

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

SECTION 02 83 00 LEAD REMEDIATION

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Work Included - General

1. Provide all labor, material, equipment, services, testing, employee training, fit test, medical exams, transportation, and consumables 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 section. University standards may exceed other requirements out-lined above.
3. Contractor shall guard against unnecessary disturbances or damage to 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 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 lead removal and management necessary to perform required scope of work, without any additional cost to the University.
2. Contractor shall submit for University approval, a Lead Work Plan and Schedule outlining necessary Lead removal and management work. Work Plan shall include work practices and procedure 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 requirements of this section.
3. This remediation is [interim controls] [abatement/removal].
4. Refer to Table 1 below for material to be remediated.

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

1.2 SITE CHARACTERIZATION

THE SURVEY REPORT SHOULD BE INCLUDED IN THE INFORMATION AVAILABLE TO BIDDERS SECTION OF THE BID DOCUMENTS.

- A. A California Department of Public Health (CDPH) lead-certified field technician conducted site surveillance for the University. Materials found or presumed to contain lead at this Project site are listed in Table 2 below. Note: Table 2 is a list of lead containing materials sampled at various locations throughout the project. For the complete scope of work, Contractor shall refer to the [Hazardous Materials,] [Architectural,] [Plumbing,] [Mechanical] and [Electrical] demolition drawings

for the approximate locations of the materials requiring interim controls or abatement. Refer to the Building Survey Report, included in the Information Available to Bidders [for Design Build projects change to University Provided Information].

TABLE 2 - LEAD CONTAINING MATERIALS (LCM)					
Building	Building System Type	Percent Lead	Quantity (Approx.)	Location	Consultant

- B. Hazardous materials, other than LCM/PLCM that have the potential to be disturbed at this Project site are listed in the table 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). Refer to other related Hazardous Materials sections.

1.3 ABBREVIATIONS AND DEFINITIONS

- A. Abbreviations

AA	Atomic Absorption – Flame (EPA SW-846)
AIHA	American Industrial Hygiene Association
AL	Action Level (30 µg/m ³ per 8 hour TWA)
BLL	Blood Lead Level
CDPH	California Department of Public Health (formerly California Department of Health Service (DHS))
CEPA	California Environmental Protection Agency
CFR	Code of Federal Regulations
CSLB	Contractor's State Licensing Board
DIR	Division of Industrial Relations
dL	Deciliter
DOSH	Division of Occupational Safety and Health
DOT	Federal Department of Transportation
DTSC	California Department of Toxic Substances
ELLAP	Environmental Lead Laboratory Accreditation Program
ELPAT	Environmental Lead Proficiency Analytical Testing Program
FVC	Forced Vital Capacity
FEV ₁	Forced Expiratory volume at 1 second

HUD	Housing and Urban Development
HVAC	Heating, Ventilation, and Air Conditioning
LBP	Lead Based Paint (paints, varnish, shellac, etc.)
LCM	Lead Containing Material
µg	Micro gram
MSDS	Material Safety Data Sheets
NAAQS	National Ambient Air Quality Standards
NAM	Negative Air Machine
NESHAPS	National Emissions Standard for Hazardous Air Pollutants
NPE	Negative Pressure Enclosure
PEL	Permissible Exposure Limit (50 µg/m ³ 8 hr. TWA)
PLCM	Presumed Lead Containing Material
PPE	Personal Protection Equipment
RCRA	Resource Conservation and Recovery Act
STLC	Soluble Threshold Limit Concentration
TCLP	Toxicity Characteristic Leaching Procedure
TTLC	Total Threshold Limit Concentration
TSP	Tri Sodium Phosphate
TWA	Time Weighted Average
XRF	X-ray fluorescence
ZPP	Zinc Protoporphyrin

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

1. ABATEMENT Removal of all lead in the entire building (> 20 years).
2. ABATEMENT/REMOVAL As used here it refers to activities where removal is the abatement method chosen.
3. INTERIM CONTROLS Removal at specific locations to accommodate remodel < 20 years.
4. The definition of lead contaminated materials complies with Cal/OSHA, OSHA, CalEPA, EPA, HUD and CDPH.
5. Competent Person or Lead Supervisor: One who is certified as a Supervisor by the California Department of Public Health and is capable of identifying existing and predictable lead hazards in the surroundings or working conditions and has authorization to take prompt corrective measures to eliminate them.

