Lead-Based Paint Removal Specifications

For

Removal and Disposal of Lead Coated Materials at County of Los Angeles Owned and Occupied Facilities

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1.0 GENERAL - SCOPE OF WORK

The work specified herein is lead-based paint (LBP) abatement and demolition which is to be performed by competent persons trained, knowledgeable and qualified in the techniques of LBP abatement, demolition, and the handling and disposal of LBP and/or LBP contaminated materials. The LBP abatement and demolition shall be performed by Contractors who comply with all applicable federal, state and local regulations, and are capable of, and willing to, perform the work pursuant to this specification. All LBP abatement and demolition will be performed in conjunction with the asbestos removal portion of project, where feasible and applicable.

1.1 EXPERIENCE AND WORKMANSHIP

1.1.1 The Contractor performing the LBP abatement and demolition work shall use workers and supervisors accredited pursuant to Title 17, Code of California Regulations (CCR), Articles 5 and 7 and shall have a minimum of one year of experience and a minimum of three LBP removal projects or abatement work on projects similar in scope and size. Submit proof with bid.

1.1.2 The Contractor performing this work MUST be familiar with all applicable regulations covering LBP removal work. This includes all permits, licenses, and certificates required to perform this type of hazardous work and related disposal requirements.

1.1.3 The Contractor shall attend a Pre-Job Start Meeting as scheduled by Los Angeles County Department (LAC). Prior to this meeting the Contractor shall provide all of the following submittals:

1.1.3.1 preparation of work area

1.1.3.2 personal protective equipment including but not limited to respiratory protection and protective clothing

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1.1.3.11 the Contractor will designate a person(s) with all the necessary and required qualifications to administer First Aid, CPR, and any related assistance required. This person(s) will be on site during the entire abatement procedure

1.1.4 It is the Contractor's responsibility to maintain adequate controls to insure worker safety for the duration of this work.

1.2 DEFINITIONS

For the purposes of these Specifications, the following definitions apply:

1.2.1 Abatement lasting 20 years or more: Any measure designed to eliminate lead paint hazards in accordance with established standards and laws. Abatement strategies include: removal of lead-based paint (LBP); enclosure of LBP; encapsulation of LBP (with a product that has been shown to meet established standards for a minimum of twenty years); replacement of building components coated with LBP; removal of lead contaminated dust; removal of covering of lead contaminated soil with a durable covering (not grass or sod, which are considered Abatement lasting less than 20 years); as well as all preparation, cleanup, disposal, post-abatement clearance testing, record keeping, and monitoring.

1.2.2 Abatement lasting less than 20 years: A set of measures designed to temporarily reduce human exposure or likely exposure to lead-based paint hazards, including specialized cleaning, repairs, maintenance, painting, temporary containment, ongoing monitoring of lead-based paint hazards or potential hazards, and the establishment and operation of management and resident education programs.

1.2.3 Action Level (AL): 30 micrograms per cubic meter of air (30 ug/m^3), which is expressed as an 8-hour time-weighted average.

1.2.4 Abatement Crew Supervisor (ACS): Department of Public Health (CDPH) accredited Lead-Related Construction Supervisor and shall have at least one year's experience on LBP abatement projects.

1.2.5 Amended Water: Water to which surfactant (wetting agent) has been added to increase the ability of the liquid to penetrate the surface coating.

1.2.6 Biological Monitoring: Medical evaluation of an individual, including the analysis of a person's blood to determine the level of lead contamination in the body. Biological monitoring for lead abatement work as described herein shall be directed by a licensed physician.

1.2.7 Certified Industrial Hygienist: Person Certified by the American Board of Industrial Hygiene (ABIH).

1.2.8 Clean Room: Area of a worker decontamination facility used for donning protective equipment and storing street clothes.

1.2.9 Containment: System, process, or barrier used to contain lead hazards inside a work area such as described in Guidelines for the Evaluation and Control of Lead-Based Hazards in Housing, U. S. Department of Housing and Urban Development, July 2012, Chapter 8, “Resident Protection and Worksite Preparation”.

1.2.10 Contractor: As used in these Specifications refers to the Lead Abatement Contractor who will perform work under contract with the Los Angeles County Department.

1.2.11 CDPH: California Department of Public Health

1.2.12 Employee: Any person employed or hired by an employer in any lawful employment.

1.2.13 Elevated Blood Lead Level: Blood lead concentration equal to or greater than that which a qualified physician and/or relevant legal requirements deem unsafe or unhealthy.

1.2.14 Encapsulation: Any covering or coating that acts as a barrier between lead-based paint and the environment, the durability of which relies on adhesion and the integrity of the existing bonds between multiple layers of paint and between the paint and the substrate.

1.2.15 Enclosure: Covering surfaces and sealing or caulking with durable materials so as to prevent or control chalking, peeling, flaking or other deterioration of substances containing lead, so that it does not become or remain airborne or surface-accessible.

1.2.16 General Contractor: Contractor responsible for coordination of all general construction work and who is licensed as a general contractor by the State Contractors Licensing Board.

1.2.17 High Efficiency Particulate Air (HEPA) Filter: Type of filtering system capable of filtering out particles of 0.3 microns or greater diameter from a body of air at 99.97 percent efficiency or greater.

1.2.18 Intact Painted Surface: Defect-free surface with no loose, peeling, chipping, or flaking paint. Painted surfaces must be free from crumbling, cracking, or falling materials and/or plaster and must not have holes in them. Intact surfaces are not damaged in any way.

1.2.19 Lead-based: Paints, glazes, and other surface coatings that contain an amount of lead equal to, or in excess of 0.7 milligram per square centimeter (0.7 mg/cm^2) or more than half of one percent (0.5 percent) by weight or five thousand parts per million (5000 ppm).

1.2.20 Lead-containing: Coatings noted in 1.2.19 that contain an amount of lead in excess of 0.06 percent by weight.

1.2.21 LAC: Los Angeles County Department.

1.2.22 PEL: Permissible Exposure Limit, which is 50 micrograms per cubic meter of air (50 ug/m^3) expressed as an 8-hour time-weighted average.

1.2.23 Qualified Lead Abatement Contractor: Contractor capable of providing a properly trained and equipped work force for lead abatement work. The supervisors and workers must be accredited pursuant to Title 17, Code of California Regulations, Articles 5 and 7 and shall have a minimum of one year of experience, a minimum of three LBP removal projects or abatement work on projects similar in scope and size..

1.2.24 RCRA: Resource Conservation and Recovery Act.

1.2.25 STLC: Soluble Threshold Limit Concentration and is the acceptance criteria for Class I, II, and III waste disposal facilities. The regulatory level is five milligrams per liter (5 mg/l).

1.2.26 Subcontractor: Contractor who performs work directly for the Contractor.

1.2.27 SSWP: Site Specific Work Plan provided by the Lead Abatement Contractor.

1.2.28 TCLP: Toxicity Characteristic Leachate Procedure which is the Federal sample analysis for determining the hazard characteristic of a waste generated at a lead abatement site and is the acceptance criteria for Class I waste disposal facilities. The regulatory level is five milligrams per liter (5 mg/l).

