UNIVERSITY OF COLORADO
AT BOULDER

SPECIFICATION FOR
INDUSTRIAL HYGIENE CONSULTING SERVICES

ASBESTOS ABATEMENT PROJECTS IN FACILITIES

FACILITY ASSESSMENTS-
PROJECT SURVEILLANCE-AIR MONITORING PROCEDURES

REVISED: January 10, 2005

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PREFACE:

This document is intended to specify the scope of services required of Industrial Hygiene Consulting Firms (IH) regarding asbestos abatement projects within facilities at the University of Colorado at Boulder (UCB). These specifications include the performance criteria for facility scope of work surveys, on site surveillance/air monitoring of asbestos abatement projects, post project activities, and final submittals. The IH is required and presumed to be familiar with the stipulations of this document for the performance of their contracted services. Additionally, the IH is required and presumed to be familiar with the requirements of the current UCB "Asbestos Abatement Project Specification" in effect during a particular project for the surveillance, supervision and compliance of the Asbestos Abatement Contractor project activities.

Section 101: IH Firm Duties

I. It is agreed and understood that the Industrial Hygienist shall maintain in full force and effect adequate commercial general liability insurance and property damage insurance, as well as workmen's compensation and employer's liability insurance pursuant to the State insurance requirements or as required by a specific project insurance requirement.

II. UCB will require the IH firm to develop an Asbestos Abatement Scope of Work based on the scheduled construction activities for each assigned facility. The IH Firm will coordinate all asbestos abatement scope of work with the University Environmental Health and Safety (EH&S) Asbestos Coordinator. Such scope of work will not be used until approved by the UBC/EH&S Asbestos Coordinator. The IH firm will be notified to attend meetings prior to the development of the Asbestos Abatement Scope of Work during which the scheduled construction scope of work will be delineated. The University EH&S Asbestos/Lead office will provide a copy of the specific facility Environmental Site Assessment report to the IH Firm. The inspection report will aid with the identification of previously sampled and assessed asbestos containing material (ACM) within the project facility. The IH Firm will additionally be provided with project construction drawings (if applicable) for each project by UCB and/or its representative(s) including, but not limited to, architects, engineers and project managers to identify the area(s) of construction impact.

III. Prior to the commencement of work, the IH Firm will submit a not-to-exceed time and material quotation to UCB for the Project scope of services. The typical scope of services for each project are as follows:

A. Attendance at the Asbestos Abatement Scope of Work Meeting(s).
   1. Development of the Asbestos Abatement Scope of Work.
   2. Inspection Report review.
   3. Review of Construction Drawings to delineate the total required abatement.
   4. Facility inspections and additional bulk sampling.

5. Development of Work Area drawings for Asbestos Abatement Contractor Bid purposes.
6. Assistance with the Project Pre-Bid Conference and Site Inspection.
7. Attendance at the Project Pre-Construction Meeting.
8. Review and recommendation for approval/rejection of Asbestos Abatement Contractor pre-project submittals.
9. Abatement Project air monitoring and site supervision/surveillance.
10. Attendance at construction project progress meetings during concurrent projects.
11. Work Area visual clearance inspections/collection of Final Clearance Air Monitoring.
12. Representative photographic documentation of the following items including, but not limited to, Project structures, set-ups, Regulated Areas, Work Areas, work practices, housekeeping, and representative areas of substantial completion.
13. Development and supervision of Project punch lists.
14. Review and recommendation for approval/rejection of Asbestos Abatement Contractor post-project submittals.

*Note: any and all recommendations for approval/rejection of Asbestos Abatement Contractor submittals, at a minimum, will be based upon compliance with the applicable requirements of University specifications.

IV. The not-to-exceed quotation will be based upon the information provided at the first Asbestos Abatement Scope of Work Meeting with UCB and its representatives. At no time will UCB accept or approve project invoicing in excess of the not-to-exceed amount without the submittal of a written request including a justification for the additional fees.

V. Sampling of suspect building materials within the identified Work Areas shall be performed by a CDPHE-certified AHERA Inspector coordinated with EH&S. Sampling frequency and locations shall conform to AHERA sampling protocol. UCB requires that limited additional samples of suspect materials previously identified as non-ACM be sampled within the delineated Work Area were disturbance is to occur to verify these materials as non ACM only after consultation and approval of EH&S. All bulk sample numbers, data sheets, and logging of information shall be conducted at the EH&S Asbestos office prior to samples being submitted to laboratories.