1.4 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 lead remediation jobs of similar size and character to the Work specified in this Contract.
- D. General: Submittal requirements listed below shall be completed and accepted 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 section for a Building Ingress and Egress Plan and the Hazardous Conditions Permit Part 9, California Fire Code. Permit to be obtained by University's Representative.
2. Worker Training, Respiratory Fit Test, Blood Test Results and Medical Certificates. The University's Hazardous Materials Consultant will review these documents before the worker may enter the regulated area. Do not submit any documents that contain or show Employee's full Social Security Number (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 & Lead 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 lead training certification.
5. Qualifications of person taking Personal Air Samples: Submit a copy of the field technician's CDPH certificate (Certified Supervisor, Project Monitor, or Air Sampling Technician) that will be collecting personal air samples.
6. Respiratory Fit Test: For each Lead 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 lead-trained Worker successfully passing a medical examination within the previous 12 months. The medical exam shall conform to the standards cited in 8 CCR, Section 1532.1(j).
8. Submit the latest Blood Lead Level (BLL) and Zinc Protoporphyrin (ZPP) results for each worker.
9. Respiratory Protection Program: Submit a copy of Contractor's written respiratory protection program.
10. Medical Surveillance Program: Submit a copy of Contractor's written medical surveillance program.
11. 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).
12. Work Plan and Schedule: Submit proposed Work plan and schedule for accomplishing lead 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 LCM at or above the action level. Schedule of work must be submitted and approved before work begins. University's Representative will forward a copy to University's Hazardous Material Consultant for review prior to commencement of work.
13. 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.
14. Laboratory Qualifications: Any laboratory performing FAA (flame atomic absorption), TCLP, STLC or TTLC for Contractor shall submit evidence of ELLAP and ELPAT certification and accreditation. The laboratory shall be required to provide results via e-mail using Adobe Acrobat format.
15. HEPA/ULPA Equipment Test: Submit copies of Leak test results to the University's Representative prior to starting Project site Work. Leak testing shall be performed at the Project site. The Leak test results shall identify equipment by make, model and serial number.
16. Emergency Contact List: Submit an emergency contact list; include name, phone number, fax number and pager number for Contractor's supervisor or competent person who can be

reached on a 24-hour basis. If Contractor utilizes Nextel, also provide the direct connect number(s).

17. Hazardous Waste Disposal Plan: Submit a Hazardous Waste Disposal Plan that includes estimated number of containers, size of container(s), hazardous material transporter name and disposal site using the Lead Waste Disposal Plan Form, located at the end of section before start of project. The University's Representative will forward a copy to UCDEH&S-ESF Hazardous Waste Manifest Representative.
18. Lead As-Built Summary: Submit a Lead As-Built Summary form, located i at the end of section, within 14 calendar days of the last day of field Work and prior to a request for final application for payment. 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.

1.5 RULES AND REGULATIONS

- A. Contractor shall comply with the most recent edition of applicable **federal, state**, local, laws, codes and regulations and these specifications. Understand that the University's requirements may exceed the requirements out-lined above. Contractor performing work found out of compliance with applicable **federal, state**, local, and University requirements, laws, codes and regulations, shall bear full legal and financial responsibility for the violations.
- B. The list of regulators and regulations, cited below, serve as a reference for the most commonly used standards governing the lead industry:
 1. Federal Regulators and Regulations
 - a. EPA - Environmental Protection Agency
 - 1) 40 CFR Part 261 et al. - Resource Conservation and Recovery Act
 - 2) Title X - Residential Lead Poisoning Prevention Act
 - 3) National Ambient Air Quality Standards
 - b. OSHA - Occupational Safety and Health Administration
 - 1) 29 CFR 1926, Section 62 - Construction Standard
 - 2) 29 CFR 1910.1025 - General Industry Lead Standard
 - 3) 29 CFR 1910.147 - Lock Out - Tag Out
 - c. DOT - Department of Transportation
 - 1) 49 CFR Parts 173, 178 and 179
 2. State Regulators, Laws And Regulations
 - a. Cal/OSHA - California Division of Occupational Safety and Health
 - 1) Title 8 CCR Section 1532.1 - Construction Lead Standard
 - 2) Title 8 CCR Section 5216 - General Industry Lead Standard
 - 3) Title 8 CCR Section 5194 - Hazard Communication
 - 4) Title 8 CCR Section 5157 - Confined Space
 - 5) Title 8 CCR Section 3203 - Injury Illness Prevention
 - 6) Title 8 CCR Section 5144 - Respiratory Protection
 - b. DTSC - Department of Toxic Substance Control
 - 1) (Health and Safety Code Chapter 6.5 Hazardous Waste Control, Article 6 Transportation and Article 6.5 Hazardous Waste Haulers
 - 2) CCR, Title 22, Division 4, Sections 66000,et al.
 - c. CIWMB - California Integrated Waste Management Board
 - d. California Department of Public Health
 - 1) CCR, Title 17, Division 1, Chapter 8
 - e. SWQCB - State Water Quality Control Board CCR, Title 23
 - f. CSLB - California Contractors State License Board
 - g. Health and Safety Code 25157.8 (AB 2784 Natural Resources)

1.6 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. **Permit to be obtained by University's Representative.**
2. A Lead 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 Air Quality Management District] [Other District]** has no notification requirements unless entire structure is demolished.

D. DOSH (Cal/OSHA) requires a 24-hour notification for lead-based paint disturbances over 100 square feet in accordance with Title 8 CCR 1532.1, subsection (p).

