

The following standard specification is intended to be edited according to the specifics of the project. Brackets [] and areas shaded in gray [e.g. format] indicate requirements that are optional depending upon the type of system being provided or per instructions associated with the [] and project requirements. Consult with University's Representative and campus stakeholders.

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DO NOT CHANGE THE FOOTER OF THE DOCUMENT

Make sure that your consultant authorization indicates that the University's hazardous materials consultant will be performing the services indicated.

SECTION 02 82 00 ASBESTOS REMEDIATION

PART 1 - GENERAL

1.1 SUMMARY

A. Work Included - General

1. Provide all labor, material, equipment, services, testing, employee training, fit test, medical exams, transportation, and daily expense to meet the requirements of this Specification.
2. Contractor shall obtain all required permits, licenses, registrations, notifications, and regulatory approvals required by law (federal, state and local) and this specification.
3. All asbestos remediation activities associated with this Contract shall be performed during the work period specified in this Contract.
4. Contractor shall guard against unnecessary disturbances or damage to sensitive finishes on buildings, building systems, and equipment.

B. Work Included – Specific

1. Contractor is responsible for identifying the exact locations and number of Work areas, and should also refer to [Demolition and Construction] Drawings for Hazmat Scope of Work. Demolition Drawings are diagrammatic in nature. Contractor shall coordinate hazmat scope of work with [Demolition and Construction] Drawings, [including Architectural, Structural, Mechanical, Plumbing, Fire Protection, and Electrical,] and shall be responsible for all asbestos removal and management necessary to perform required scope of work.
2. Submit for University approval an Asbestos Work Plan and Schedule outlining necessary asbestos removal and management work. Said Work Plan shall include work practices and procedures to be utilized, and the corresponding Schedule must identify start and completion dates, and milestones, such as containment and clearance inspections, clearance testing and demobilization. Contractor shall execute the Work Plan safely and efficiently, and maintain compliance with this section's requirements.
3. This project is [interim controls] [abatement/removal].
4. Refer to Table 1 below for material to be removed.

TABLE 1 - ASBESTOS REMEDIATION		
Building	Room No. or Area Description	Building System Types

1.2 SITE CHARACTERIZATION

NOTE: BE SURE THAT CONTRACTS RECEIVES THE BUILDING SURVEY REPORT IN THE BELOW PARAGRAPH FROM THE PROJECT MANAGER TO INCLUDE IN THE INFORMATION AVAILABLE TO BIDDERS.

- A. A Project site surveillance was conducted by the [PUT IN THE NAME OF THE FIRM THAT CONDUCTED THE TESTING] (DOSH certified). Materials found or presumed to contain asbestos at this Project site are listed in the table below. Note: Table 2 is a list of asbestos containing materials sampled at various locations throughout the project. For the complete scope of work, Contractor shall refer to the [Hazardous Materials,] the [Architectural, the Plumbing, the Mechanical and the Electrical] drawings for the approximate locations of the materials requiring [interim controls] [abatement/removal]. Refer to the Building Survey Report, included in the Information Available to Bidders [for Design Build projects change to University Provided Information].
1. Refer to Table 2 below for asbestos samples.
 2. The results shown in the "Percent Asbestos" column were obtained using standard PLM testing. Any result shown as <1 percent shall be analyzed by point count methodology.

TABLE 2 - ASBESTOS CONTAINING MATERIALS					
Building	Room No. or Floor	Building System Types	Asbestos Type	Percent Asbestos	Approximate Quantity

- B. Hazardous materials, other than ACM/PACM that have the potential to be disturbed at this Project site are listed in the Table 3 below:

TABLE 3 - OTHER HAZARDOUS MATERIALS AT PROJECT SITE				
Building	Material Description	Type of Hazard	Percent of Content	Quantity

- C. Tables 1, 2 and 3 identify Hazardous Materials located within the project area. Contractor shall presume Hazardous Materials listed in Tables 1, 2 and 3 are prevalent throughout the building. Contractor shall exercise care to ensure Hazardous Materials present inside and outside the project area are not damaged or disturbed, without the use of appropriate engineering controls, work practices, and personal protective equipment.
- D. Prior to handling other hazardous materials at the Project site, Contractor shall coordinate with the University's Representative to review University's protocols with an Environmental Health and Safety's Representative (UCDEH&S).

(MARK NOT USED 1.3 if job walk is not in a contaminated space)

1.3 JOB WALK PROTOCOL

- A. The pre-bid job walk shall include the inspection of asbestos work areas cited in paragraph above. All prospective bidders may be required to wear respirators and protective clothing based on expected or known contamination levels. Prior to entering contaminated areas, the prospective bidders must show proof of:
1. Asbestos Awareness Training or the equivalent.
 2. A respirator fit certificate dated within the previous 12 months.
- B. Short Duration Access (30 minutes per day) - NPE Available

1. Entry protocols: Sign log and enter clean room, wear respirator, perform negative pressure fit test, wear double suit (over existing clothing), step through shower stall, step through dirty room and enter contaminated space.
2. Exit protocol: Enter dirty room, take off outer suit, wet wipe
3. Exposed skin and mask, dispose of outer suit and wet wipes in asbestos bag, pass through shower, enter clean room, remove inner suit, remove and bag mask, then sign out. Wash hands and face at first opportunity.

C. Short Duration Access (30 minutes per day) - NPE Not Available

1. Entry protocols: Sign log, wear double suit, put on respirator, perform negative pressure fit test and enter restricted access area.
2. Exit protocol: Remove outer suit, wet wipe exposed skin and mask, place suit and wet wipes in asbestos bag, exit restricted access area, remove inner suit, remove and bag mask, and sign out.

D. Long Duration Access (>30 minutes per day) - 3 Stage NPE

1. Entry protocols: Enter clean room and log in, wear respirator, perform negative pressure fit test, remove existing clothing and wear a single suit, step through shower stall, step through dirty room and enter contaminated space.
2. Exit protocol: Enter dirty room, take off and dispose suit, enter shower room and wash, wipe mask, enter clean room, wet wipe inner mask, bag mask and log out.