VI. The IH firm will provide current proof of their in-house laboratory's Certificate of Accreditation from the National Voluntary Laboratory Accreditation Program (NVLAP) with each submitted laboratory report for the Polarized Light Microscopy (PLM) analysis of bulk samples. If PLM analyses are performed by a sub-contracted UCB-approved laboratory, the appropriate proof of NVLAP accreditation will be required as a component of each of the laboratory analysis reports. At no time will UCB allow PLM analyses to be performed by a laboratory that has not been approved by UCB/EH&S Asbestos office. At no time will UCB allow samples to be shipped or analyzed outside of the Boulder or surrounding area.

VII. The Asbestos Abatement Scope of Work developed by the IH Firm in conjunction with EH&S shall include:

A. Type and Location of ACM.
B. Quantity of ACM, per Work Area and building material.
C. Recommend removal protocol (e.g., full containment, secondary enclosure, etc.) per material and/or location.
D. Approximate total of abatement costs associated with the specific material(s) and/or location(s).
E. Approximate duration of ACM removal and phasing of Work Area(s), if applicable.

VIII. Provide assistance with the conducting of the Pre-Bid Meeting and Site Inspection. The staff personnel assigned to attend this meeting will be the person(s) who performed the Scope of Work survey for the facility in order to ensure familiarity with and knowledge of the Project details.

IX. Supply daily Project surveillance and air monitoring results to verify the Asbestos Abatement Contractor is complying with all applicable OSHA, EPA, CDPHE and local regulations as well as the current UCB Asbestos Abatement Project Specifications. ***All OSHA-required personnel air monitoring is the responsibility of the IH Firm***, who will be responsible for documenting the required analytical turnaround times and posting of air monitoring results for Contractor personnel. The IH firm will coordinate with the Asbestos Abatement Contractor.

X. Provide daily analysis of specified Project air samples by Phase Contrast Microscopy (PCM) utilizing the NIOSH 7400 Method of analysis. Microscopists performing PCM analysis shall provide proof of successful completion of a NIOSH 582 or NIOSH 582 Equivalency course.

XI. The IH firm will provide, at a minimum, proof of their in-house laboratory's successful participation in the three (3) most current rounds of the National Institute of Occupational Safety and Health (NIOSH) Proficiency Analytical Testing (PAT) Program prior to the start of an asbestos abatement project. If PCM analyses are performed by a sub-contracted, UCB-approved laboratory, the proof of PAT participation will be required as well. At no time will UCB allow samples to be shipped or analyzed outside of the Boulder or surrounding metropolitan area

XII. All IH air monitoring personnel will be CDPHE certified Air Monitoring Specialist (AMS) as well as CDPHE certified inspectors.

XIII. Ten percent (10%) or a minimum of two (2) samples per day, whichever is greater, of the total number of samples collected per day shall be submitted for analysis as field blank samples and shall be reported with the daily sample analyses.

XIV. Documentation of on-site calibration of air monitoring equipment before and after air sampling periods shall be required for all project air samples. If a secondary standard (rotameter) is utilized for air sampling equipment calibration procedures, documentation of monthly calibration against a primary standard (e.g. Bubble Burette, Gilibrator, Buck Calibrator, etc.) will be provided to UCB/EH&S within the Final Project Report.

XV. The IH firm will verify that negative pressure differentials are in place throughout asbestos abatement.

Section 102: Qualifications of AMS

I. IH Firm assigned personnel must, at a minimum, show proof of:
   A. Current EPA certification as a Contractor/Supervisor or Project Designer to meet current EPA regulations.
   B. Current CDPHE certification as Inspector or Project Designer to meet current CDPHE regulations.
   C. Current Respirator Fit Testing and Medical Surveillance records to meet regulatory requirements.
   D. OSHA Hazard Communication Program.
   E. Material Safety Data Sheets (MSDS) for chemicals on-site (if applicable).
   F. Confined Space Entry Program (if applicable).
   G. Successful completion of a NIOSH 582 or NIOSH 582 Equivalency Course by the on-site AMS.
   H. Current CDPHE certification as an Air Monitoring Specialist (AMS).

II. Prior to the start of all projects the IH Firm will be required to submit records for all employees involved in this Project. Records provided will include the names, social security numbers, training certifications, respirator fit test and medical surveillance documentation.