1.7 UNIVERSITY CONTACTS

A. University's Representative: **Name**

1. Phone: **(530) 75X-XXXX**
2. Fax: **(530) 75X-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:

1. Contact one of the following by phone or e-mail address for the 3 Business day notification and manifest signature on the day of waste transportation.
 - a. Jim Newman, phone (530) 681-1791
 - b. Dan Orovich, phone (530) 681-1851
 - c. Kevin Phelps, phone (530) 681-1805
2. Fax number for the UCDEH&S –ESF Hazardous Waste Manifest Representatives: (530) 752-2785
3. Electronic Mail for above UCDEH&S –ESF Hazardous Waste Manifest Representatives: hazwaste@ucdavis.edu

D. University's Hazardous Materials Consultant: **Name**

1. Phone: **(XXX) XXX-XXXX**
2. Fax: **(XXX) XXX-XXXX**
3. **Cell: (XXX) XXX-XXXX**
4. **Email: name@firm.com**

PART 2 - PRODUCTS

2.1 MATERIALS

A. Encapsulants

1. Products shall be applied using a brush or an airless sprayer. Contractor shall follow specific 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 Foster 32-60 or equal.
 - b. For bridging purposes Foster 32-32, or equal.
 - c. For high temperature applications, e.g., steam pipes, 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: 20 year wear life, 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.

3. All products shall be rated UL Class A and have a flame resistance/spread rate less than or equal to 25 as designated by the ASTM code E 162.

B. Polyethylene Products

1. Floor and wall sheeting used for lead containments or critical barriers are required to be: a) 6-mil (floor) and 4-mil (walls); and, b) meet the following standards -- ASTM E-84, with a flame resistance/spread rate less than or equal to 25 ASTM (E-162).
2. Poly-America, or equal. Refer to Section 01 25 00 Substitution Procedures for any proposed substitutions.
3. The polyethylene sheeting used for containment or critical barriers shall be frosted or black. Polyethylene bags or sheeting used for waste shall be clear, but do not need to meet flame retardant standards.

C. Paint Removers

1. Paint removers [SPECIFY REQUIRED PRODUCTS BY CONSULTANT]. [PM CONSULT WITH CONSULTANT ON UNIVERSITY PREFERENCES – DEPENDS OF TYPE OF MATERIALS BEING REMOVED]
2. The use of paint removers on the project must strictly comply with manufacturer application instructions and safety warnings.

2.2 EQUIPMENT

- A. HEPA vacuums and negative air machines must be leak tested on-site by a firm independent of Contractor.
- B. Tools and equipment shall arrive at the Project site free of lead debris and dust.
- C. HEPA vacuum exteriors must be clean when they arrive on Project site. All openings on the vacuum or the hoses must be taped shut until ready for operation.
- D. All electric tools and equipment shall be connected to a ground fault circuit interrupt (GFCI).
- E. Power tools used to prepare LBP or LCM surfaces must be connected to a HEPA vacuum.
- F. Heat Guns with a working temperature less than or equal to 1100 degrees F are permitted.

PART 3 - EXECUTION

3.1 SAFETY

- A. In accordance with state and federal laws, Contractor shall be 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 and conduct the following meetings:

Consult with EH&S if there are unusual project specific requirements that would require their attendance.

1. Mandated pre-construction safety meeting with the University's Representative, [and] University's Hazardous Material Consultant [and UCDEH&S–ESF Hazardous Waste Manifest 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 lead field Work, Contractor shall conduct a safety meeting (tailgate) for its employees that alert 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. Where non-English speaking workers are used, there shall be another worker or supervisor within line of sight able to speak English.

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 University's Hazardous Material 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 and -out roster and air sample results at the primary entrance to the Project site.
- C. Contractor, in coordination with the University's Representative and University's Hazardous Material Consultant shall ensure all electrical and HVAC equipment servicing the Work area is disconnected and locked out. Electrical tools in the Work area must be connected to a GFCI.
- 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 are to be sealed with double layers of plastic and cardboard or plywood inserts as necessary.
- E. Contractor shall pre-clean fixed objects, grates, and interior surfaces prior to establishing containment or critical barriers. The area to be pre-cleaned shall be a minimum of 10 feet outside the Controlled area or surrounding structure which ever is closest and sufficient to attain clearance sampling results of 40 µg/ft². This figure represents interior floor surfaces. Windows and exterior surfaces will be based on standards published by the CDPH. 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 shall coordinate inspection schedules with the University's Representative and the University Hazardous Material Consultant.
- H. 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 Material 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 lead warning signs.
 1. The following sign is required by Title 8, CCR 1532.1

WARNING: LEAD WORK AREA
POISON – NO SMOKING OR EATING

- C. All unauthorized personnel are to remain outside the regulated area. Contractor shall call the University's Representative or the University's Hazardous Material Consultant about problem situations.
- D. If inclement weather threatens the Project site, Contractor shall take all necessary measures to ensure lead-contaminated debris does not migrate from regulated areas.
- E. If wind speed threatens the Project site, 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:

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 shall be posted.
 5. Lead Supervisor and Lead Worker training certificates, fit tests, and medical clearance certificates.
 6. Material Safety Data Sheets for products in use or proposed for use. Copies shall be the latest available from the manufacturer.
 7. Federal, state or local notifications.
- B. All Items 1 through 6 shall be submitted with the "As-Built" summary Identified in "Project Close-Out".
- C. The University's Hazardous Material Consultant shall 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 submitted as a complete package in the Project close out.