1.2.29 TTLC: Total Threshold Limit Concentration and is the acceptance criteria for Class II and III waste disposal facilities. The regulatory level is one thousand milligrams per kilogram (1000 mg/kg).

1.2.30 Work Area: Area where lead-based paint or presumed lead-based paint is disturbed, or abatement is conducted.

1.3 STANDARDS AND GUIDELINES

1.3.1 The current issue of each document shall govern. Where conflict among requirements or within these specifications exist, the more stringent requirements shall apply.

1.3.2 General Applicability of Codes, Regulations, and Standards: Except to the extent that more explicit or more stringent requirements are written directly into the specification, all applicable codes, regulations, and standards have the same force and effect (and are made part of the specification by reference) as if copied directly into the specification, or as if published copies are bound herewith.

1.3.3 Contractor Responsibility: The Contractor shall assume full responsibility and liability for compliance with all applicable federal, state, and local regulations pertaining to work practices, hauling, disposal and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of all personnel as required by the applicable federal, state, and local requirements. Include in site specific work plan.

In addition, the Contractor will be responsible for obtaining all local permits and paying all fees prior to beginning work. Copies of permits must be submitted to LAC prior to start of work and must be posted at the project site. Include in site specific work plan.

1.3.4 OCCUPATIONAL SAFETY AND HEALTH ACT

1.3.4.1 The Contractor shall comply with all applicable requirements of the California General Industry Safety and Health

Standards, and the Safety and Health Regulations for Construction, Title 8, California Code of Regulations.

1.3.4.2 The Contractor shall strictly adhere to the provisions of Federal OSHA Section 1926.62, Lead in Construction, Cal/OSHA Lead Construction Standard 8 CCR 1532.1, and Title 17 CCR, Division 1, Chapter 8.

1.3.4.3 The Contractor shall be responsible for enforcing compliance with standards and these specifications with his/her employees.

1.3.4.4 The Contractor shall comply with the Federal Environmental Protection Agency (EPA) regulations pertaining to handling and disposal of lead-containing materials as well as the State of California and any local governmental agencies which have been delegated responsibility for the administration and enforcement of federal regulations.

1.3.4.5 The Contractor shall comply with all requirements of the waste disposal site identified in the approved site specific work plan.

1.3.5 OTHER REQUIREMENTS

1.3.5.1 The Contractor shall comply with American National Standards Institute (ANSI) - ANSI Z9.2. Fundamentals Governing the Design and Operation of Local Exhaust Systems.

1.3.5.2 The Contractor shall comply with said regulations, requirements, and standards (noted above) and require and be directly responsible for compliance therewith on the part of his agents, employees, materialmen and Subcontractors; and shall directly receive and be responsible for all citations, assessments, fines or penalties, which may be incurred by reason of his agents, employees, materialmen, or Subcontractors failing to so comply.

1.3.5.3 The Contractor shall indemnify LAC and their representatives and save from any and all losses, costs and expenses, including fines, judgments, and reasonable attorney's fees incurred by LAC by reason of negligence on the part of the Contractor in exposing his employees, LAC personnel, visitors, and/or in the proper or accepted procedures dealing with lead abatement and/or violation of

such laws, ordinances, regulations, and directives (federal, state and local), which are currently in effect by the Contractor, his Subcontractors, or material men.

1.4 DAMAGES

1.4.1 The Contractor shall protect all components that are to remain from damage caused by this work. Damaged areas shall be repaired or replaced at the Contractors' expense.

1.5 SUBMITTALS AND NOTICES

Include in the SSWP the Following.

1.5.1 Proof to LAC that all required permits, manifests, site locations, and arrangements for transport and disposal of lead-based materials and wastes and the like have been obtained including, but not limited to, the following:

1.5.1.1 The EPA hazardous waste generator identification number (GIN).

1.5.1.2 The name and appropriate certification/licenses of the hazardous material transport firm.

1.5.1.3 The name and appropriate certification/licenses of the waste disposal facility.

1.5.2 A description of the schedule for LBP demolition and removal phasing and construction of the decontamination system(s), waste load-out area(s), and containment area(s) used to isolate the functional space(s) in compliance with this specification and applicable regulations. These requirements shall be met by submission of shop drawings on which each of these areas are clearly identified.

1.5.3 A comprehensive work plan for the LBP abatement and demolition project. The work plan shall clearly identify the demolition and abatement method(s), containment plan(s) by floor or section, time lines, and responsible parties.

1.5.4 A written respiratory protection plan as required in 29 CFR 1926.62 and 8 CCR 1532.1.

1.5.5 A written medical examination and consultation plan that includes the items required by 29 CFR 1926.62 and 8 CCR 1532.1.

1.5.6 Certifications documenting that employee information and training for lead exposure has been completed for Contractor's personnel and other affected subcontractors personnel.

1.5.7 The Contractor shall also submit the following:

1.5.7.1 Work schedule.

1.5.7.2 Method of application and materials to be used.

1.5.7.3 Submit various manufacturers' information (including MSDS) and type and brands of materials for workers' protection.

1.5.7.4 Copies of all certifications of disposal as designated by LAC.

1.5.7.5 Copies of all permits.

1.5.7.6 Copies of the CDPH Abatement of Lead Hazard Notification form 8551.

1.5.7.7 Copies of all OSHA Form 101 or equivalent CAL/OSHA accident/injury/incident reports.

1.5.7.8 Copies of the CDPH Lead Hazard Evaluation Report form 8552 if conducting a lead hazard evaluation in a public facility (required submission to CDPH within 30 days of the evaluation, per CA Title 17 Article 16 Work Practice Standards, requirements for Public and Residential Buildings)

1.6 AIR MONITORING

1.6.1 Initial Determination

1.6.1.1 The Contractor shall conduct an initial determination of the worker lead exposures as required by the Cal/OSHA Construction Lead Standard [Title 8 CCR 1532.1 (d)].

1.6.1.2 All Contractor and subcontractor employee categories shall be included in the exposure monitoring and shall be representative of a full shift including at least one sample for each job classification in each work area either for each shift or for the shift with the highest exposure level. Full shift personal samples shall be representative of the monitored employee's regular, daily exposure to lead.

1.6.1.3 The duration of air monitoring shall be sufficient to provide a statistical confidence (95 percent upper confidence limit) that no employees are exposed above the lead AL or PEL.

1.6.1.4 The results of the initial determination shall be used to establish the degree of engineering (barriers, two-stage, or three-stage containment), administrative and respiratory protection controls.

1.6.1.5 The results of the initial determination shall be reviewed and approved by LAC or designee.

1.6.2 Periodic Exposure Monitoring

1.6.2.1 Notwithstanding the results of the initial determination, the Contractor shall conduct daily employee exposure monitoring of not less than ten (10 percent) of the Contractor's employees.

1.6.2.2 Daily monitoring of the Contractor's employees shall be performed to enable each employee's exposure to be reasonably represented by at least one full-shift (7 hours minimum) air sample.

1.6.2.3 The minimum frequency of the exposure monitoring shall be maintained based on employee exposure levels, as required by Title 8 CCR 1532.1.