III. Only employees of approved IH Firms will be authorized to perform air monitoring services on any UCB Project. **NO SUBCONTRACTING OF THE AIR MONITORING SERVICES WILL BE PERMITTED.**

Section 103: AMS on Site Duties

I. The AMS shall conduct all required and specified sampling for UCB.

II. The AMS shall conduct air sampling and analysis in accordance with the NIOSH 7400 Method and within all requirements of CDPHE, OSHA, and EPA AHERA regulations and Asbestos Abatement Specifications.

III. The AMS shall witness and verify Asbestos Abatement Contractor compliance with applicable regulations and UCB Asbestos Abatement Project Specifications.

IV. The AMS shall cooperate with agents of public or regulatory agencies in the event of site visitations or inspections. The UCB-EH&S Asbestos Coordinator will be immediately informed of such visits.

V. The AMS shall inspect the Project Work Area(s) as per Section IX of this document. UCB Asbestos Abatement Checklist Forms (provided at the end of this document) shall be filled out entirely during each inspection and submitted daily to the UCB/EH&S Asbestos office and the Asbestos Abatement Contractor.

VI. The AMS shall remain on site during all abatement activities. This will include, at a minimum, baseline air sample collection, project pre-cleaning and preparation procedures, asbestos abatement activities and procedures, final cleaning procedures, final clearance air sample collection, post-clearance Project Work Area tear down and Asbestos Abatement Contractor demobilization. The AMS is responsible to verify the proper and thorough removal of all critical barriers, containment area components, duct tape, spray glue residue, barrier tape, warning signs, fastening devices and project equipment by the Asbestos Abatement Contractor during the Work Area tear down and Project demobilization. Any changes to this section requires the prior approval of the UCB-EH&S Asbestos Coordinator.

VII. The AMS will complete the UCB Final Visual Checklist prior to the commencement of aggressive Final Clearance Air Monitoring procedures.

VIII. The AMS shall notify the designated, approved TEM laboratory sufficiently in advance of Final Clearance Air Monitoring procedures to allow for laboratory assignment of personnel and scheduling for all TEM Final Clearance Air Sample analyses.

IX. Provide performance of specified inspections as follows:

A. The AMS shall utilize a micrometer to verify the actual mil thickness of polyethylene sheeting only where polyethylene sheeting is suspect to be less than thickness or mil and asbestos waste disposal bags. The AMS shall indicate on the UCB Pre-Abatement Checklist if the polyethylene is within regulatory and UCB requirements. In cases where spray polyethylene is utilized, the AMS will be required to check the mil thickness. If the polyethylene mil thickness is unacceptable, the AMS will be required to notify the UCB representative immediately.

B. The AMS will witness the Asbestos Abatement Contractors calibration of the negative pressure differential strip chart recorder on a per shift basis. The AMS

will document his/her observations of the calibration on the UCB Asbestos Abatement Project Checklist.

C. The AMS will measure and verify, at least twice per shift, the accuracy of the Asbestos Abatement Contractor's negative pressure differential strip chart recorder.

D. The AMS will accompany UCB representative during or, in the absence of the UCB representative, conduct the pre-abatement visual inspection of the prepared Project Work Areas for compliance with all applicable regulations and UCB specified requirements.

E. Provide inspection of Project Work Areas for compliance with applicable federal, state, and local regulations as well as the current UCB Asbestos Abatement Project Specification, (**inside and outside containment**) at least three times a day (start of project, lunch shift change, and end of project day).

F. Provide inspection of Project Work Areas as per the requirements of the provided UCB Asbestos Abatement Project Checklist.

G. Accompany UCB representative during the Final Visual Inspection of the Project Work Areas following completion of final cleaning activities by the Asbestos Abatement Contractor. It is to be understood that if UCB representatives are not available for visual inspections, the AMS will perform this function. The AMS will complete the provided Final Visual Inspection checklist after each performed visual inspection.

H. ACM-Contaminated Soil in Crawl Spaces – Special Clearance Procedures: following the successful completion of the visual inspection by the AMS, randomly selected soil samples will be collected for PLM analysis (U.S. EPA Interim Method EPA 600/M4-82-020). It is the responsibility of the AMS, coordinated with EH&S Asbestos office, to adequately divide the Work Area(s) into nine (9) or more approximately equal-sized grids for the collection of one (1) bulk sample from each grid within the Work Area(s) at a randomly selected location within each grid area. UCB will authorize the AMS to divide each Work Area into more than nine (9) grid sample areas if nine (9) are deemed inadequate. At no time will a Work Area be divided into less than nine (9) grid sample areas nor will less than a total of nine (9) bulk samples be collected per Work Area.