3.5 ADMINISTRATIVE CONTROLS

- A. Any remediation Project performed in high heat environments requires 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 LCM or PLCM is likely to trigger exposures >AL.
2. There are 2 possible NPEs for the Project: full containment or a mini-containment.
3. Full containment protocols shall generally follow Title 8 CCR 1529 (Asbestos). The following items are provided as a reminder of key elements and are not meant to be comprehensive: walls –2 layers are 4-mil polyethylene, floors – 2 layers 6-mil polyethylene 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. Mini-containments: The construction of a mini-containment requires 2 layers of 6-mil polyethylene, 2 chambers, a HEPA vacuum exhausting the second chamber, the chambers are affixed to the area to be abated and smoke tested.

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 24-hours a day until the Project is complete.
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 Work hours.
5. All HEPA filters must be disposed of based on waste profile.

C. Wet Methods

1. Prior to removing LCM/PLCM, Contractor shall adequately wet the material with an approved surfactant. During and after removal, the waste must remain wet. If needed, HEPA vacuum excess moisture from bags, burrito wraps or floors.

D. Removal Operations

1. Contractor must have its Certified Lead Related Construction Supervisor on-site **at all times** during the demolition and removal of any construction material containing lead.
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 lead-related Work associated with this Project:

1. Employee Training and Supervision
 - a. Contractor shall provide information to its employees about lead and other hazards per the Hazard Communication standard (Title 8 CCR, 5194 and 1532.1).
 - b. An accredited CDPH course provider must train lead remediation Workers and Supervisors.
 - c. All "trigger task" work including but not limited to: where lead containing coatings or paint are present; manual demolition of structures or surfaces, manual scraping, manual sanding, heat gun applications, and power tool cleaning with dust collection systems will be accomplished by CDPH certified workers.
 - d. Lead related CDPH certified Supervisor will be on site during all work accomplished by CDPH certified workers.
2. Respiratory Protection
 - a. Contractor shall provide respiratory protection to all employees where there is the potential for exposure to lead 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 to perform work at the Project. All employees that wear a respirator must have a direct facepiece to face seal. This would require the removal of any facial hair that might interfere with the seal. Goatees and beards are prohibited.
 - c. Lead removal CDPH certified Supervisor will be responsible for calibration and correct operation of personnel monitoring.
3. Protective Clothing
 - a. Contractor shall provide Workers with sufficient sets of protective clothing. Tyvex™, Kleenguard™ or equal coveralls (with hood and feet protection). Contractor shall also provide coveralls to qualified University personnel, University's Hazardous Material Consultant, **state** and local officials.
 - 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 Title 8 CCR 1532.1, Contractor shall establish a medical surveillance program for all employees performing Lead Work.
 - b. Contractor shall provide copies of the physician's written opinion for each employee who works on the Project.
 - c. All of Contractor's Lead Workers and supervisors must pass the medical 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 lead 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 or drinking location.

3.9 AIR MONITORING PROGRAM

A. Personal Air Samples - Contractor Responsibility

1. Contractor shall presume remediation activities shall exceed the PEL and conduct initial and daily exposure assessments.
2. A personal air monitor shall be worn for each Lead Worker per job type per shift. Sample results shall be e-mailed to the University's Hazardous Material Consultant and the University's Representative within 24 hours. The minimum air volume for personal air samples is 200 liters.

B. Area Sampling – University's Hazardous Materials Consultant

1. Daily Perimeter Monitoring
 - a. The University's Hazardous Materials Consultant is responsible for monitoring the perimeter of the work zone; including, negative air exhaust. Perimeter air samples that exceed $30 \mu\text{g}/\text{m}^3$ per 8 hr. TWA require Work to halt. Work may resume after Contractor has identified and corrected the Work practice that lead to the high reading and Work resumption is approved by the University's Representative.
2. Daily Monitoring
 - a. The University's Hazardous Materials Consultant is responsible for monitoring air quality within the regulated area, including the clean room. Any sample at or above $30 \mu\text{g}/\text{m}^3$ TWA 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 and re-sample the clean room. 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. Specific Work protocols, cited below, provide minimum guidance for the performance of site Work.