1.4 ABBREVIATIONS AND DEFINITIONS

A. Abbreviations

ACM	Asbestos Containing Material
ACBM	Asbestos Containing Building Material
AHERA	Asbestos Hazard Emergency Response Act
AIHA	American Industrial Hygiene Association
CARB	California Air Resources Board
CSLB	Contractor's State Licensing Board
DOSH	Division of Occupational Safety and Health
DTSC	California Department of Toxic Substances
ELAP	Environmental Laboratory Accreditation Program
EPA	Environmental Protection Agency
FVC	Forced Vital Capacity
FEV ₁	Forced Expiratory Volume at 1 second
HVAC	Heating, Ventilation, and Air Conditioning
NEA	Negative Exposure Assessment
NESHAPS	National Emissions Standard for Hazardous Air Pollutants
NPE	Negative Pressure Enclosure
NVLAP	National Voluntary Laboratory Accreditation Program
O&M	Operations and Maintenance Training
PACM	Presumed Asbestos Containing Material
PCM	Phase Contrast Microscopy
PEL	Permissible Exposure Limit
PLM	Polarized Light Microscopy
PPE	Personal Protection Equipment

RACM	Regulated Asbestos Containing Material
SMR	Single Ply Membrane Roof
TEM	Transmission Electron Microscopy
TSI	Thermal System Insulation

B. Definitions: The following definitions are provided for additional clarification and may exceed federal, state or local regulatory requirements.

1. ABATEMENT: Removal, enclosure, encapsulation, etc., of asbestos.
2. ABATEMENT/REMOVAL: As used here it refers to activities where removal is the abatement method chosen.
3. INTERIM CONTROL: Encapsulation, enclosure, and repair of ACM or ACBM and may include a maintenance program.
4. For the purpose of Worker protection and waste disposal, ACBM is defined as 1 tenth of 1 percent by weight (0.1 percent); ACM is defined as greater than 1 percent by weight (1.0 percent). The definitions of friable vs. non-friable ACM follow [Yolo Solano Air Quality Management District (YSAQMB) Rule 9.9 or] the appropriate EPA delegated Air District/CARB.
5. Ambient Air Quality is established with a TEM baseline sample prior to the commencement of asbestos-related Work.
6. Class I Asbestos Work involves the remediation of TSI and/or surfacing material when:
 - a. More than 1 glove bag is used;
 - b. More than one 60 inch by 60 inch waste bag is used; or,
 - c. The Work is not repair or maintenance as defined by Class III.
7. Class II Asbestos Work involves the remediation of non-TSI or non-surfacing when:
 - a. More than 1 glove bag is used;
 - b. More than one 60 inch by 60 inch waste bag is used; or,
 - c. The Work is not repair or maintenance as defined by Class III.
8. Class III Asbestos Work involves repair and maintenance of ACM/PACM that is either Class I or Class II materials, but does not exceed either 1 glove bag or one 60-inch disposal bag (1 cubic meter).
9. Class IV Asbestos Work refers to clean-up operations of Class I, II, or III Projects. Class IV Asbestos Work does not refer to incidental contact by maintenance Workers (see Title 8 CCR 5208 for custodial/maintenance Workers guidelines).
10. Negative Pressure Enclosures (NPE) refers to full containment, mini-containments, and glove bags under negative pressure with HEPA filtration. NPE includes smoke testing each shift, manometer testing to prove -0.02 inches negative pressure differential, electrical circuits off unless a GFI is used, air movement is away from Workers toward HEPA unit and air movement that provides one air change every 5 to 15 minutes. Glovebags must also be smoke tested. No sliding or reuse of the glove bag is permitted, adjacent material must be sealed, and a minimum of 2 Workers are required to perform glove bag operations.
11. Competent Person: DOSH certified Supervisor with the authority to take prompt corrective measures to eliminate unsafe, unsanitary, hazardous, dangerous or unacceptable environmental conditions.

Coordinate Requirements of 1.5 with Division 1 Sections

1.5 SUBMITTALS

- A. Submit in accordance with Section 01 33 23 Shop Drawings, Product Data and Samples, and Section 01 77 00 Closeout Procedures.
- B. Submit proposed material substitutions complying with requirements listed in Section 01 25 00 Substitution Procedures.

- C. References: Submit names, addresses and telephone numbers of at least 3 project managers or owners (not employed by Contractor) for whom Contractor has performed asbestos remediation jobs of similar size and character to the Work specified in this Contract.
- D. General: Submittal requirements listed below shall be approved by University's Hazardous Materials Consultant and approved by University's Representative prior to scheduling the start of Project Site Work. Submit the number of copies Contractor requires, plus 4 copies that will be retained by the University. Work shall not begin until such approval has been given, a **preconstruction meeting has been conducted** and a bound copy of Project submittal is placed at an easily accessible location at the Project site.
1. Notifications and Permits: Submit copies of all regulatory agency notifications and permits; including requirements of this specification for a Building Ingress and Egress Plan and the Hazardous Conditions Permit.
 2. Worker Training, Respiratory Fit Test, and Medical Certificates. Do not submit any documents that contain or show Employee full Social Security Numbers (SSN). If original documents do show the SSN, then remove or obliterate all but the last 4 digits before submitting copies.
 3. Employee Qualification Form: Fill out Employee Qualification & Asbestos Certification Form located at the end of this section.
 4. Training Certificates: For each employee who will be employed on the Project, submit a copy of each employee's DOSH asbestos training certification.
 5. Qualifications of person taking Personal Air Samples: Submit the qualifications of the person who will be responsible for collecting personal air samples (PCM) of Contractor's employees (DOSH Supervisor certification recommended).
 6. Respiratory Fit Test: For each Asbestos Worker employed on the Project, submit a copy of a fit test successfully passed within the previous 12 months.
 7. Physician's Certification of Medical Fitness: Submit evidence of each asbestos-trained Worker successfully passing a medical examination within the previous 12 months. The medical exam shall conform to the standards cited in Title 8 CCR, Section 1529, Appendices D and E.
 8. Respiratory Protection Program: Submit a copy of Contractor's written respiratory protection program.
 9. Medical Surveillance Program: Submit a copy of Contractor's written medical surveillance program.
 10. Safety Programs: On company letterhead, submit confirmation that Contractor has written safety programs for Injury Illness Prevention (mandatory for all projects), Hazard Communication (mandatory for all projects), Fall Protection (when applicable), Lock Out Tag Out (when applicable), and Confined Space (when applicable).
 11. Work Plan and Schedule: Submit proposed Work plan and schedule for accomplishing asbestos remediation activities. The Work plan shall be Project specific and address Project site preparation, site and engineering controls, Worker protection and exposure monitoring, and protection of building occupants from exposure to ACM at or above the permissible exposure limit. Work will not commence until Plan is reviewed and approved by the University's Representative **and the University's Hazardous Materials Consultant**.
 12. Product Data and Material Safety Data Sheets (MSDS): Submit copies of the manufacturers' material safety data sheets, **updated within the last 5 years**, for all products proposed for use on the Project. Copies shall be the latest available from the manufacturer.
 13. Laboratory Qualifications: Contractor shall submit evidence of certification and accreditation by the National Voluntary Laboratory Accreditation Program (NVLAP) for any laboratory performing PCM, PLM, or TEM sample analysis.
 14. HEPA Equipment Test: Submit copies of leak test results to the University's Representative and University's Hazardous Materials Consultant prior to starting Project site Work. Leak testing shall be performed on Project site. The leak-testing firm must be hired by, but independent from Contractor. Leak test results shall identify equipment by make, model and serial number. The leak testing firm shall affix a label to each piece of equipment tested indicating the test results, date of test and the individual conducting the test.