1.6.3 Area Monitoring

1.6.3.1 LAC or designee shall conduct initial and daily area monitoring in the work area and at the outside perimeter of the work area.

1.6.3.2 A minimum of two air samples shall be collected: one inside the designated work area and one outside the work area.

1.6.4 Materials and Laboratory Analysis

1.6.4.1 Portable low-flow pumps will be used to draw a known volume of air through a 37 millimeter (mm) diameter, 0.8 micron MCE filter. Samples will be analyzed pursuant to the NIOSH 7300 method to yield a weight-per-unit volume (mg/ml).

1.6.4.2 Air flow volumes will be calibrated utilizing a field rotameter, which will be calibrated with a primary standard such as a frictionless piston (soap film bubble burette).

1.6.4.3 All samples will be analyzed for lead by a Laboratory, which is accredited by the American Industrial Hygiene Association (AIHA) and by the AIHA's Environmental Lead Laboratory Accreditation Program (ELLAP).

1.6.5 Air Monitoring Data

1.6.5.1 Air monitoring samples shall be delivered to the laboratory for analysis at the completion of each work day with a service category request for the laboratory to return sample results within 24 hours.

1.6.5.2 LAC or designee and the Contractor will make all air sampling results available as soon as they are available.

1.6.5.3 The results of all air monitoring shall be maintained at the work site.

1.7 SPECIAL RECORDS

1.7.1 The Contractor shall provide in the SSWP the name and address of the Sub-Contractor(s), if any, responsible for the demolition, the abrasive blasting and clean-up work.

1.7.2 The starting and completion dates of the abatement work shall be documented by the contractor. The contractor shall submit a work schedule including start/completion dates to LAC.

1.7.3 A summary of the techniques used to comply with these regulations shall be submitted by the contractor in the SSWP.

1.7.4 The Contractor shall submit for information and records, copies of all records indicating that the renovation work has been performed in compliance with lead paint abatement requirements, such as daily logs, marked drawings/blueprints et. al.

1.8 SITE SECURITY

1.8.1 Contractor shall provide security so that only authorized personnel may enter the work site. All hazardous waste containers shall be located within the work site, be enclosed and locked at all times when personnel are not present to oversee the material, i.e., hazardous

waste dumpster. All containers of hazardous materials shall be clearly labeled as containing hazardous materials with signs in both English and Spanish.

1.8.2 The LBP abatement and demolition work area is to be restricted only to authorized, trained and protected personnel. These may include the Contractor's employees, employees of subcontractors, owner employees and representatives, state and local inspectors, and any other designated individuals. A list of authorized personnel shall be established prior to job start and posted in the clean room of the worker decontamination facility and in the Contractor's office.

1.8.3 Entry into the work area by unauthorized individuals shall be reported immediately to LAC by the Contractor.

1.8.4 A log book shall be maintained in the clean room area of the worker decontamination system. Anyone who enters the LBP abatement work area must record name, affiliation, time in, and time out for each entry.

1.8.5 Access to the work area shall be through a worker decontamination system(s) located at the work site. All other means of access (doors, windows, hallways, etc.) shall be blocked or locked so as to prevent entry to or exit from the work area. The only exceptions to this rule are the waste load-out, area which shall be sealed except during the removal of containerized lead waste from the work area, and emergency exits in case of fire or accident. If two- or three-stage containment areas are required, emergency exits shall not be locked from the inside; however, they shall be sealed with polyethylene sheeting and taped until needed.

1.8.6 Contractor shall have control of site security during operations in order to protect work efforts and equipment.

1.8.7 During the course of the entire LBP portion of the project, the Contractor shall have an Abatement Crew Supervisor (ACS) on site, during abatement operations. The ACS shall be a CDPH accredited Lead-Related Construction Supervisor and shall have had at least one year experience with a minimum of three LBP abatement projects. During those phases of lead abatement involving removal of materials and during those periods of time when the work requires negative air units, the Contractor shall also have an individual on site to both maintain security and maintain the negative air units.

1.9 EMERGENCY PLANNING

1.9.1 Emergency planning and procedures shall be developed by the Contractor.

1.9.2 Emergency procedures shall be in written form and prominently posted. All employees must read and sign these procedures to acknowledge receipt and understanding of work site layout, location of emergency exits and emergency procedures.

1.9.3 Emergency planning shall include written notification of police, fire, LA City and County, and emergency medical personnel of planned lead abatement activities, work schedule and layout of work area, particularly barriers that may affect response capabilities.

1.9.4 Emergency planning shall include considerations of fires, explosions, toxic atmospheres, electrical hazards, loss of electrical power, slips, trips and falls, confined spaces and heat related injuries. Written procedures shall be developed and employee training in procedures shall be provided.

1.9.5 Employees shall be trained in evacuation procedures in the event of workplace emergencies.

1.9.5.1 For non-life-threatening situations, employees injured or otherwise incapacitated shall decontaminate following normal procedures before exiting the workplace to obtain proper medical treatment.

1.9.5.2 For life-threatening injury or illness, worker decontamination shall take least priority. After taking measures to stabilize the injured worker, he/she shall be removed from the workplace and proper medical treatment secured.

1.9.5.3 In the event that evacuation procedures are required, the Contractor shall notify ambulance, paramedic personnel, the medical facility and any other required persons that the injured individual(s) is or may be contaminated with lead.

1.9.6 Emergency telephone numbers of all emergency response personnel shall be prominently posted in the clean room/change area and Contractor's office, along with the location of the nearest telephone.

1.9.7 The Contractor shall provide an emergency eyewash in the change room of the decontamination unit(s). The eyewash shall be capable of a minimum of fifteen minutes of water flow.

1.10 PRE-CONSTRUCTION MEETING

1.10.1 After approval of the SSWP the Contractor shall attend a pre-construction job meeting at a time agreed upon by the Contractor, and LAC.

1.10.2 At this meeting, the Contractor and supervisory personnel who will provide on-site direction of the lead abatement activities must attend and be prepared to discuss:

1.10.2.1 Preparation of work area.

1.10.2.2 Protection of occupied building areas.

1.10.2.3 Personal protective equipment including but not limited to respiratory protection and protective clothing.

1.10.2.4 Employees who will participate in the project, including delineation of experience, training, and assigned responsibilities during the project.

1.10.2.5 Decontamination procedures for personnel, work area and equipment.

1.10.2.6 Lead abatement methods and procedures to be utilized.

1.10.2.7 Required air monitoring procedures.

1.10.2.8 Procedures for handling and disposing of waste materials.

1.10.2.9 Procedures for final decontamination and clean-up.

1.10.2.10 Detailed LBP removal and/or demolition work and performance schedule.

1.10.2.11 Copy of the CDPH Abatement of Lead Hazard Notification form 8551.

1.10.2.12 Procedures for dealing with heat stress if needed.

1.10.2.13 Emergency procedures.

1.11 CONSTRUCTION MEETINGS

1.11.1 The Contractor shall attend construction meetings that may include representatives of LAC, the lead contractor, and the demolition contractor.