X. Provide prompt notification to UCB of any and all observed irregularities or deficiencies of work or products and document all observations and related conversations.

XI Air monitoring PCM analyses will be performed within the same Project day the air samples are collected and UCB/EH&S Asbestos office will receive immediate notification in the event of one or more air sample results indicate a Project-related problem. Any and all air monitoring conducted during evening or night hours must be analyzed before the start of the next day. Any and all analytical results indicating a Project-related problem must be reported to the UCB Project Manager and EH&S Asbestos Coordinator immediately. This will facilitate immediate action for proper measures at the facility to prevent potential asbestos-related exposures. The AMS will

submit the daily analytical results of the Project air samples in written form to UCB within 24 hours of collection and post copies of the same in a conspicuous location at the Project site. Each sample report shall include:

A. Date issued.
B. Project facility, facility number, and UCB Job Number.
C. Testing laboratory name, address and telephone number.
D. Name and signature of the microscopist performing the analyses.
E. Name and signature of the AMS collecting the air samples.
F. Date and time of air sample collection.
G. Description of air sample locations on project.
H. Analytical results of air samples.

XII. In the event that the CDPHE Maximum Allowable Asbestos Limit (MAAL) of 0.01 fibers per cubic centimeter (f/cc) or 70 structures per square millimeter (s/mxn2) is exceeded outside any containment area or within any interior portions of a facility, the AMS will immediately notify the UCB –EH&S Asbestos Coordinator and the Asbestos Abatement Contractor. If the UCB representative is unavailable, the AMS will submit a representative number of air sample cassettes to a UCB-approved laboratory for Transmission Election Microscopy (TEM) analysis and arrange for a six (6) hour turn around time. The AMS will immediately collect additional air samples in and around the same area for subsequent TEM analyses if necessary. The IH firm will immediately oversee, and document all corrective actions taken by the Asbestos Abatement Contractor.

XII. Submit to the UCB representative within 24 hours, the three (3) UCB Asbestos Abatement Project Checklist Forms for each Project day.

XIV. Upon completion of the scheduled Asbestos Abatement Project, the IH Firm will draft a Project punch list. The punch list must be drafted and submitted to UCB and the Asbestos Abatement Contractor within five (5) working days following the completion of the last Project Work Area. The AMS will revisit the Project site to document the completion of the punch list items and the substantial completion of the Project.

XV. Air Monitoring Procedures and Requirements:

A. Pre-Abatement Air Sampling (Baselines) - Collect a sufficient number of baseline air samples inside and outside the building prior to commencement of all abatement activities (prior to Work Area(s) preparation and/or contractor mobilization).**All locations will have the prior approval of EH&S Asbestos office.*
   1. Air Samples shall be collected to establish normal conditions for comparison if required against TEM final clearance air sample analyses. Baselines are not to be analyzed utilizing TEM methodology unless specified by the UCB/EH&S Asbestos Coordinator.
   2. Baseline air samples shall be collected under normal existing air movement (all handling equipment on).

3. The AMS shall perform hourly air sampling equipment inspections to verify and document proper sample loading and equipment operation.
4. Collected volumes of air shall be in sufficient quantities to achieve, at a minimum, an analytical sensitivity of 0.005 f/cc for all air samples collected outside the Work Areas both inside and outside the building.

B. Baseline Air Samples shall be collected in the following minimum quantities:
**locations will be reviewed and will require approval by EH&S asbestos office*
1. Scheduled Abatement Work area:
One (1) air sample per each 2000 square feet of scheduled Work Area (minimum of 2)
2 Inside Building:
Minimum of two (2) air samples representative of containment make up air.
3. Outside Building:
Minimum of one (1) air sample representative of containment make up air.