15. Emergency Contact List: Submit an emergency contact list; include name, phone number, fax number and pager number (and NEXTEL direct connect number if using NEXTEL equipment) for Contractor's supervisor or competent person who can be reached on a 24-hour basis.
16. Submit a Hazardous Waste Disposal Plan that includes estimated number of container(s), size of containers(s), hazardous material transporter name and disposal site using the Asbestos Waste Disposal Plan Form located at the end of this section, before start of work on project. The University's Representative will forward a copy to UCDEH&S–ESF Hazardous Waste Manifest Representative. Asbestos As-Built Summary: Submit Asbestos As-Built Summary located at the end of this section within 14 calendar days of the last day of field Work and prior to a request for final inspection. Include copy of Respirator Fit test, Medical Report, required Training Certificate of all who entered the containment and a copy of the sign in-out sheet.

1.6 CONTRACTOR QUALIFICATIONS

- A. Contractor performing asbestos remediation Work must be currently licensed by California Contractor State License Board with an Asbestos Certification.
- B. Contractor performing asbestos remediation Work must be currently registered with the California Department of Industrial Relations, Division of Occupational Safety and Health, Asbestos Contractor Registration Unit.
- C. Contractor's personnel performing Class I, II, III, or IV Asbestos Work shall meet the following training requirements, which exceed the standards in Title 8 CCR, Section 1529:
 1. Class I:
 - a. Supervisors and Workers – DOSH certified, supervisor 40-hour course and worker 32-hour course, administered by a DOSH accredited training provider.
 2. Class II:
 - a. Supervisors and Workers – DOSH certified, supervisor 40-hour course and worker 32-hour course, administered by a DOSH accredited training provider. Alternate DOSH certification in specific abatement activities may be permitted (i.e., roofing, flooring, etc.).
 3. Class III:
 - a. Supervisors and Workers must be DOSH certified, supervisor 40-hour course and worker 32-hour course, administered by a DOSH accredited training provider.
 4. Class IV:
 - a. Supervisor must be DOSH trained (40 hours, administered by a DOSH accredited training provider).
 - b. Workers entering a contaminated space, handling waste bags, vacuuming miscellaneous debris in an active abatement area must have the same level of training as the abatement workers.
 - c. Workers who incidentally touch, but do not disturb the asbestos matrix are required to have 16 hours of asbestos **Operations and Maintenance Training (O&M)** provided by a DOSH training provider.

1.7 RULES AND REGULATIONS

- A. Contractor shall comply with the most recent edition of applicable federal, state, local, and University standards specified herein, laws, codes and regulations. University standards may exceed other requirements.
- B. The list of regulators and regulations, cited below, serves as a reference for the most commonly used standards governing the asbestos industry:
 1. Federal Regulators and Regulations
 - a. EPA - Environmental Protection Agency
 - 1) 40 CFR, Part 763, Subpart E - AHERA
 - b. OSHA - Occupational Safety and Health Administration
 - 2) 29 CFR 1926.1101 - Construction Standard
 - 3) 29 CFR 1910.1001 - General Industry Standard

- 4) 29 CFR 1910.147 - Lock Out - Tag Out
- c. NESHAPS - National Emission Standards for Hazards Air Pollutants
 - 1) 40 CFR 61, Subpart M - Asbestos Emissions
 - 2) 40 CFR 61, Subpart A
- d. DOT - Department of Transportation
 - 1) 49 CFR 270-273
2. State Regulators and Regulations
 - a. COSHA - California Department of Occupational Safety and Health
 - 1) Title 8 CCR Section 1529 - Construction Asbestos Standard
 - 2) Title 8 CCR Section 3203 - Injury and Illness Prevention
 - 3) Title 8 CCR Section 5144 – Respiratory Protection
 - 4) Title 8 CCR Section 5157 - Confined Space
 - 5) Title 8 CCR Section 5194 - Hazard Communication
 - 6) Title 8 CCR Section 5208 - General Industry Asbestos Standard
 - b. DTSC - Department of Toxic Substance Control
 - 1) Title 22 CCR Sections 66261.24, 66268.7, 66268.114
 - c. CIWMB - California Integrated Waste Management Board
 - d. SWQCB - State Water Quality Control Board CCR, Title 23
 - e. CSLB - California State Licensing Board
 - 1) Business and Professional Code Section 7058.5
3. Local Regulators and Regulations
 - a. **[YSAQMD - Yolo-Solano Air Quality Management District] [Specify if other district]**
 - 1) Reg. IX, Rule 9.9
 - 2) Reg. IV, Rule 4.3
 - b. CARB Rules and Regulations.

1.8 NOTIFICATION AND PERMITS

- A. Contractor is responsible for notifying federal, state and local agencies, obtaining all required permits or extensions, and paying all related fees.
- B. UC Davis
 1. Refer to Section 01 41 00 Regulatory Requirements to obtain a Hot - Hazardous Material Permit from the UC Davis Fire Department. **This permit to be obtained by the University's Representative.**
 2. An Asbestos Waste Disposal Plan Form (located at the end of this section) shall be completed and submitted to the University's representative prior to the start of work. The University's Representative will submit this form to the UCDEH&S-ESF Hazardous Waste Manifest Representative for approval and assignment of Hazardous Waste Manifest number(s) to the project
- C. **Yolo-Solano County Air Quality Management District [Edit if other district]**
 1. **Provide 10 days notification to Yolo-Solano AQMD for any demolition or renovation job with RACM that exceeds a combined amount of 260 lineal feet, 160 square feet or 35 cubic feet.**
- D. NESHAPS
 1. Contractor does not need to notify NESHAPS separately from the **YSAQMD**, if they provide the required additional NESHAPS information on the **YSAQMD** form.
- E. CAL/OSHA (DOSH)
 1. Only DOSH registered Contractors are permitted to perform Class I and II Work at UC Davis.