2.0 PRODUCTS

2.1 GENERAL

2.1.1 All materials, tools, and equipment listed herein required shall be provided by the contractor.

2.2 MATERIALS AND SUPPLIES

2.2.1 Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer, the brand name, and labeling as required by 8 CCR Section 5194: Hazard Communication Standard.

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

2.2.3 Damaged or deteriorating materials shall not be used and shall be removed from the premises. Material that becomes contaminated with lead shall be disposed of in accordance with the applicable regulations.

2.2.4 Polyethylene Sheeting - 6 mil thickness, unless otherwise specified, in sizes to minimize the frequency of joints.

2.2.5 Tape - Capable of sealing joints of adjacent sheets of plastic sheets and for attachment of plastic sheet to finished or unfinished surfaces of dissimilar materials and capable of adhering under dry and wet conditions, including use of amended water, chemical removers, or removal encapsulates.

2.2.6 Surfactant (wetting agent) - Detergent solution.

2.2.7 Chemical Remover - Suitable to aid in removal of lead; to be approved by LAC.

2.2.8 Warning Labels and Signs - As required by Cal/OSHA Regulations. All warning signs provided for this project must be in both English and Spanish.

2.2.9 Encapsulant - Product shall have UL approval and be certified by the manufacturer to be compatible for lead painted surfaces and painting over when dry.

2.2.10 Other Materials - Provide all other materials as may be specified in drawings; also, other materials such as lumber, nails, and hardware, which may be required to construct and dismantle the decontamination area and the barriers that isolate the work area.

2.3 TOOLS AND EQUIPMENT

2.3.1 Provide suitable tools for lead paint removal.

2.3.2 Negative Air Pressure System - Whenever a two or three stage containment is required, a negative pressure must be established in the work area by means of a local exhaust system. The equipment shall exhaust through a three-(or more) stage HEPA filtration system to the outside of the work area. The equipment shall be in operation for 24 hours per day until decontamination and final clean-up of the work area is completed. The system shall comply with the following:

2.3.2.1 Filtration equipment shall be in compliance with ANSI Z9.2, Local Exhaust Ventilation.

2.3.2.2 Provide, maintain, and monitor per containment the pressure differential between the work area and the building outside of the work area with a monitoring device incorporating a continuous recorder (e.g., strip chart). Continuously maintain the work area at an air pressure that is lower than that in any surrounding space in the building, or at any location in the immediate proximity outside of the building. This pressure differential, when measured across any physical or critical barrier, must be capable of maintaining a minimum pressure differential of minus 0.02 inch water gauge in the work area relative to adjacent areas.

- On a daily basis submit the printout from pressure differential monitoring equipment, marking printout with date, start time, and end time for each day.
- Use printout paper that indicates elapsed time in intervals no greater than hours.
- Indicate on printout starting and stopping times of lead abatement work, type of work in progress, and filter changes.
- Cut printout into segments by day and attach to 8-1/2" x 11" paper. Label each page by building and date.

- Submit printout to Owner's Representative (IH) on a daily basis.

2.3.3 Negative air pressure system units shall be employed in sufficient quantity to provide 4-air changes per hour in the workplace.

2.3.4 Water Filtration System - Water used for showering in the decontamination area and any other lead-contaminated water must be filtered prior to disposal into the existing sewer system. The system shall at a minimum contain a 3-stage filtering system with a 5.0 micron filter. The filtration system shall be adequate to meet the lead discharge limitations of the local publicly-owned treatment works (POTW).

2.3.5 Half-face air purifying respirator with canisters containing HEPA filters, and NIOSH approval for lead dust and fume.

2.3.6 Type "C" supplied air system or powered air purifying respirators (PAPR), if required by virtue of exposures.

2.3.7 Temporary electrical cords and outlets shall be of an approved type and connected to a source of power outside of the work area and protected by a ground fault circuit interrupter (GFCI) as directed by LAC.

2.3.8 Temporary Electrical Panels - Provide temporary electrical panels sized, properly grounded and equipped to accommodate all electrical equipment and lighting required for lead abatement work.

2.4 PERSONNEL REQUIREMENTS

2.4.1 Training:

2.4.1.1 Any worker entering an area known to contain lead-based paint for the purpose of removing or disturbing lead-based paint must have successfully completed training in Worker Lead-Based Paint Abatement Health and Safety.

2.4.1.2 In addition, lead abatement workers shall have, at a minimum, four days training. Lead abatement supervisors shall have, at a minimum, five days training. Such training shall have been conducted by a training provider accredited by the California Department of Health Services.

2.4.1.3 Evidence of completion of the training required by 2.4.1.2 shall be on site prior to an individual's initial entry into the work area.

2.4.2 Biological Monitoring: All LBP workers must have initial (not greater than 30 days prior to the worker starting on the project) blood lead level (BLL) and zinc protoporphyrin (ZPP) screening determined by the whole blood lead method, utilizing vena-puncture technique. In addition, the Contractor shall have a physical performed for each employee by a physician who understands the requirements of the Cal/OSHA lead standards.

2.4.3 Employees who are exposed or may be exposed at or above the AL for more than 30 days in any consecutive 12 months, shall have BLL and ZPP testing performed at minimum every 2 months for the first 6 months, and every 6 months thereafter.

2.4.4 For LAC projects lasting 30 days or longer, the LBP workers shall have follow-up BLL testing done every 30 days.

2.4.5 A worker will be removed from the job if his blood lead level is 50 µg/100 deciliter (dl) or greater. The Contractor shall be responsible for medical surveillance and record keeping.

2.4.6 Respiratory Protection:

2.4.6.1 It is anticipated that the minimum respiratory protection required for this project is a negative pressure, half mask, air purifying respirator, equipped with HEPA filters for airborne lead levels not in excess of 0.5 mg/m^3 (10 x PEL). However, for abrasive blasting activities a Powered Air Purifying Respirator (PAPR) will be required until air monitoring allows for down grading of respiratory protection. Contractors will base bids on these types of respirators.

2.4.6.2 In the event air monitoring results exceed the protection factor for negative pressure, half mask, air purifying respirators the following protection will be required:

- Full facepiece air purifying respirator, with HEPA filters for airborne lead levels not in excess of 2.5 mg/m (50 x PEL).

- Pressure demand, full facepiece, supplied air respirators for airborne lead concentrations expected to meet or exceed 50 mg/m (1000 x PEL).

2.4.6.3 All workers inside the LBP abatement work area will wear the proper respirator for the lead concentration generated. Contractors will base their bids on proper respirator for the lead concentration generated.

2.4.6.4 Workers must be properly trained in the care, use, and maintenance of respirators. The Contractor will require that a fit test is performed on these workers and passed not less than one month before they enter the work area. A formal respiratory protection program must be implemented in accordance with 8 CCR 5144.

2.4.6.5 Respirators will not be removed until the worker enters the washing area (or equivalent) of the decontamination chamber.

2.4.7 Personal Protective Equipment:

2.4.7.1 Workers will wear full body disposable suits with hoods and booties. A TYVEK or similar type of suit may be worn. Suits will continue to be worn inside the work area after the area passes pre-lead abatement inspection and shall remain in use until the area passes final clearance inspection.