1. Initial Site Clean-Up
 - a. LBP/LCM chips, visible dust and debris shall be removed from surfaces and soil (including landscape e.g. trees, bushes, etc.) in preparation for Remediation jobs.
 - b. The University's Hazardous Materials Consultant verifies the extent of pre-cleaning. The area to be pre-cleaned will be a minimum of 10 feet outside the controlled area or surrounding structure which ever is closest and sufficient to attain clearance sampling results for interior floors of $40 \mu\text{g}/\text{ft}^2$. Clearance standard for other surfaces, interior and exterior will be consistent with California Department of Public Health regulations. Contractor will pre-clean exposed fixed objects, grates, and interior surfaces within the controlled area.
 - c. LBP/LCM contaminated chips, debris etc. shall be collected using worker protection measures, HEPA vacuums, wet methods, polyethylene bags, lead warning labels and proper disposal protocols.
2. Interim Controls
 - a. A control measure to reduce or eliminate lead exposure for less than 20 years. Several strategies are used to control potential exposure to LCM left in place; including, dust removal, paint stabilization, treatment of impact/friction surfaces, and soil coverings.
 - b. Establish a regulated area with barrier tape, warning sign at all possible entrances and visual barriers.
 - c. Erect critical floor barriers to contain liquid and dry waste for interior and exterior job sites. The barriers shall be large enough to contain any LCM debris dislodged during the surface preparation phase. A portion of the critical floor barrier, furthest from surface preparation activities, shall be reserved for decontamination. A line of duct tape shall mark the 2 activity zones. Critical barrier walkways are used to connect multiple job sites. The use of NPEs is governed by Cal/OSHA standards. However, anytime the AL is exceeded the University's Representative may direct that a NPE be immediately

- established. Contractor shall erect critical wall barriers when directed by the University's Hazardous Materials Consultant.
- d. Minimum requirements for Employee cleanliness are: Set-up a 2-bucket and garden sprayer cleaning station for personnel to clean exposed skin. The cleaning station shall be placed on a portion of the critical floor barrier specifically established for decontamination. Liquid soap and disposable towels shall be available at the site.
 - e. Use paste strips, paint remover (pre-approved), wet sanding, wire brushes and or HEPA equipped sanders to prepare LCM surfaces. All edges must be feather wet-sanded.
 - f. If the scope of work requires LBP on impact or friction surfaces be removed then, they must be stripped to the substrate; especially for interior doors and window. Cleaning LBP that has been absorbed deeply into wood grain is not required, but an impact resistant coating shall be applied as an initial and finish coat(s).
 - g. Dry blasting LCM is not permitted [except by special circumstances pre-approved by University's Representative and UCDEH&S].
 - h. Water blasting LCM surfaces (with or without grit, vacuum assisted) require pre-testing for correct pressure, angle and tip design. All possible leak points must be sealed (i.e. around windows). Direct water spray shall not be allowed within 1 inch of leak points. Water must be trapped, filtered to 0.3 microns and stored in a lockable container until a TCLP has been performed. At Contractor's option, multiple filtering passes with less than 0.3 micron filter is approved to attempt to reach the University's 21 µg/L of lead to utilize the sewer system for liquid waste. See "WASTE DISPOSAL" in this specification section.
 - i. After LCM surfaces have been prepared, use a three-bucket system for cleaning prepared surfaces. The first bucket contains a detergent, the second bucket is the primary rinse and the third bucket is the secondary rinse.
3. Abatement/Removal
- a. Abatement permanently eliminates LCM products for a period of time greater than 20 years. Abatement strategies are applied by building equipment and components (e.g., motor and wall), by room or by building. Unless a whole unit is free of lead, the component, room or building is not considered lead-free.
 - b. Establish a regulated area with barrier tape, warning sign at all possible entrances and visual barriers.
 - c. Erect critical floor barriers to contain liquid and dry waste for interior and exterior job sites. The barriers shall be large enough to contain any LCM debris dislodged during the surface preparation phase. A portion of the critical floor barrier, furthest from surface preparation activities, shall be reserved for decontamination. A line of duct tape shall mark the 2 activity zones. Critical barrier walkways are used to connect multiple job sites. The use of NPEs is governed by Cal/OSHA standards. However, anytime the AL is exceeded the University's Representative may direct a NPE be immediately established. Contractor shall erect critical wall barriers when directed by the University's Representative.
 - d. Minimum requirements for Employee cleanliness are: Set-up a 2-bucket and garden sprayer cleaning station for personnel to clean exposed skin. The cleaning station shall be placed on a portion of the critical floor barrier specifically established for decontamination. Liquid soap and disposable towels shall be available at the site.
 - e. Use paste strips, paint remover (pre-approved), wet sanding, wire brushes and or HEPA equipped sanders to prepare LCM surfaces. All edges must be feather sanded. LBP on impact or friction surfaces must be stripped to the substrate; especially for interior doors and window. Cleaning LBP that has been absorbed deeply into wood grain is not required, but an impact resistant coating shall be applied as an initial and finish coat(s).
 - f. Dry blasting LCM is not permitted except by special circumstances pre-approved by University's Representative and UCDEH&S.
 - g. Water blasting LCM surfaces (with or without grit, vacuum assisted) require pre-testing for correct pressure, angle and tip design. All possible leak points must be sealed (i.e. around windows). Direct water spray shall not be allowed within 1 inch of leak point; runoff must be trapped, filtered to 0.3 microns and stored in a lockable container until a

Waste Stream Testing has been performed. At Contractor's option, multiple filtering passes with less than 0.3 micron filter is approved to attempt to reach the University's 21 µg/L of lead to utilize the sewer system for liquid waste. See "WASTE DISPOSAL" in this specification section.