1.9 UNIVERSITY CONTACTS

- A. University's Representative: **Name**
 1. Phone: (530) 754-XXXX

PROJECT TITLE
CONTRACT TITLE
UNIVERSITY OF CALIFORNIA, DAVIS
CITY, CALIFORNIA

PROJECT NO: 0000000
GRANT NO: 0000000

2. Fax: (530) 754-XXXX
- B. UCDEH&S Representative: Andrew Majewski
 1. Phone: (530) 754-8228
 2. Fax: (530) 752-4527
- C. UCDEH&S-ESF Hazardous Waste Manifest Representative
 - a. Dan Orovich, phone (530) 681-1851
 - b. Kevin Phelps phone (530) 681-1805
 - c. Jim Newman, phone (530) 681-1791
 2. Fax number for UCDEH&S-ESF Hazardous Waste Manifest Representative: (530) 752-2785
 3. E-Mail for UCDEH&S-ESF Hazardous Waste Manifest Representative:
hazwaste@ucdavis.edu
- D. University's Hazardous Material Consultant: Name
 1. Phone: (111) 111-1111
 2. Fax: (111) 111-1111
 3. Cell: (111) 111-1111
 4. Email: name@firm.com

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Surfactants
 1. Foster 32-90 or equal for amended water applications. H.B. Fuller Co., Foster Products Corporation, Vadnais Heights, MN manufactures the Foster product.
- B. Encapsulants
 1. The following products shall be applied using a brush or an airless sprayer. Contractor shall follow strict manufacturer's instructions regarding surface preparation, ambient air conditions, depth of material penetration, recommended thickness of a dry application, and curing time.
 - a. For penetrating and lockdown purposes use Foster 32-60 or equal.
 - b. For bridging purposes use Foster 32-32 or equal.
 - c. For high temperature applications, e.g., steam pipes, use Foster 84-18, or equal.
 2. Refer to Section 01 25 00 Substitution Procedures. Any proposed equal to the products listed above must meet the following criteria: non-toxic and non-irritating as defined by the Hazardous Substance Control Act; sufficiently tinted to provide contrast with the material being coated; and have a minimum 60 psi Batelle Standard impact rating. Submit product information to University's Representative to request approval by UCDEH&S.
 3. All products shall be rated UL Class A and have a flame resistance or spread rate less than or equal to 25 as designated by the ASTM code E 162.
- C. Polyethylene Bags and Sheeting
 1. Poly sheeting used for asbestos containments are required to be:
 - a. Six millimeters thick;
 - b. Meet or exceed the following standards - ASTM E-84, with a flame resistance or spread rate less than or equal to 25 ASTM (E-162).
 2. Poly-America or equal.
 3. The polyethylene sheeting used for containment or critical barriers shall be fire rated. Polyethylene bags or sheeting used for waste shall be clear.
- D. Adhesive Removers
 1. All adhesive removers shall meet the Hazardous Substance Control Act standards for non-toxic and non-irritating properties.

2. All adhesive removers shall be:
 - a. Non-flammable
 - b. Contain less than 1 Percent (by volume) any chlorinated hydrocarbon solvents.

2.2 EQUIPMENT

- A. HEPA filtered equipment, such as vacuums and negative air machines, must be leak tested in accordance with ANSI Z9.2 Standard. Test agent must be a non-hazardous substance. Equipment leak testing must be performed on-site by a firm hired by, but independent of Contractor.
- B. Tools and equipment shall arrive at the Project site free of asbestos debris and dust.
- C. HEPA equipment must be clean when arriving on Project site. All openings on the equipment must be taped shut until ready for operation.
- D. All electric tools and equipment shall be connected to a GFI.

PART 3 - EXECUTION

3.1 SAFETY

- A. In accordance with state, local and federal laws, Contractor shall be solely responsible for conditions of the Project site; including the safety of all persons and property during the performance of Work. To ensure effective communication in safety matters Contractor shall participate in and conduct the following meetings:
 1. University mandated pre-construction safety meetings include University's Hazardous Materials Consultant and the University's Representative. The following subjects shall be discussed: Special Construction Specifications; impact to building occupants; waste disposal, and Work related safety programs.
 2. On the first day of asbestos field Work, Contractor shall conduct a safety meeting (tailgate) for its employees which alerts them to the specific hazards of the Project. Contractor must conduct the safety meeting in the primary languages of its employees. If needed, more than 1 primary language presentation must occur. If non-English speaking workers are used, there must be a bi-lingual worker or supervisor within line-of-sight to facilitate clear communications.
 3. On a weekly basis, Contractor shall conduct a safety meeting with its employees.

3.2 WORK SITE PREPARATION

- A. Prior to beginning any on-site Work preparation, Contractor shall walk the Project area with the University's Representative and the University's Hazardous Materials Consultant to discuss site characterization, regulated area set-up, access controls, background samples, security, and safety issues.
- B. Post all regulatory notices, permits, sign in-out roster and air sample results at the primary entrance to the Project site.
- C. Contractor, in coordination with the University's Hazardous Materials Consultant shall ensure all electrical and HVAC equipment servicing the Work area is isolated and locked out. Electrical tools in the Work zone must be connected to a GFI.
- D. Contractor shall remove existing filters from the HVAC systems serving the Work area. Existing HVAC openings, windows, vents, open pipes, skylights, ducts, doorways, corridors, and diffusers shall be sealed with double layers of plastic and cardboard or plywood inserts as necessary.
- E. Contractor shall pre-clean. The area to be pre-cleaned will be a minimum of 10 feet outside the NPE or surrounding structure which ever is closest and sufficient to attain clearance sampling results of 70 structures per mm² by TEM (<0.01 f/cc by PCM alternate when approved). Contractor shall pre-clean exposed fixed objects, grates, and interior surfaces within the containment.
- F. Contractor shall install approved backflow prevention devices before connecting to the University's domestic water system. Contact the University's Representative for a list of approved devices.

- G. Contractor is obligated to coordinate inspection schedules with the University's Hazardous Materials Consultant.
- H. All Class I, II, III, and IV Work shall be conducted within a regulated area per Title 8 CCR Section 1529.
- I. When requested by the University's Representative and University's Hazardous Materials Consultant, Contractor shall establish Project site control barriers.