2.4.7.2 Goggles or safety glasses with side shields shall be worn while on site at all times.

2.4.7.3 Additional respiratory protection by supplemental filters, such as organic vapor cartridges, may be needed when handling some removal and/or coating products. Consult the MSDS and obtain the proper filters as necessary.

2.4.7.4 During abrasive blasting operations, a launderable cloth full body suit with hood and booties shall be worn. At the conclusion of this work the coveralls are to be HEPA vacuumed and stored in a plastic bag. They may be re-used until they are ready to launder and/or the end of the project. The contractor may either launder or dispose of the cloth coveralls in accordance with regulatory requirements and these specifications. All other personal protective equipment and personal hygiene practice requirements in these specifications remain applicable.

2.4.8 Personal Hygiene Practices:

2.4.8.1 The Contractor shall enforce and follow good personal hygiene practices during lead abatement. These practices will include, but not be limited to, the following:

2.4.8.1.1 No eating, drinking, smoking, chewing gum, or tobacco, or applying of cosmetics in work area. The Contractor will provide a clean space, separated from the work area, for these activities.

2.4.8.1.2 All workers must wash hands and face upon leaving the work area for breaks and lunch and shall shower at the end of the work shift. Wash facilities will be provided by the Contractor consisting of, at minimum, running potable water, towels, and a HEPA vacuum. Upon leaving the work area, each worker will remove and dispose of work suit, wash and dry face and hands, and HEPA vacuum clothes that were worn under the disposable suits in the work area. An appropriate emergency eyewash shall be available for use.

2.4.8.1.3 The decontamination unit (shower, change room, et. al.) may be located so that it is not contiguous with the work area. In this case, workers shall wear two full body disposal suits, as required in 2.4.7.1, while in the work area. Upon leaving the work area the outside suit shall be HEPA vacuumed and then removed. Then, while still wearing the inside suit and respirator, the worker will proceed directly to the decontamination unit, wash face and hands and clean the exterior of the respirator. Then the inside suit may be removed. The respirator must be removed in the shower room. The interior and exterior of the respirator must be cleaned, filters must be taped or discarded. The respirator must be placed in a clean poly bag and stored in the clean room of the decontamination unit.

2.4.8.1.4 Disposable clothing such as TYVEK suits and other personal protective equipment (PPE) must be donned prior to entering work area. A clean room will be provided for workers to put on suits

and other personal protective equipment and to store their street clothes. Disposable suits shall be used once, then properly discarded.

2.4.8.2 A lavatory facility must be provided and located in the immediate vicinity of work area. The eating and drinking area, clean room, and the lavatory facility must be maintained in a clean and orderly fashion at all times. The Contractor will provide portable lavatories when needed and disinfect them daily. Workers must HEPA vacuum their suits and wash face and hands prior to entering the lavatory or eating/drinking area.

2.4.8.3 If air monitoring data shows that employee exposure to airborne lead exceeds 50 µg/m, the following conditions apply:

- Street clothes cannot be worn into containment. Workers must wear nylon shorts, TYVEK shorts, or proceed under full shower conditions with no cloths under the disposable suit.

- Three-stage decontamination unit must be established consisting of equipment room and airlock shower and airlock and a clean room

- Showers must be provided if feasible. Shower water must pass through at least a 5.0 micron filter before returning to the public waste system, and the effluent discharge lead concentrations must not exceed the levels stipulated by the local POTW. The shower water shall be contained in 55 gallon drums and be tested for lead content before proper disposal.

- All workers must shower upon leaving work area.

3.0 EXECUTION

3.1 WORK SCHEDULE (Include in SSWP)

3.1.1 The work is to be carried out diligently to completion. The Contractor shall furnish to LAC a schedule identifying anticipated starting and completion dates for each removal phase which includes all lead operations.

3.2 PREPARATION OF WORK AREA

3.2.1 The Contractor performing the LBP abatement and demolition shall perform this work in conjunction with various phases of the project identified during the pre-bid job walk or subsequent construction meetings. One layer of 6 mil thick plastic shall be used to protect the floor. All overlaps and seams shall be taped. The contractor is responsible for ensuring the removal of all existing movable, (i.e,. trash, furniture and fixtures, etc).

3.2.2 Work Area: Preparation of the work area is dependent upon the type of lead abatement planned and the expected/experienced concentrations of airborne lead within the containment (employee exposure monitoring) and exterior to the containment (area monitoring). Three levels of engineering controls and work area preparation are anticipated:

3.2.2.1 One-Stage Containment - Air monitoring results less than the AL. Single-layer of six mil polyethylene plastic with Z-flap at entry/egress points and signs to identify the lead abatement area and required entry authorizations. This control level is anticipated primarily for lead abatement via demolition of the walls within the building after paint stabilization has occurred (i.e., removal by scraping of loose paint chips).

3.2.2.2 Two-Stage Containment - Air monitoring results are greater than the AL, but less than the PEL. Complete physical containment with two-layers of six mil plastic on wall, airlocks, clean and equipment rooms and negative air pressure system. This control level may be required for on-site removal methods such as abrasive blasting and on-site LBP removal with chemicals.

3.2.2.3 Three-Stage Containment - Air monitoring results above the PEL. Full three-stage containment with two-layers of six mil plastic, airlocks, negative air pressure system, dirty/equipment rooms, showers, and clean/change room. This control level may be required for extensive on-site, dry removal methods (this type of containment is not anticipated during this project unless the contractors are unwilling to meet the requirements of these specifications).

3.2.3 Shower - Shower facilities are required.

3.2.4 The number, sequence and types of containments shall be identified in the work plan.

3.2.5 Shut down of electrical power: When and where required, provide temporary power and lighting and ensure safe installation of temporary power sources and equipment per applicable electrical code requirements. Provide safety lighting and ground fault interrupter circuits as a power source for electrical equipment. Existing power to the building shall be shut off at the source.

3.2.6 Minimum Lighting: The Contractor shall establish minimum lighting requirements as follows: a minimum of 20 foot-candles in the general work area and a minimum of 50 foot-candles on working surfaces where removal and/or detailing is taking place.

3.2.7 Signage: The Contractor shall post signs immediately outside all entrances and exits to the work area.

3.2.7.1 The Contractor shall keep the signs posted.

3.2.7.2 The Contractor shall insure that the required sign meets the following description:

- The sign is at least 20" x 14" and states the date and place of the lead abatement project
- The sign includes the phrase, "Warning, Lead Work Area, Poison No Smoking, Eating or Drinking" in bold lettering at least two inches high

3.2.8 TWO AND THREE STAGE CONTAINMENTS ONLY

3.2.8.1 Shut down and isolate (by means of one layer of 6 mil plastic sheeting) heating, cooling and ventilating air systems to prevent contamination and lead dust dispersal to other areas of the structure. During the work, vents or openings within the work area shall be sealed with tape and plastic sheeting.

3.2.8.2 Seal off all openings, including but not limited to corridors, doorways, skylights, ducts, grilles, or diffuser openings and any other penetrations of the work areas, with two layers of 6 mil plastic sheeting sealed with tape. Doorways and corridors that will not be used for passage during work must be sealed with 6 mil plastic barriers.