- h. After LCM surfaces have been prepared, use a three-bucket system for cleaning prepared surfaces. The first bucket contains a high phosphate detergent, the second bucket is the primary rinse and the third bucket is the secondary rinse.

3.11 INSPECTIONS

A. Inspection Responsibilities - Contractor

1. Prior to beginning any lead-related Work, Contractor's certified lead supervisor shall inspect the regulated Work areas for any building damage, hazardous conditions or 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.
2. Prior to encapsulation, all remaining surfaces are to be HEPA vacuumed, wet wiped and HEPA vacuumed.
3. Contractor is responsible for monitoring and enforcing all requirements of this specification.
4. 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.
5. 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.
6. All waste shall be characterized and separated. Wastes will be sampled individually to determine levels of lead before containerizing for shipment.

B. Inspection Responsibilities – University's Hazardous Materials Consultant

1. University's Hazardous Materials Consultant shall walk the Project site with Contractor to review scope of work, pre-cleaning operations and any safety or security issues. University's Hazardous Materials Consultant shall attend Contractor's safety meetings.
2. After Contractor has completed set-up and before commencing operations, the University's Hazardous Materials Consultant shall check for completeness of the following items: regulated area is demarcated and posted, permits are posted, poly sheeting is correct mil thickness, 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; verify one air change every 5 to 15 minutes; 3 stage decontamination is sealed; air flow is correct as verified by smoke tests, and the shower is functioning with hot and cold water.
3. Prior to lead abatement or interim control activities beginning, the University's Hazardous Materials Consultant shall match on-site personnel with lead 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 wipe, bulk, background, area, personal samples, and all waste stream profiles.
 - b. Alerting the University's Representative and UCDEH&S Representative of any sample result exceeding 30 µg/m³ per 8 hr. TWA.
5. During abatement or interim control activities, the University's Hazardous Materials Consultant shall check for the following: all personnel are signing in and out, 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

lead waste may remain inside the containment, provided access controls are secure. If Contractor cannot guarantee access control, the lead waste must be secured in a locked storage container.

6. University's Hazardous Materials Consultant must file a daily lead report with the University's Representative.
7. After abatement or interim control activities are complete and before lockdown or encapsulant is sprayed, the University's Hazardous Materials Consultant shall verify completeness of abatement or interim control Work; all visible debris is removed, approved lockdown or encapsulants are being used; application amount meets manufacturer specifications, and overspray is controlled.
8. If clearance is not achieved, University's Hazardous Materials Consultant shall require that Contractor re-cleans and re-samples the regulated area.
9. University's Hazardous Materials Consultant shall review Contractor's waste characterization for the most efficient disposal for the University.

3.12 ENCAPSULATION, FINAL CLEAN-UP AND RESTORATION

A. Encapsulation

1. Remove all waste.
2. HEPA vacuum the entire workspaces, including, walls, floors and ceiling.
3. Wash down (Wet Wipe) all interior surfaces, equipment and supplies.
4. HEPA vacuum the entire workspaces, including, walls, floors and ceiling.
5. Clean and remove all equipment and supplies.
6. Using an approved encapsulant, spray all surfaces at the manufacturer's pressure and application rates. If painting is to follow remediation then the University's Representative may approve a base coat of the painting system to be applied as an encapsulant.

B. Final Clean-Up

1. After the encapsulation is dry and clearance has been achieved, HEPA vacuum, then remove polyethylene sheeting and dispose as non-hazardous waste.
2. Remove critical barriers, negative pressure enclosures, and other sealed openings (HVAC ducts, etc.), HEPA vacuum and dispose as non-hazardous waste.

C. Restoration

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

3.13 WASTE DISPOSAL

A. Contractor shall comply with all waste protocols established by University. Submit completed Lead Waste Disposal Plan Form (LWDP) located at the end of this section to University's Representative prior to the start of the Project for approval by UCDEH&S-ESF Hazardous Waste Manifest Representative. After University's Representative forwards the LWDP form to UCDEH&S-ESF Hazardous Waste Manifest Representative, the UCDEH&S-ESF Manifest Representative shall issue a Uniform Hazardous Waste Manifest number to Contractor if testing shows levels of lead above regulatory thresholds. 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 not being assigned to the Project; and
2. Contractor shall assume all fines and penalties imposed by the regulatory agency.