3.3 WORK SITE CONTROL

- A. Contractor shall restrict the Work areas to authorized personnel; including, Contractor's employees, University's Representative, University's Hazardous Materials Consultant, and regulatory agency representatives.
- B. At regulated Project sites, Contractor shall use caution tape to demarcate the boundary of the Work zone and post 2 types of warning signs.
 - 1. The first sign is required by Title 8 CCR 1529:

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

- C. The second sign is required by [Yolo-Solano Air Quality Management District (Rule 9.9 301.5)] [Edit if other district]:

CAUTION
ASBESTOS DUST HAZARD
AVOID BREATHING DUST

- D. All unauthorized personnel are to remain outside the regulated area. Contractor shall call the University's Representative and University's Hazardous Materials Consultant about problem situations.
- E. If inclement weather threatens any portion of the Project site (interior, exterior or roof), Contractor shall take all necessary measures to ensure asbestos-contaminated debris does not migrate from regulated areas.
- F. If wind speed threatens any portion of the Project site (interior, exterior or roof), Contractor shall erect a wind barrier or suspend operations until the wind is below 15 mph.

3.4 RECORDKEEPING

- A. Contractor shall maintain the following records at the regulated Work area and copies are to be provided in the "As-Built" summary at the end of the job:
 - 1. Site Log (sign-in and sign-out).
 - 2. Incident Log and Emergency Action Plan.
 - 3. Personal air sampling results.
 - 4. Area sample results from inside and outside the regulated area.
 - 5. Supervisor (Contractor) and Worker DOSH training certificates, fit tests, and medical clearance certificates.
 - 6. Material Safety Data Sheets for the products in use or proposed for use.
 - 7. [Yolo-Solano AQMD notification] [Edit if other district].
- B. The University's Hazardous Materials Consultant will retain all records of wipe, bulk, initial, area (perimeter), and clearance samples. Results are reported on a daily basis, via e-mail, to the University's Representative. At the end of the Project, all sampling records are reviewed by

University's Hazardous Materials Consultant and submitted as a complete package in the Project **Close Out**.

3.5 ADMINISTRATIVE CONTROLS

- A. Remediation Projects performed in high heat environments require Contractor to provide sufficient breaks to maintain a safe environment for their Workers.

3.6 ENGINEERING CONTROLS

A. Negative Pressure Enclosure (NPE)

1. A negative pressure enclosure is required when ACM or PACM is friable or could become friable during the removal process. After approval by the University's Representative and University's Hazardous Materials Consultant, non-friable material that remains non-friable during the removal process does not require a negative pressure enclosure.
2. There are 3 possible negative pressure enclosures systems for the Project: full containment; mini-containment and glove bag.
3. Full containment requires Contractor to comply with all provisions in Title 8 CCR 1529 and **[YSAQMD Rule 9.9]**. The following items are provided as a reminder of key elements and are not meant to be comprehensive: walls-2 layers of 6 mil polyethylene sheeting, floors - 2 layers 6-mil polyethylene sheeting; 3 stage decontamination unit with shower; sufficient negative pressure to maintain -0.02 inches of water column pressure; one air change every 5 to 15 minutes; viewing port; NPE is smoke tested; manometer alarm, and emergency response protocols.
4. The containment for the removal of floor tile, mastic and cove base mastic requires the following items that are provided to be a reminder of key elements and are not meant to be comprehensive: walls-1 layer of 6 mil polyethylene sheeting shall be attached three (3') up from the top of the cove base and utilized as a splash guard for the removal of the cove base mastic (3D scrape), floor tile and floor tile mastic; 3 stage decontamination unit with shower; sufficient negative pressure to maintain -0.02 inches of water column pressure; one air change every 5 to 15 minutes; viewing port; NPE is smoke tested; manometer alarm, and emergency response protocols.
5. Mini-containments: The construction of a mini-containment requires 2 layers of 6-mil polyethylene minimum of 1 chamber, a HEPA vacuum exhausting the chamber, the chamber shall be affixed to the area to be abated and smoke tested. Comply with all mini-containment requirements as stated in Title 8 CCR 1529. Single chamber containments may be used to access positive pressure environments for Class III Asbestos Work.
6. Glove bag jobs shall comply with the provisions in Title 8 CCR 1529. The type of glove bag must correspond to the type of activity; e.g., angle glove bags for curved pipe sections, vertical glove bags for vertical pipe, etc. Glove bags must be smoke tested and a HEPA vacuum device shall be attached.

B. HEPA Equipment

1. Contractor shall ensure all HEPA filtration units are leak tested on Project site. Each piece of equipment shall be tested in compliance with the ANSI Z9.2 Standard.
2. Contractor shall HEPA vacuum visible debris prior to set-up, during the removal process and at the conclusion of each shift.
3. HEPA equipment used to establish negative air pressure within a space must run the exhaust outside the building and remain on 24 hours a day until the Project is complete. Contractor shall ensure make-up air is drawn through an inlet that self-seals in the event negative air pressure is lost. The inlet sealing method must also be effective when there is a failure in the system after normal working hours.
4. Contractor shall ensure make-up air is drawn through an inlet that can be easily sealed in the event of a negative air failure. The inlet sealing method must also be effective when there is a failure in the system after normal working hours.
5. All HEPA filters must be disposed of as asbestos waste.

C. Wet Methods

1. Prior to removing ACM/PACM, Contractor shall adequately wet the material with an approved surfactant using an approved method. Refer to [YSAQMD Rule 9.9 and] the EPA publication Asbestos/NESHAPS Adequately Wet Guidance for proper techniques. During and after removal, the waste must remain adequately wet.

D. Removal Operations

1. Contractor must have its Competent Person on-site during the removal of any RACM per [Yolo-Solano Air Quality Management District Rule 9.9, 310.10].
2. During gross removal operations, keep the waste wet, continually bag the waste, and ensure all accumulated debris is completely sealed by the end of the shift. After gross debris is bagged, use wet wipe methods and HEPA vacuums to clean the polyethylene sheeting.