3.2.8.3 Build airlocks at entrances to and exits from the work area. Airlocks should be built in a manner that allows for in-flow air. Make-up air, if required, shall be admitted through

specially constructed vents which prevent contaminated air from leaving the work area.

3.2.8.4 Establish a negative air pressure system which produces 4 air changes per hour in the work area and maintains a pressure differential of minus 0.02 inch water gauge between the inside and outside of the work area. The location and identification of each individual negative air unit shall be provided to LAC for each work area. Identification (for example, labels) shall be clearly visible in the work area and at the unit's exhaust location.

3.2.8.5 A failure rate of 20 percent of the negative air units shall be reason to cease operations and seal the work area until the units are fully operational.

3.2.9 Maintain emergency and fire exits from the work areas, and/or establish adequately marked alternative exits satisfactory to Los Angeles County Fire Code.

3.3 LBP DEMOLITION AND ABATEMENT SHALL NOT COMMENCE UNTIL

3.3.1 The LBP Work Plan, and all required submittals and notices listed in section 1.5 of this document as well as training, respirator program, respirator fit-test results, proof of medical exams, and MSDS have been reviewed and approved by LAC or designee.

3.3.2 Arrangements have been made for disposal of waste at sites acceptable to LAC.

3.3.3 Arrangements have been made for containing and/or disposing of waste water resulting from showering and other LBP abatement activities.

3.3.4 Work areas, decontamination enclosure system, and waste load-out area are effectively segregated.

3.3.5 Tools, equipment, and material waste receptacles are on-site.

3.3.6 All respirators are on-site and fully operative.

3.3.7 A visitor and employee log-in/log-out system is in place at the job site. All persons entering the site will be required to sign in and sign out. Bound, pre-paginated ledgers shall be employed for the sign-in, sign-out system.

3.3.8 Should any Presumed Asbestos Containing Material (PACM) be identified, the work activities shall cease in the effected area and the materials shall be sampled and analyzed for asbestos content. LAC to be notified immediately.

3.4 ENCLOSURE AND WASTE LOAD-OUT AREA

3.4.1 If two or three stage containments are required, construct a worker decontamination enclosure system contiguous to the work area, described as follows:

3.4.1.1 An equipment room with two doorways, one to the work area and one to the shower room.

3.4.1.2 A shower room with two doorways, one to the equipment room and one to the clean room. The shower room shall contain at least one shower with hot and cold water. Careful attention shall be paid to the shower enclosure to ensure against leaking of any kind. Ensure a supply of soap and shampoo is available at all times in the shower room. Clean and dry towels shall be available for employees and owner-authorized visitors and personnel. A three stage water filtration system must be employed prior to release of shower water into the local sewage system.

3.4.1.3 A clean room with one doorway into the shower and one entrance or exit to non-contaminated areas of the building or outside. The clean room shall have sufficient space for storage of the workers' street clothes, towels and other non-contaminated items. Individual lockers shall be available to workers within the clean room.

Workers shall change clothes (i.e., dress and undress) within the clean room exclusively. If additional space is required for changing clothes, the Contractor will be required to construct modesty rooms (if inside the building, use black polyethylene sheeting, if outside the building, use 2" plywood).

3.4.1.4 The worker decontamination enclosure system shall be of rigid construction, preferably movable, and shall exist independent of the facility but contiguous to the work area (i.e., building facilities such as toilets, sinks, and shower shall not be used in constructing the decontamination enclosure system). If the entire facility is built on-site, it shall be constructed of 2" plywood, 2" x 4" studs and fully lined

with two layers of 6 mil polyethylene sheeting. Toilet facilities for workers shall be located within the decontamination enclosure system accessible through either the equipment room or shower room.

3.4.1.5 The worker decontamination area shall be under negative air at all times; sufficient quantities of make-up air will also be provided for by the Contractor.

3.4.1.6 Construct a waste load-out wash down station contiguous to the equipment room or work area. The waste load-out area shall be constructed of 2" plywood, 2" x 4" studs, and fully lined with two layers of 6 mil polyethylene sheeting or as approved by LAC or its designee.

3.4.2 If two or three-stage containments are required, move all materials or equipment from the work area through the equipment decontamination room according to the following sequence:

3.4.2.1 Airlocks shall be established at the entrance of the waste load-out area and a separate negative air machine shall be utilized exclusively for this waste load-out area.

3.4.2.2 Access to the waste load-out area shall only be through the work area through a separate airlock between the work area and the wash down station.

3.4.2.3 At the waste load-out station, thoroughly wet clean contaminated equipment, sealed polyethylene bags or metal drums and pass them into wash room. Once inside the washroom, again wet clean and place sealed metal drums, polyethylene bags or equipment into a second layer of 6 mil polyethylene sheeting or bag. All workers in this decontamination facility shall be required to wear full protective clothing and appropriate respiratory protection.

3.4.2.4 All double-bagged waste shall be transported to dumpster by sealed, portable containers. The dumpster and portable container shall be fully lined (exclusive of ceiling) with one layer of 6 mil polyethylene sheeting. Dumpster and portable containers shall be leak tight and tested by the Contractor.

3.4.3 LBP components shall be transported to the waste dumpster, to the extent feasible, in carts to prevent the loss/spreading of LBP paint chips. If pallet-type or flat bed conveyances, etc., are used, the path from the work area to the dumpster shall be demarked with warning

tape, covered with a layer of 10 mil plastic, if feasible, and cleaned with a HEPA vacuum to ensure that any paint chips are cleaned up.

3.5 MAINTENANCE OF ENCLOSURE SYSTEM

3.5.1 Ensure that barriers and plastic linings are effectively sealed and taped. Repair damaged barriers and remedy defects immediately upon discovery.

3.5.2 Visually inspect enclosures and negative air units at the beginning of each work period or shift. Details of the inspections are to be included in the Contractor's daily log.

3.5.3 Use smoke methods to test effectiveness of barriers and the negative air pressure system when directed by LAC or IH Consultant.

3.6 CLEAN-UP PROCEDURES

3.6.1 General: When active lead abatement work is taking place, there shall be continuous, ongoing cleanup to reduce the accumulation of debris, and the work site shall be cleaned at the end of each day's activities. Prior to beginning lead control, all stored materials or equipment shall be either removed to a "clean room" or wrapped in polyethylene prior to start of the lead abatement work. A separate, secured area within the containment space shall be designated for storage of debris until it can be properly disposed of according to the contract documents. The lead abatement area shall be secured to prevent entry by any persons after termination of the workday. Disposable supplies such as mop heads, sponges, and rags shall be replaced regularly and disposed of according to the LBP Specifications. Durable equipment, such as power and hand tools, generators, and vehicles shall be cleaned monthly. All equipment shall be cleaned by HEPA vacuuming and detergent washing. No equipment shall be removed from the work area until it has been cleaned.

3.6.2 All clean-up procedures, as described herein, will be completed before the removal of the 6 mil. thick area containment plastic sheeting on vents, as well as doorways to the outside.