C. Abatement Air Monitoring shall be performed daily and for the duration of all abatement activities as outlined below.

D. Air sampling will be performed at the following locations and in the specified approximate quantities as follows:
1. Inside Containment:
Minimum of one (1) air sample in each containment area per work shift.
2. Outside Containment:
Minimum of one (1) air sample per work shift as follows:
   a. Negative Pressure Differential Machine Exhaust: Monitor the machines on a rotating basis if more than one (1) machine is utilized. It should be noted that if the exhaust is discharged within the building, continuous air monitoring is required as well as pre-approval by UCB-EH&S Asbestos Coordinator for the procedure. At no time shall samples be collected from within negative pressure differential ducting.
   b. Decontamination Unit Entrance Minimum of one (1) air sample outside the entrance to the clean room. Minimum of one (1) air sample inside the entrance of the clean room.
   c. Waste Load-out Unit Entrance: Minimum of one (1) air sample outside the entrance to the clean room. Minimum of one air sample inside the entrance of the clean room.
   d. Outside Containment/Inside Building: Minimum of one air sample per work shift at location of critical barriers separating work areas from occupied areas and/or representative of containment make-up air.

e. Outside Containment/Ambient Air: Minimum of one air sample per work shift outside of building as close to work area as possible.

E. Volumes of all air samples collected outside of the Work Area(s) shall be in sufficient quantities to achieve, at a minimum, an analytical sensitivity of 0.005 f/cc.

F. Volumes of all air samples collected inside containment areas shall be in sufficient quantities to achieve, at a minimum, an analytical sensitivity of 0.01 f/cc, if possible.

G. Final Clearance Air Monitoring – Perform air sampling in accordance with requirements of the AHERA regulations (40 CER Part 763) and CDPHE Regulation No. 8 for Final Clearance Air Monitoring purposes.

1. Final Clearance Air Samples shall be collected according to the following requirements:
   a. TEM Final Clearance Air Monitoring- As per all requirements stipulated in AHERA Regulations (40 CFR Part 763) and CDPHE Regulation No. 8.
   b. PCM Final Clearance Air Monitoring- Perform aggressive procedures according to the requirements of all applicable, federal state and local regulations prior to collecting Final Clearance Air Samples per abatement area or per Project.
2. All Final Clearance Air Samples – Shall be collected in sufficient volumes as follows:
   a. As per the requirements of EPA AHERA Regulations.
   b. PCM – To achieve an analytical sensitive of at least 0.005f/cc.

H. Final Clearance Air Samples shall meet the following criteria for the release of Work Areas: UCB requires that inside Final Clearance Air Samples are equal to or below the clearance criteria of 70 structures per square millimeter (TEM analysis) and/or 0.01 fibers per cubic centimeter (PCM analysis). Averaging of the five (5) PCM inside Final Clearance Air Sample analytical results will not be permitted for the final clearance of any UCB projects.

Section 104: Limitations of Authority – IH Firm

I. IH Firm personnel are not authorized to:
   A. Release, revoke alter or enlarge on the requirements of contract documents.
   B. Approve or accept any portion of the Work, unless previously authorized by UCB.
   C. Perform any duties of UCB. Unless in the event of an emergency (i.e. breach of containment). Immediate correctional action shall be required and under these conditions authority will be extended to the IH Firm to dictate action after all attempts have been made to contact UCB representatives

Section 105: Documentation

I. Upon completion of the scheduled Asbestos Abatement Project, the IH firm will submit a Final Project Report to UCB. This report will be sufficiently detailed and will include, at a minimum, the following documentation:

   A. Summary description of the Asbestos Abatement Project Scope of Work
   B. Summary description of the Asbestos Abatement Project activities
   C. Project Daily Log Forms
   D. All executed UCB Daily Project Checklists
   E. Copies of EPA/CDPHE certifications of IH Firm Project personnel
   F. Copies of all Project PCM and TEM Air Sample Analysis Reports
   G. Copies of credentials and qualifications of analytical laboratory and personnel
   H. Copies of air sample Chain of Custody forms
   I. Any other Project-related information and documentation

Section 106: Project Schedule Coordination Responsibilities

I. The IH Firm shall be responsible to provide assistance with the coordination of Asbestos Abatement activities and scheduled construction/renovation activities for their assigned Projects when the two activities are concurrent.

II. The IH Firm will provide a representative (familiar with the logistical details of each project) at all weekly construction project progress meetings. This representative will provide Asbestos Abatement Contractor schedule information and updates to the General Contractor representative or the appropriate UCB representative during these meetings. It will be the responsibility of the IH Firm's representative for each Project to provide current schedule monitoring and updating information during each progress meeting.