3.7 WORKER PROTECTION

A. The following protective measures are required for asbestos-related Work associated with this Project:

1. Employee Training and Supervision
 - a. Contractor shall provide information to its employees about asbestos and other hazards per the Hazard Communication standard (Title 8 CCR 5194).
 - b. An accredited DOSH course provider must train asbestos workers and supervisors.
2. Respiratory Protection
 - a. Contractor shall provide respiratory protection to all employees where there is the potential for exposure to asbestos dust at or above the permissible exposure limit. Respiratory protection shall be provided at no cost to Contractor's employees.
 - b. Contractor's employees who wear a respirator must have passed a fit test within the previous 12 months (Title 8 CCR 1529) to perform contract work.
 - c. Workers utilizing respirators shall have removed any facial hair that impedes the seal of the respirator facepiece to the face. Goatees and beards are prohibited.
3. Protective Clothing
 - a. Contractor shall provide workers and authorized visitors with sufficient sets of protective clothing whenever there is potential exposure to asbestos dust or disturbance of ACM/PACM. Tyvex, Kleenguard coveralls or equal with attached hood and feet are acceptable. Contractor shall provide coveralls to Contractor's employees, University's Representative and staff, State, and local officials at no additional cost to the University.
 - b. Contractor shall provide rubber, nitrile or latex gloves, rubber boots, eye protection, earplugs and hard hats as needed per the Title 8 CCR Hazard Communication and Personal Protection Equipment standards.
4. Medical Surveillance
 - a. As required by 8 CCR 1529, Contractor shall establish a medical surveillance program for all employees performing Asbestos Work.
 - b. Contractor shall provide copies of the physician's written opinion for each employee who works on the campus (8 CCR 1529).
 - c. All of Contractor's Asbestos Workers and supervisors must pass the medical, FVC, FEV1 and chest x-ray examinations prior to working on the Project.

3.8 PERSONAL HYGIENE

- A. Contractor shall require that no employee be allowed to apply cosmetics, consume food, tobacco products, or beverage in the regulated Work area or any part of the building scheduled for asbestos remediation operations.
- B. Contractor shall establish a location outside the Work area, which shall be designated for employee eating and drinking. Employees must utilize the on-site decontamination facilities prior to entering the designated eating and drinking location.

3.9 AIR MONITORING PROGRAM

A. Personal Air Samples - Contractor Responsibility

1. Contractor must presume Class I, II, and III Asbestos Work shall exceed the PEL. Contractor must perform both 30-minute excursion and 8 hour time-weighted average personal air sampling, unless a negative exposure assessment has been established at this location. Minimum air volume for personal air samples (8 hr TWA) shall be 400 liters.
2. Contractor shall perform personal air sampling on a minimum of 25 Percent of the work force performing like tasks (Title 8 CCR 1529). Sample results shall be e-mailed to the University's Representative within 24 hours of shift end.

B. Area Sampling – University's Hazardous Materials Consultant

1. Daily Perimeter Monitoring.
 - a. The University's Hazardous Materials Consultant is responsible for perimeter monitoring outside the regulated areas. If any sample exceeds 0.1 f/cc the University's Hazardous Materials Consultant shall halt Work and notify the University's Representative. Work can resume when Contractor has identified and corrected the Work practice.
2. Daily Monitoring.
 - a. The University's Hazardous Materials Consultant is responsible for monitoring air quality (PCM) within the regulated area, including the clean room. Any sample at or above 0.1 f/cc in the clean room requires a cessation of Work until the area is cleaned and the cause of the problem has been determined and solved. Contractor shall wipe down the clean room and prepare the area for re-sampling by the University's Hazardous Materials Consultant. Air samples in the Work zone that exceed the protection level of a respirator require a cessation of activity. Contractor's Competent Person and the University's Hazardous Materials Consultant shall review Work practices.

3.10 SPECIFIC WORK PROTOCOLS

- A. Approved Work Plan will identify Contractor's specific work protocols for each different type of work and work method.

3.11 INSPECTIONS

A. Inspection Responsibilities - Contractor

1. Prior to beginning any asbestos-related Work, Contractor's asbestos supervisor shall inspect the regulated Work areas for any building damage, hazardous conditions, and irregularities that may contribute to an unsafe Work environment. Any condition that poses a hazard or potential hazard to Contractor's employees or the University's community must be immediately reported to the University's Representative and the University's Hazardous Materials Consultant.
2. Contractor is responsible for monitoring and enforcing all requirements of this specification.
3. Contractor is responsible for notifying and allowing sufficient time for the University's Hazardous Materials Consultant to conduct inspections at all phases of the Project.
4. Contractor shall establish emergency response protocols for a manometer alarm sounding after they have left the Project site. Under no circumstances shall Contractor shut off negative air machines, unless the Project has received final clearance.

B. Inspection Responsibilities – University's Hazardous Materials Consultant

1. The University's Hazardous Materials Consultant shall walk the Project site with Contractor to verify pre-cleaning operations and any safety or security issues. The University's Hazardous Materials Consultant shall attend Contractor's safety meetings.
2. After Contractor has completed set-up and before commencing remediation operations, the University's Hazardous Materials Consultant shall check the following items for completeness: regulated area is demarcated and posted, permits are posted, poly sheeting is 6 mil, all HEPA equipment is leak tested, electrical tools are connected to GFI, HVAC is shut off and all ports blocked with 6 mil polyethylene, electrical panels are tagged and locked out, electrical outlets

are sealed with 6 mil poly, a fire extinguisher is available inside and outside the containment, and water connections are made with a back flow prevention device. If a NPE is used: Contractor shall maintain a minimum of -0.02 inches of water pressure; the manometer alarm is to remain on until clearance is achieved; one air change every 5 to 15 minutes; 3 stage decontamination is established; air flow is correct as verified by smoke tests, and the shower is functioning with hot and cold water.

3. Prior to asbestos remediation activities, the University's Hazardous Material Consultant shall match on-site personnel with asbestos training certificates, fit tests and medical exam records. Workers without on-site documentation shall not be allowed in the regulated area.
4. The University's Hazardous Materials Consultant is responsible for:
 - a. Reviewing all bulk, background, area and personal samples;
 - b. Alerting the UCDEH&S Representative of any sample result exceeding 0.1 f/cc.
5. During remediation activities, the University's Hazardous Materials Consultant shall check for the following: all personnel are signing in and out of containment, wet methods are being used, debris is collected at the end of each shift, Workers are properly attired and wearing respirators, Work is performed in a safe manner, and an emergency exit is demarcated. The asbestos waste may remain inside the containment, provided access controls are secure. If Contractor cannot guarantee access control, the asbestos waste must be secured in a locked storage container. The University's Hazardous Materials Consultant must file a daily asbestos report with the University's Representative.
6. After remediation activities are complete and before lockdown or encapsulant is sprayed, the University's Hazardous Material Consultant shall verify: completeness of remediation Work; all visible debris is removed, approved lockdown or encapsulants are being used; application amount meets manufacturer specifications, and overspray is controlled.
7. If clearance is not achieved, the University's Hazardous Material Consultant shall inform the University's Representative and instruct Contractor to re-clean the regulated work area. After the area is re-cleaned the University's Hazardous Materials Consultant shall re-sample the regulated area. This process shall continue until the clearance criteria are satisfied. The cost of re-cleaning areas and clearance testing that fails clearance testing will be borne by Contractor.