3.6.3 Clean-Up Methods and Equipment: Areas in which lead abatement operations have been completed shall be cleaned, starting at the ceilings and working down to the floors, by vacuum cleaning using a high efficiency particulate air (HEPA) vacuum, followed by a wet cleaning with a general all purpose cleaner or a cleaner made

specifically for lead. After spraying the surface, a wet and dry HEPA vacuum shall be used to vacuum the water from the surface.

3.6.4 High Efficiency Particulate Air (HEPA) Vacuum: The Contractor will obtain training in the use of the HEPA vacuum from the manufacturer prior to use. The Contractor shall obtain HEPA vacuum attachments, such as various sized brushes, crevice tools, and angular tools to be used for varied application, and service the HEPA vacuum routinely to assure proper operation. Caution shall be taken any time the HEPA is opened for filter replacement or debris removal. Operators shall wear a full set of protective clothing and equipment, including respirators, when using the HEPA vacuuming equipment. Prior to leaving the work area and while in storage each HEPA vacuum must have all orifices sealed with duct tape and vacuum related tools must be cleaned and bagged. Only an approved HEPA vacuum will be used.

3.6.5 Wet Cleaning with a General All Purpose Cleaner: The Contractor shall prepare and use either an all purpose cleaning detergent or a cleaning agent made specifically for lead according to the manufacturer's recommended coverage. Detergent solutions should be replaced after each individual area has been washed unless the Contractor has used a garden spray application and vacuumed the surface. The waste water from cleanup shall be contained and disposed of according to the contract document.

3.6.6 Removal of Plastic Sheeting: The plastic sheeting covering the floors, window openings and ground shall be sprayed, picked up and HEPA-vacuumed prior to removal. The plastic sheeting shall be carefully folded from the corners and ends toward the middle and placed into a double 4 mil or single 6 mil plastic bag and sealed. Bags shall be stored in the designated area and disposed of according to the specifications.

3.6.7 Triple Clean: The entire area shall be HEPA-vacuumed, washed, and HEPA-vacuumed again. No dry sweeping is allowed. After this cleaning, any surfaces requiring painting such as plaster walls, or plaster ceilings shall be sealed or primed with an approved product. The lead related final cleaning may be combined with the final asbestos cleanup procedures.

3.6.8 Cleanup and Inspection After Abatement: The Contractor shall begin final cleanup no less than 24 hours (unless notified otherwise) after final clearance and all materials, equipment, debris and plastic sheeting have been removed. The entire area shall be HEPA-vacuumed, washed with a cleaning agent, and

HEPA-vacuumed, washed with a cleaning agent, and then HEPA-vacuumed again. No dry sweeping is allowed. LAC will then visually inspect the entire area to ensure that all abated surfaces have been primed, painted, or sealed. All disposal supplies used during cleanup, such as mop heads, sponges, etc., shall be disposed of according to the specifications.

3.7 DISPOSAL OF WASTE MATERIAL (Include in SSWP)

3.7.1 The Contractor shall contact the regional EPA, state, and local authorities to determine LBP debris disposal requirements. Resource Conservation and Recovery Act requirements shall be complied with as well as applicable state hazardous waste and solid waste and LAC requirements. During the actual lead abatement, the Contractor shall not leave debris at the facility or nearby property, incinerate debris, dump waste by the road or in an unauthorized dumpster, or introduce lead-contaminated water into storm water (will not be flushed down yard inlet or street drain) or sanitary sewers (will not be flushed down toilet or other household drain).

3.7.2 The presumptions and reservations in 3.7.3 and 3.7.4 govern the classification of the waste, except for waste material not listed therein.

3.7.3 Presumed non-hazardous waste. The following categories of waste material are presumed to be non-hazardous without STLC or TCLP testing.

- Intact painted building materials
- HEPA vacuumed disposable work clothes and cleaned respirator filters
- Filtered wash water
- Wet wiped or HEPA vacuumed plastic sheeting and tape used to protect surfaces

3.7.4 Presumed hazardous waste.

The following categories of waste materials are presumed to be hazardous without STLC or TCLP testing.

- Abrasive blasting materials, if any used
- Paint chips
- HEPA vacuum debris and filters, dust from air filters, and paint dust
- Unfiltered liquid waste
- Sludge from chemical stripping

- Rags, sponges, mops, scrapers, and other such materials used for abatement and cleanup
- Non-impervious work gloves

3.7.5 Hazardous Solid Waste: The Contractor shall place lead-based paint chips, debris, and lead dust, etc., in double (4-mil) or single (6-mil) polyethylene bags that are air-tight and puncture-resistant and place them in properly labeled 55 gallon metal drums provided by the Contractor.

Other types of substrate that do not fit into plastic bags will be wrapped in 6 mil poly and labeled "DANGER, LEAD DUST."

3.7.6 The Contractor will place all disposable materials, such as work gloves sponges, mop heads, filters, disposable clothing, and brooms in double (4-mil) or single (6-mil) plastic bags and in properly labeled 55 gallon metal drums provided by the Contractor.

3.7.7 The Contractor shall clean surfaces and equipment and remove debris. The Contractor shall then remove plastic sheeting and tape from covered surfaces. Prior to removing the plastic sheeting, the Contractor shall lightly mist the sheeting with amended water in order to keep dust down and fold inward into tight small bundles to bag for disposal. The Contractor shall place all plastic sheeting in double (4-mil) or single (6-mil) thick plastic bags and seal them.

3.7.8 The Contractor shall bag and seal vacuum bags and filters in double (4-mil) or single (6-mil) thick plastic bags and place them in properly labeled 55 gallon metal drums provided by the Contractor.

3.7.9 The Contractor shall place all contaminated clothing or clothing covers used during lead abatement and cleanup in plastic bags for disposal prior to leaving the equipment room and place them in properly labeled 55 gallon metal drums provided by the Contractor.

3.7.10 The Contractor shall place solvent residues and residues from strippers in properly lined labeled drums made out of materials that cannot be dissolved or corroded by chemicals. Solvents, caustics, and acid waste must be segregated and not stored in the same containers with LBP waste but must be stored in appropriate disposal drums provided by the Contractor.

3.7.11 The Contractor shall contain and properly dispose of all liquid waste, including lead-dust contaminated wash water.

3.7.12 The Contractor shall HEPA-vacuum the exterior of all liquid waste containers prior to removing the waste containers from the work area and shall wet wipe the containers to ensure that there is no residual contamination. Containers should then be moved out of the work area into the designated storage area.

3.7.13 The Contractor shall carefully place the containers into the truck or dumpster used for transportation.

3.7.14 The Contractor shall ensure that all waste is transported in covered vehicles to a LAC approved disposal site with proper labeling and manifesting.

3.7.15 If the Contractor, with LAC approval, subcontracts the removal of the LBP waste, he shall ensure that the company removing the waste material adequately covers all loads so that no dust or debris is released.

3.7.16 Disposal of Hazardous Waste (as determined by 3.7.3, 3.7.4, or STLC testing). The Contractor will be required to comply with LAC directives concerning all hazardous waste disposal. All disposal costs associated with the wastes are to be borne by the LBP abatement contractor.

