) Owned, Hired, Leased and non-owned vehicles
If the Contractor does not own any vehicles in the corporate name, non-owned vehicles coverage shall apply and must be endorsed on either the Contractor's personal automobile policy or the Comprehensive General Liability coverage required under this contract.

E. Commercial Crime insurance (when applicable)
The Contractor shall procure and maintain Commercial Crime/Fidelity insurance in an amount not less than $1,000,000.00, including coverage for theft or loss of KCKPS property.

26. LAW GOVERNING: All contractual agreements shall be subject to, governed by, and construed according to the laws of the State of Kansas.
27. ANTI-DISCRIMINATION CLAUSE: No bidder on this request shall in any way, directly or indirectly, discriminate against any person because of age, race, color handicap, sex, national origin, or religious creed.
28. BID BOND/PERFORMANCE BOND (Applicable to Construction/Remodel/Repair Projects, Unless Waived by the District)
    A. Each proposal must be accompanied by a certified or cashier's check, or a bid bond in the amount of five percent (5%) of the contractor's total bid.
    B. A Performance Bond and a Material and Labor Payment Bond in amounts equal to one hundred percent (100%) of the contract price shall be furnished by the successful bidder. Bonds shall be issued by a surety acceptable to the Board.
29. DISQUALIFICATION:
    A. The Director of Purchasing may, at her/his sole discretion, disqualify a bidder for one or any combination of the following reasons:
        1. Bidder's product does not meet the specifications or bid conditions of the solicitation;
        2. Bidder's tendered bid is not received on the District's bid form;
        3. Bidder's tendered bid is not signed;
        4. Required bid bond is not furnished at time of bid opening;
        5. Failure to comply with bid instructions, terms and conditions that are judged to be essential to the competitive process and in the best interests of the District.
    B. Disqualification of bidders on future bids may be considered for any one or combination of the following reasons:
        1. Refusal of the bidder to complete a contract or bid;
        2. Bidder's past history of late deliveries or partial/incomplete shipments,

3. Bidder's products or services have proven unreliable, unworkable or have not accomplished the result requested in the District's specifications.

30. SUPPLIER DIVERSITY: The Kansas City Kansas Public Schools encourages supplier diversity and participation of MBE/WBE/DBE designated businesses. However, such participation will not result in any selection or scoring advantage in the bid evaluation process.