B. Packaging Lead Waste

1. All lead containing waste material must be packaged in 1 of 3 ways:
 - a. Placed in 2 ea. 6 mil clear polyethylene bags
 - b. Placed in sealed drums (DOT approved); or

- c. Double wrapped (AKA "burrito style") in opaque 6 mil polyethylene sheeting. For Options 1 and 3, wet wipe the outer surface before storing material.

C. Labeling Lead Waste

1. Each bag, drum, or "burrito" wrap shall have a label affixed with the following information:
2. Hazardous Waste warning
3. Generator's Name, address, and phone number
4. Location information, e.g., Building, department, room
5. Manifest document number, and date
6. Contractor can generate the label or use bags with label information stenciled on the side.

D. Storing Lead Waste

1. At the end of each shift, all lead 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 Lead Waste to Class 1 Landfill

1. A DTSC registered Waste Hauler, hired by Contractor, is responsible for transporting hazardous lead waste from the campus to **Clean Harbors Buttonwillow, LLC, Landfill Facility, 2500 West Lokern Road, Buttonwillow, CA 93206, an EPA (ID: CAD980675276);** /DTSC/CIWMB certified disposal facility
2. The transporter must make pick-ups during normal Working hours - 8:00 a.m. to 5:00 p.m., Monday through Friday. Contractor must comply with DOT label requirements for their vehicles.
3. Contractor must make shipments of waste containing lead below the threshold for hazardous determination (state or federal [RCRA]) to an appropriate landfill. This shipment would not require a registered waste hauler or UCD hazardous waste manifest.

G. Disposal

1. Contractor shall provide waste documents from the Waste Disposal site as verification of the weight and proper disposal site, to the University's Representative within 15 days of each container disposal.
2. Lead waste that has been contaminated with another hazardous waste (e.g. solvents) must be tested and disposed according to the standards of the greater hazard.
3. Lead waste must be filtered to less than 21 µg/L of lead to be disposed in the University Sewer System. Contractor shall be responsible for all costs associated with this additional testing. The test method must be approved by the University's Hazardous Materials Consultant as proper for the lower limits of detection required to reach 21 µg/L. University reserves the right to resample any product to be disposed of in the University's sewer system prior to disposal.
4. All lead waste where the material contained greater than 350 ppm by FAAS or presumed to be coated with lead paint shall be sampled (profiled) for characterization before determination of Hazardous or Non-Hazardous material is made. Sequence of testing is as follows:
 - a. TTLC – Total Threshold Limit Concentration

- 1) TTLC with a result of 50 mg/kg or more but less than 1,000 mg/kg of lead must be retested using STLC method.
 - b. STLC – Soluble Threshold Limit Concentration
 - 1) A STLC result of 5.0 mg/L or greater is considered CA Hazardous Waste.
 - c. TCLP – Toxicity Characteristic Leaching Procedure
 - 1) TCLP testing shall only be accomplished when approved by UCDEH&S Representative.
 - 2) This procedure shall be generally reserved for out-of-state shipments.
 - 3) A TCLP result of 5.0 mg/L or more deems the waste Federal RCRA waste and will be coded with D008.
 - d. Electronic copies, in Adobe Acrobat format, shall be provided for all laboratory analysis results.
 5. Contractor shall provide a waste stream report to the University's Representative and University's Hazardous Materials Consultant identifying the number of containers and an explanation of how the samples were taken (composite or individual container sampling). Provide test results for the components passing the filter and the components trapped by the filter. Confirmation will be provided by Contractor, indicating that the waste stream has been per project specifications.
 6. All waste with total lead greater than 350 ppm (mg/kg) disposed of in California, must be disposed of at a Class 1 Hazardous waste landfill, or at other landfills that have specific permits to accept these wastes. However, the wastes are not classed as hazardous wastes unless for another reason. The California hazardous waste threshold for total lead using Soluble Threshold Limit Concentration (STLC) is 5 mg/L.
 7. Lead paint that is intact on a surface does not permit the material to be classed as non-hazardous. Waste profiling shall be accomplished if the paint contains more than 350 ppm by FAAS. Exception: Metals that are coated with paint may be recycled (see Recycled Metals paragraph below).
- H. Recordkeeping
1. Contractor shall provide the University's Representative with copies of all lead waste disposal documents.
- I. Fees
1. Contractor is responsible for all fees and charges related to lead waste transport and disposal operations; including, waste stream profiles. Refer to SW-846-1311 (TCLP) and Title 22 CCR Section 66261 (STLC) for waste stream identification requirements.
- J. Non-Hazardous Waste Manifest
1. The 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 shipping papers. UCDEH&S signature is not needed on the non-hazardous manifest.
- K. Recycled Metals
1. Recycling ferrous or non-ferrous metals with adhered lead paint is required by the University. This section defines "Hazardous Waste" for the purpose of defining waste stream as material that is recycled. Employee protection regulations remain the same during disturbance of lead. Contractor is required to remove all loose and flaking paint. Contractor is responsible for removing all other hazardous material that is unacceptable by the recycling firm. Contractor is required to recycle where possible. Contractor will obtain a letter from the recycler acknowledging that the recycler is aware of the lead paint and has an Injury Illness Prevention Policy (IIPP) that addresses the handling of this material that meets OSHA and EPA regulations. At this time there is no University requirement for testing (TTLC, STLC, or TCLP) if material is recycled.