III The IH Firm representative(s) will be authorized to approve, on behalf of and with prior approval from the University of Colorado at Boulder, Asbestos Abatement Contractor schedule changes, specifically completion date extensions. This authorization for approval is contingent upon notification to the General Contractor and his/her agreement with said completion date extension(s). The IH Firm is only authorized to approve completion date extensions that do not involve any additional costs to the University of Colorado from any of the Contractor firms involved. UCB is to be notified immediately of any Project completion date extensions.

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DEPARTMENT OF ENVIRONMENTAL HEALTH AND SAFETY
ASBESTOS ABATEMENT CHECK LIST

Pre-abatement Visual Inspection Checklist

Date_____ Project_____ Location_____

Inspector_____ Contractor Supervisor_____

Contractor_____ Project Manager_____

Removal Technique: Wet/Gross_____ Glove Bag_____

Primary Enclosure_____ Secondary Enclosure___

	Yes	No	N/A
Area pre-cleaned of all debris and asbestos contamination?	___	___	___
Clean room adequate with storage for personal belongings?	___	___	___
Air handling system modified or shut off?	___	___	___
Floors covered with two layers poly?	___	___	___
Walls covered with two layers poly?	___	___	___
Ceiling covered with one layer poly?	___	___	___
Lights removed or properly sealed?	___	___	___
Edges properly overlapped and sealed?	___	___	___
Penetrations sealed?	___	___	___
Vents, ducts, adequately sealed?	___	___	___
All entry/exit curtains meet specification?	___	___	___
Personal decontamination meets specification?	___	___	___
Air locks sized sufficiently on waste load out?	___	___	___

	Yes	No	N/A
Equipment room present and adequate?	___	___	___
Load out area separated from personal decontamination unit?	___	___	___
Area smoke tested?	___	___	___
Negative pressure achieved?	___	___	___
Negative pressure measured with manometer?	___	___	___
Number of air exchanges per hour sufficient ?	___	___	___
Number of NAMs on site per calculations of pressure differential?	___	___	___
HEPA filters or NAMs inspected?	___	___	___
Make up air provided at other locations beyond decon?	___	___	___
Danger and warning signs posted?	___	___	___
Barriers erected?	___	___	___
Security of site adequate?	___	___	___
Shower construction complete and adequate?	___	___	___
Hot/Cold water connected?	___	___	___
Shampoo, soap, and towels present?	___	___	___
Gray water filtration system working?	___	___	___
Filtration sized appropriately?	___	___	___
Work crew names same as worker, medical and fit certifications?	___	___	___
Supervisor certification current and on site?	___	___	___
Emergency plan present?	___	___	___
Emergency exits/routes posted?	___	___	___
Fire extinguishers in place?	___	___	___

	Yes	No	N/A
Continuous pressure recorders in place and working properly?	___	___	___
Electrical hazards present?	___	___	___
Lighting adequate?	___	___	___
All electrical equipment connected to GFCI service?	___	___	___
PPE all present including respirators and cartridges?	___	___	___
Waste bags labeled?	___	___	___
Sufficient drums or containers present?	___	___	___

Comments concerning exceptions or other items not listed:_____

Field Drawings:

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ASBESTOS ABATEMENT CHECK LIST

Daily Abatement Checklist

Date **Project** **Location**

Inspector **Contractor Supervisor**

Contractor **Project Manager**

Description of Work in Progress:

Morning Inspection:	**Yes**	**No**	**N/A**
Are all barriers intact?	___	___	___
Are all barrels or containers intact?	___	___	___
Did pressure differential maintain throughout night?	___	___	___
Negative pressure in containment upon arrival adequate?	___	___	___
Pressure differential_____			
Sign-in sheets in place and current?	___	___	___
Work area entrance signed off and labeled?	___	____	___
Bags, drums properly stored and labeled?	___	___	___
Removed material promptly bagged?	___	___	___
Wet method removal being employed?	___	___	___
HEPA vacuum used?	___	___	___
Work area clean and orderly?	___	___	___

Morning Inspection Con't.	**Yes**	**No**	**N/A**
Personnel decontamination after departure from work area conducted?	___	___	___
Disposable clothing used one time?	___	___	___
Proper NIOSH approved respirators in use?	___	___	___
Showers in use and operable?	___	___	___
Personal air monitoring in place?	__	___	___
Number of samples_____			
All air monitoring pumps in place?	___	___	___
Outside person continually available?	___	___	___