3.12 ENCAPSULATION, FINAL CLEAN-UP AND RESTORATION

A. Encapsulation

1. After all waste is removed, wash down all interior surfaces, equipment and supplies.
2. HEPA vacuum the entire Work space, including, walls, floors and ceiling.
3. Clean and remove all equipment and supplies.
4. Using an approved encapsulant, spray all surfaces at the manufacturer's pressure and application rates.

B. Final Clean-Up

1. After the encapsulation is dry and clearance has been achieved, remove both layers of polyethylene sheeting and dispose as asbestos waste.
2. Remove critical barriers, negative pressure enclosures, and other sealed openings (HVAC ducts, etc.) as asbestos contaminated waste.

C. Restoration

1. Fixtures, equipment or objects relocated to storage areas designated by the University's Representative shall be restored to their exact original position. Contractor assumes full financial responsibility for damage to these objects.

3.13 HAZARDOUS WASTE DISPOSAL

- A. Contractor shall submit Asbestos Waste Disposal Plan Form (AWDP) located at the end of this section to the University's Representative prior to the start of work on the project. The University's Representative will forward the form to the UCDEH&S-ESF Hazardous Waste Manifest

Representative. After reviewing the AWDP form, a UCDEH&S-ESF Representative shall issue a Uniform Hazardous Waste Manifest number to Contractor. A single Uniform Hazardous Waste Manifest Number will be issued per drop box. Contractor's failure to submit this form will result in:

1. A Uniform Hazardous Manifest Number will not be assigned to the Project; and,
2. Contractor shall assume all fines and penalties imposed by the responsible agency.

B. Packaging Asbestos Waste

1. All asbestos containing waste material must be packaged in 1 of 3 ways:
 - a. Placed in 2 clear 6 mil polyethylene bags;
 - b. Placed in sealed drums (DOT approved); or,
 - c. Double wrapped in (AKA "burrito style") in opaque 6-mil polyethylene sheeting.
 - d. For Options "a" and "c" above, wet wipe the outer surface before storing material.

C. Labeling Asbestos Waste

1. Each bag, drum, or "burrito" wrap shall have a label affixed with the following information:
 - a. Hazardous waste warning;
 - b. Generator's name, address, and phone number;
 - c. Location information, e.g., Building, department, room;
 - d. Manifest document number, and
 - e. Date.
2. Contractor shall complete the Asbestos Hazardous Waste Bag or Drum Label located in at the end of this section. This is required in addition to all rules for large containers that the bags or drums may be placed within.

D. Storing Asbestos Waste

1. At the end of each shift, all asbestos waste shall be stored in a lockable container or shipped off site. Accumulated waste shall not be allowed to remain in the regulated Work area overnight. No container shall be allowed to remain on campus for greater than 90 continuous days from date the first bag was stored.

E. Uniform Hazardous Waste Manifest Procedures

1. Prior to transporting waste from the campus to a disposal facility, the Contractor shall contact UCDEH&S Hazardous Waste Manifest Representative at least three business days prior to the intended shipping date. A date and time will be arranged for the shipment of the waste. The UCDEH&S Hazardous Waste Manifest Representative will bring all required shipping papers to the jobsite on the date of shipment. Only authorized UCDEH&S personnel can sign a hazardous waste manifest on behalf of the UC Davis campus (generator). EH&S will be the office of record for all hazardous waste shipments from the campus. EH&S will also make any notifications of shipments required of hazardous waste generators.

F. Transporting Asbestos Waste

1. A registered waste transporter, hired by Contractor, is responsible for transporting asbestos waste from the campus to the Altamont landfill, an EPA/DTSC/CIWMB certified disposal facility. The transporter must make pick-ups during normal Working hours -- 8:00 a.m. to 5:00 p.m., Monday through Friday. The transporter's vehicle must be clearly marked with warning signs as stated in the [YSAQMD Rule 9.9]. To avoid illegal transport of asbestos waste, Contractor is responsible for knowing if the Project site is contiguous with the main campus. If Contractor must cross public streets to load asbestos waste in the campus containers, Contractor must comply with [YSAQMD Rule 9.9] and DOT requirements for their vehicles.

G. Disposal

1. All hazardous asbestos waste must be disposed of at the Altamont landfill site. Non-hazardous asbestos may be disposed at any licensed facility. Hazardous and non-hazardous asbestos waste shall be stored in separate containers.

2. Contractor shall provide weight slips and verification of the hazardous waste disposal site to the University's Representative within 15 days of each shipment. Each weigh slip will be copied by the University's Representative and sent to the UCDEH&S-ESF Hazardous Waste Manifest Representative.

H. Recordkeeping

1. Contractor shall provide the University's Representative and the University's Hazardous Materials Consultant with copies of all asbestos waste disposal documents.

I. Fees

1. Contractor is responsible for all fees and charges related to asbestos waste transport and disposal operations; including, waste stream profiles. Asbestos content shall be determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy. If the asbestos content is less than 1 percent, additional verification shall be made using the point counting method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1.7.2.4, Polarized Light Microscopy, Quantification of Asbestos Content. All ACM containing **greater than** 1 percent will be deemed hazardous for waste stream identification purposes.

J. Non-Hazardous Waste Manifest

1. University's Representative or designee is responsible for signing non-hazardous waste manifests on behalf of the University. Prior to signing the manifest, the University's Representative shall inspect the load, secure the transporter's signature, and collect a copy of the form. The UCDEH&S-ESF Hazardous Waste Manifest representative not needed to sign a non-hazardous waste manifest.