- a. Refer to Section 01 74 00 Cleaning and Waste Management and Section 01 35 43 Environmental Procedures for further instructions.

3.14 CLEARANCE PROTOCOL

A. Abatement and Interim Control Projects

1. Prior to any clearance sampling, the regulated areas shall be visually inspected by the University's Hazardous Material Consultant for the presence of LBP chips, visible settled dust or debris. Final clearance sampling shall not take place until the area has successfully passed this visual clearance.
2. Wipe samples shall be collected by the University's Hazardous Material Consultant prior to the application of an encapsulant. Using an "S" pattern, the Consultant shall wipe 1 square foot of the surface being tested with a commercial wipe moistened with non-alcohol wetting agents. Clearance wipe sampling shall be conducted on each unique building component.
3. The University's Hazardous Material Consultant and University's Representative following HUD guidelines, shall select the total number of clearance samples for each job site.
4. CDPH and HUD Standards are the basis for interpreting analytical results. Interior floor: 40 $\mu\text{g}/\text{ft}^2$ for wipe sample(s); for other than interior floors use the current CDPH standards.
5. If Contractor performs any activity that disturbs or triggers LCM after clearance, they are obligated to pay for re-cleaning and re-testing until clearance is achieved.

3.15 PROJECT CLOSE OUT

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

1. Submit the Lead As-Built Summary (located at the end of this section) to include:
 - a. Contractor's name, address, CSLB certification number and tax identification number.
 - b. Name of hazardous transporter, address, phone number and registration number.
 - c. ELAP laboratory name(s), address(es), and phone number(s) used to perform FAAS (flame), TCLP, TTLC or STLC.
 - d. Building name and campus address.
 - e. Project name and contract number.
 - f. Describe Scope of Work; Interim Controls or Abatement and location (room number[s]).
 - g. Provide an inventory of the LCM/PLCM removed from the Project site. Include; building system, quantity, note whether the Project was long term Abatement or Interim Controls, the percentage of the total lead job for each building system type and cost.
 - h. Total dollar amount paid by the University for lead-related Work including invoice date(s) and date(s) payment received.
 - i. Number of employees who worked on the Project.
 - j. Date on-site Work began.
 - k. Date on-site Work was completed.
 - l. Work methods.
 - m. Did the University provide specification (answer yes or no).
 - n. Name, address, phone number and EPA registration number of waste disposal site.
 - o. All weigh slips shall be provided as required in the "WASTE DISPOSAL" section of this specification or final payment will be withheld. The University's Representative will ensure that the EH&S Manifest representative has received all weigh slips.

B. Documentation

1. Contractor shall provide copies of all laboratory reports Lead Work protocols, and disposal documents requested by the University's Representative. All documents relating to actual employees used for remediation purposes (see Recordkeeping paragraph in this Section).

END OF SECTION 02 83 00

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

PROJECT NO: 0000000
 GRANT NO: 0000000

EXHIBIT 23 - EMPLOYEE QUALIFICATION & LEAD 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	DHS Training Certification		Medical Fitness Certification (Exp. Date)	Respiratory Fit Test (Current within 12 months)	Remarks
		Exp. Date	Certified Supervisor - CS Certified Worker - W			
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

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

PROJECT NO: 0000000
GRANT NO: 0000000

EXHIBIT 24 - LEAD 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, VOLUMES, 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.): _____

ATTENTION: University's Representative _____ **Time:** _____

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

PROJECT NO: 0000000
 GRANT NO: 0000000

EXHIBIT 25 - LEAD REMEDIATION AS-BUILT SUMMARY

Contractor's Name: _____
 Business Address: _____
 Business Phone 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.: _____

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

INVENTORY						
Building System (Floor, Ceiling, Wall, etc)	(Paint, Soil, Sand, etc.)	Quantity (Abated)	In-Place Managem ent (IPM)	Material Replaced ? (% Qty Abated)	Percentage of <u>Job</u> <u>Abated</u> and/or IPM	Cost

Total Dollar Amount Paid by University for Lead Work: \$ _____

Invoice No.: _____ Invoice Date: _____

Invoice No.: _____ Invoice Date: _____

Number of Employees Working at Lead 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.: _____

If more than one Disposal Site than add name(s) of Disposal Site(s).

Copies of all hazardous waste weigh slips from disposal site have been forwarded to University

Yes No If no, attach copies.