Afternoon:	**Yes**	**No**	**N/A**
Regulated area smoked tested?	___	___	___
Are all barriers intact?	___	___	___
Have NAMs malfunctioned throughout the day?	___	___	___
Good work practices evident at time of inspections?	___	___	___
Is area clean prior to leaving at end of shift?	___	___	___
Are NAMs on continuous run?	___	___	___
Respirators properly stored?	___	___	___
Area properly secured during night/off time?	___	___	___
All air sampling collected at end of shift without problems?	___	___	___

Progress noted for this day:

Comment of any problems:

Additional comments or corrective actions taken:

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ASBESTOS ABATEMENT CHECK LIST

Pre-Final Visual Inspection Checklist

Date _____ **Project** _____ **Location** _____

Inspector _____ **Contractor Supervisor** _____

Contractor _____ **Project Manager** _____

Number of Inspection (Prior to passing) 1___ **2**___ **3**___ **4**___ **5**___

Description of Work in Progress: _____

_____

Residual dust on:	**Yes**	**No**	**N/A**	**Location**: (*if Yes*)
Floors	___	___	___	_____
Walls	___	___	___	_____
Ceilings	___	___	___	_____
Pipes	___	___	___	_____
Light Fixtures	___	___	___	_____
NAM's	___	___	___	_____
Ducts	___	___	___	_____
Other Horizontal Surfaces	___	___	___	_____
Is all equipment removed from area?	___	___	___	_____
Is all asbestos within scope removed?	___	___	___	_____
All ACWM removed from area?	___	___	___	_____
Is area ready for barriers to be removed to critical barriers?	___	___	___	_____
Is load-out, decon, and equipment room free of debris and waste?	___	___	___	_____
Is area ready for encapsulation?	___	___	___	_____
Has NAM filters been changed?	___	___	___	_____

Record additional problems: _____
_____
_____
_____

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ASBESTOS ABATEMENT CHECK LIST

Final Visual Inspection Checklist

Date **Project** **Location**

Inspector **Contractor Supervisor**

Contractor **Project Manager**

Number of Inspection (Prior to passing) 1___ 2___ 3___ 4___ 5___

Description of Work in Progress: _____

_____

Residual dust on:	**Yes**	**No**	**N/A**	**Location**: (*if Yes*)
Floors	___	___	___	_____
Walls	___	___	___	_____
Ceilings	___	___	___	_____
Pipes	___	___	___	_____
Light Fixtures	___	___	___	_____
NAM's	___	___	___	_____
Ducts	___	___	___	_____
Other Horizontal Surfaces	___	___	___	_____
Is all equipment removed from area?	___	___	___	_____
Is encapsulation complete and dry?	___	___	___	_____
Are all drums and containers Removed labeled and stored?	___	___	___	_____
All barriers, except criticals, removed	___	___	___	_____
Are prior daily air monitoring results at or below 0.01f/cc?	___	___	___	List results: _____

Record additional problems or comments: _____

_____

_____

_____

_____

_____

_____

_____

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ASBESTOS ABATEMENT CHECK LIST

Post-Project Checklist

Date_____ Project_____ Location_____

Inspector_____ Contractor Supervisor_____

Contractor_____ Project Manager_____

	Yes	No	N/A
Proof of all asbestos waste disposed of properly?	___	___	___
Total cubic yards removed from site?	___	___	___
All critical barriers removed and surfaces cleaned?	___	___	___
All submittals current to date?	___	___	___
Additional asbestos work required? (List)_____	___	___	___

Note all damages from abatement activities:

Location: **Description:**

STOP WORK ORDER

Building	Work Area/Containment	Material(s)	Quantity(ies)	Type Containment (Full/Mini/ Regulated Area)

Stop Work Order

In accordance with local, state and/or federal regulations, and/or the Asbestos Abatement Specification, the Asbestos Abatement Contractor is hereby ordered to stop work in the aforementioned Work Area. The Asbestos Abatement Contractor is to immediately and automatically conform to this stop work order, while maintaining temporary enclosures and pressure differential. The Asbestos Abatement Contractor is to immediately initiate all of the actions as described in Asbestos Abatement Specification after being presented with a stop work order, as well as any other actions, as deemed necessary by the Owner, Project Administrator, Asbestos Project Manager, and/or Designer,etc. Do not recommence abatement work until authorized in writing by Owner/Project Administrator/Asbestos Project Manager/Designer.

Stop Work Order Cause

Stop Work Order was issued due to :

_____
_____
_____
_____
_____

Stop Work Order Issued By

Date Stop Work Issued

Date Stop Work Released