3.14 CLEARANCE PROTOCOL

A. Remediation Projects

1. "Abatement/removal"-After lockdown/encapsulant is settled and dry, use electric fans or leaf blowers to circulate the air within the negative pressure enclosure (referred to as the aggressive method). Aggressive sampling methods are only permitted where a complete removal of ACM/ACBM has been accomplished and the area has passed a visual inspection.
2. Contractor may initially elect to sample with PCM to get a rough indication of the level of air quality.
3. To pass clearance, Contractor must comply with 40 CFR Part 763, Appendix A to Subpart E TEM analytical methods. When approved in advance, PCM clearance at <0.01 f/cc may be used with a minimum air volume of 1,200 liters.
4. The University's Hazardous Materials Consultant following EPA guidelines, shall select the total number of clearance samples needed, number of blanks, location of samples, and volume rate requirements.
5. Any sample result exceeding 70 structures per millimeter squared requires Contractor to re-clean at no additional expense to the University.
6. Exception: Since roofing jobs are not conducted within a negative pressure enclosure, representative sampling, using PCM, is collected downwind from the Project

3.15 PROJECT CLOSE OUT

A. Before the certificate for payment for work covered by this section is issued to Contractor the following information shall be provided to the University's Representative:

1. Provide "As-built" summary using the Asbestos As-Built Summary located at the end of this section, to include:
 - a. Contractor's name, address, CSLB certification number, DOSH registration number, and tax identification number.

PROJECT TITLE
CONTRACT TITLE
UNIVERSITY OF CALIFORNIA, DAVIS
CITY, CALIFORNIA

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- b. Name of hazardous materials transporter, address, phone number and registration number.
- c. NVLAP laboratory name(s), address(es), and phone number(s) used to perform PCMs, TEMs, or PLMs.
- d. Building owner's name.
- e. Building name and campus address
- f. Project name and contract number
- g. Describe scope of Work; including, location (room numbers, approximate square footage, building system types).
- h. Provide an inventory of the ACM/PACM removed from the Project site. Include; building system, class(es), quantity, note whether the Project was remediation (interim-controls) or abatement (complete removal, in the work area), note whether the building system(s) was replaced (use yes or no), and the percentage of the total contract each building system abated or managed in-place represents.
- i. Total dollar amount paid by the University for asbestos-related Work including invoice date(s) and date(s) payment received.
- j. Number of employees who worked on the Project and information as identified in Recordkeeping paragraph in this Section.
- k. Date on-site Work began.
- l. Date on-site Work was completed.
- m. Work methods
- n. Did the University provide specification (answer yes or no)
- o. Name, address, phone number and EPA registration number of waste disposal site.
- p. All weigh slips shall be provided as required in the "WASTE DISPOSAL" article of this specification.

B. Documentation

1. Contractor shall provide copies of all laboratory reports Asbestos Work protocols, and disposal documents requested by the University's Representative.

END OF SECTION 02 82 00

PROJECT TITLE
 CONTRACT TITLE
 UNIVERSITY OF CALIFORNIA, DAVIS
 CITY, CALIFORNIA

PROJECT NO: 0000000
 GRANT NO: 0000000

EXHIBIT 20 EMPLOYEE QUALIFICATION & ASBESTOS CERTIFICATION FORM

Project Title: <u>Project Title Contract Title</u>	Project No.: <u>0000000</u>
Name of Firm Performing Work: _____	Project Duration: _____ To: _____
	Prepared By: _____ Date: _____
	Certified By: _____ Date: _____

No.	Name of Employee	DOSH Training Certification		Medical Fitness Certification (Exp. Date)	Respiratory Fit Test (Current within 12 months)	Remarks
		Exp. Date	Supervisor/Contractor - SC Worker - W			
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

PROJECT TITLE
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EXHIBIT 21 ASBESTOS WASTE DISPOSAL PLAN FORM

Submit the following to University's Representative for this project along with other required submittals *before* beginning work. The University's Representative must forward a copy to the Waste Manifest Representative. The contractor shall call the Waste Manifest Representative at least 3 full business days in advance of shipment date (i.e., Call on Tuesday for a Friday shipment; Call Thursday for a Tuesday shipment, etc.).

University's Representative: _____

Project Description: _____

CONTRACTOR

Company Name: _____

Street Address: _____

City, State, Zip: _____

Telephone Number: _____

Contact Person: _____ Title: _____

Telephone Number: _____

DISPOSAL SITE

Name: _____

Street Address: _____

City, State, Zip: _____

Telephone Number: _____ EPA Identification Number: _____

TRANSPORTER

Name: _____

Street Address: _____

City, State, Zip: _____

Telephone Number: _____ EPA Identification Number: _____

WASTE INFORMATION (ANTICIPATED # OF BINS, VOLUME, ETC)

Type of Container (Bags, Rolloff Box, Drum, etc.): _____

Number of Containers: _____

Total Volume (Cubic Yards): _____ Total Weight (Pounds): _____

Description of Waste (Lagging, Floor Tile, Plastic, etc.): _____

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UNIVERSITY OF CALIFORNIA, DAVIS
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PROJECT NO: 0000000
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EXHIBIT 21A - ASBESTOS HAZARDOUS WASTE BAG OR DRUM LABEL

State and Federal Law prohibits improper disposal. If found, contact the nearest police, or public safety authority, or the California Department of **Public** Health.

Generator's Name: University of California

Address: Davis, CA 95616 Phone: (530) 752-1493

CONTRACTOR TO COMPLETE THIS PORTION

Bldg/Facility: _____ Zone Number: _____

Manifest Tracking Number: _____
(From Box 4 on Manifest Form)

Waste Accumulation Start Date: _____
(month/day/year)

Each bag/drum must have one of these labels with the proper manifest number and date.

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 CONTRACT TITLE
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EXHIBIT 22 - ASBESTOS AS-BUILT SUMMARY

Contractor's Name: _____
 Business Address: _____
 Business Phone No.: _____
 DOSH Registration No.: _____
 Tax I.D. No.: _____

Hazardous Waste
 Hauler:
 Business Address: _____
 Business Phone No.: _____
 Registration No.: _____

Asbestos Laboratory:
 Business Address: _____
 Business Phone No.: _____
 ELAP Certification No.: _____
 NVLAP Certification No.: _____

Building Owner's Name: _____
 Building Name: _____
 Campus Address: _____

INVENTORY						
Building System Type	ACM Type	Quantity	Abatement or In-Place Management	Material Replaced?	Percentage of Asbestos Job	Cost

Total Dollar Amount Paid by University for Asbestos Work: \$

Invoice No.: _____ Invoice Date: _____

Invoice No.: _____ Invoice Date: _____

Number of Employees Working at Asbestos Project Site: _____

Date Site Work Began: _____ Date Site Work Completed: _____ Total Work Days: _____

Work Method: _____

Did University provide specifications? Yes No

Waste Disposal Site Name: _____

Business Address: _____

Business Phone No.: _____ EPA Registration No.: _____

Copies of all hazardous waste weigh slips from disposal site have been forwarded to University
 Yes No. If no, attach copies.