3.7.17 Waste Containers: The Contractor will comply with EPA and DOT regulations for containers. The Contractor shall contact LAC, the state, local authorities and the disposal site to determine their criteria for containers. The more stringent requirements shall apply. All disposal costs associated with the wastes are to be borne by the LBP abatement contractor.

3.7.18 The waste containers shall be removed from the site and transported to the waste disposal site when full or within 5 days of the conclusion of abatement work.

3.7.19 Waste Transportation: If the Contractor is not a certified hazardous waste transporter, a contract shall be entered into with a certified transporter to move the waste. This transporter must be approved by LAC. The Contractor shall require the certified hazardous waste transporter to follow all applicable Federal, State, and Local regulations, including manifesting.

3.7.20 Recyclables: The recipient of recyclable materials containing lead paint shall be informed in writing of the presence of the lead paint prior to transporting them.

4.0 LBP ABATEMENT METHODS (Include in SSWP)

4.1 GENERAL

The alternatives covered in this section are included for awareness in the event they may be necessary and available for the contractor to use. Methods that do not generate dust or fume shall be proposed in the SSWP.

4.2 ABRASIVE REMOVERS - MACHINE SANDER

4.2.1 Machine Sanding Equipment

4.2.1.1 Sanders shall be of the dual action, rotary action, orbital or straight line system type, capable of being fitted with a HEPA dust pick-up system.

4.2.1.2 Air compressors utilized to operate this equipment shall be designed to continuously provide 90 to 110 psi or as recommended by the manufacturer.

4.2.2 Execution

4.2.2.1 Sanding shall only be done on flat surfaces which allow the HEPA dust collection hood to come into tight contact with the surface being sanded. Surfaces to be sanded shall be wide enough to allow maximum efficiency of the HEPA dust collection system.

4.2.2.2 All lead-based paint shall be removed down to the bare substrate surface. In cases in which some pigment may remain embedded in wood grain and similar porous substrate, care shall be taken to avoid damage to the substrate with the sanding machine. If the pigment cannot be removed without damaging the substrate, the Contractor shall notify LAC for further instructions.

4.3 DEMOLITION OF INTACT WALLS

4.3.1 The demolition of intact drywall systems will be done in such a manner to control the spread of dust and liquid effluent created during the process.

4.3.1.1 Normal demolition activities that may be utilized by the contractor to demolish the wall systems include, but are not limited to, manual demolition, Bobcat, sawing, etc.

4.3.2 Execution

4.3.2.1 The demolition of the wall systems shall be done wet such that dust control measures are utilized to control the spread of dust and lead dust into various areas of the building which may or may not be directly involved in LBP demolition.

4.3.2.2 The paint chips and dust with paint chips generated during this type of work shall be collected and disposed as hazardous waste.

4.4 HEAT GUN REMOVERS

4.4.1 Heat Blower Gun Equipment. Electrically-operated heat-blower gun shall be a flameless electrical paint softener type. Heat-blower shall have electronically controlled temperature settings to allow usage below a temperature of 700 degrees Fahrenheit. Heat-blower shall be GFCI type (non-grounded) 120V, AC application, UL listed. Heat-blower shall be equipped with various nozzles to cover all common applications (cone, fan, glass protector, spoon reflector, etc.).

4.4.2 Execution

4.4.2.1 The hot air stream from the heat-blower gun shall be directed at the painted surface and the paint allowed to blister and soften. Considerable lead is volatilized from lead-based paint and lead fumes are released at approximately 700 degrees Fahrenheit. Heat-blower shall not be operated above 700 degrees Fahrenheit and respiratory protection is required for all persons in the work area.

4.4.2.2 Softened paint shall be removed down to the substrate surface as completely as possible by scraping and/or brushing. In cases where some pigment may remain embedded in plaster and similar porous substrate, care shall be taken to avoid damage to the substrate with the scraping or brushing. If the pigment cannot be removed without damaging the substrate, the Contractor shall notify LAC for further instructions.

4.5 ON-SITE CHEMICAL REMOVERS

4.5.1 Chemical Stripping Removers

4.5.1.1 **Chemical removers shall contain no methylene chloride products**. Chemical removers shall be compatible with and not harmful to the substrate to which that they are applied. Chemical removers used on masonry surfaces shall contain anti-stain formulation that inhibits discoloration of stone, granite, brick, and other masonry construction.

4.5.2 Chemical Stripping Agent Neutralizer

4.5.2.1 Chemical stripping agent neutralizers may be used on exterior surfaces only. Neutralizers shall be compatible with and not harmful to the substrate that they are applied too. Neutralizers shall be compatible with the stripping agent that has been applied to the surface substrate.

4.5.2.2 Execution. Chemical stripping agents and neutralizers shall be applied in accordance with the recommendations of the manufacturer. Care must be taken to adhere to all health/safety code and other specification section requirements. Stripping agents shall not be allowed to penetrate plaster or substrates. The softened paint shall be removed by scraping or wire brush.

4.6 VACUUM BLASTING REMOVERS

4.6.1 Vacuum Blasting Equipment and Abrasive Media

4.6.1.1 Blasters shall be of full containment vacuum type, designed in full compliance with all codes that govern abrasive blasting the removal and handling of hazardous materials. The machine shall automatically clean dust and contaminants from the used abrasive by a dust separator before reuse of abrasive. All machine air filters shall be automatically cleaned during operations. The machine shall automatically load the dust and contaminants into approved disposable bags during operations. The machine shall be equipped with brush type blast heads for a wide range of flat, curved, and other shaped surfaces.

4.6.1.2 Blasting media shall be non-toxic and conform to the recommendations and specifications of the vacuum blasting machine manufacturer.

4.6.2 Execution

4.6.2.1 Blasting shall be done on flat and shaped surfaces that are compatible with the available blast heads as provided by the equipment manufacturer. Blast heads shall come into contact with the surfaces being blasted to provide maximum containment of dust and debris created by the blasting operation.

4.6.2.2 All lead-based paint shall be removed down to the bare substrate. In some cases in which pigment may remain embedded in porous materials, care shall be taken not to damage the substrate with the blasting operation. If pigments cannot be removed without damaging the substrate, the Contractor shall notify LAC for further instructions.

4.6.2.3 Blasting operations shall be performed by workers who are properly trained in the use of the blasting equipment being utilized.

4.6.2.4 All work shall be in compliance with this Section, all other applicable specification sections, and all health and safety codes.

4.7 ABRASIVE BLASTING

4.7.1 Abrasive Blasting Equipment and Abrasive Media

4.7.1.1 Blasters shall be designed in full compliance with all codes that govern abrasive blasting and the removal and handling of hazardous materials.

4.7.1.2 Blasting media shall be non-toxic and conform to the recommendations and specifications of the blasting machine manufacturer.

4.7.2 Execution

4.7.2.1 The abrasive blasting shall be done within the approved containment.

4.7.2.2 All lead-based paint shall be removed down to the bare substrate. Care shall be taken not to damage the substrate with the blasting operation. If pigments cannot be removed without damaging the substrate, the Contractor shall notify LAC.

4.7.2.3 Blasting operations shall be performed by workers who are properly trained in the use of the blasting equipment being utilized.

4.7.2.4 All work shall be in compliance with this Section, all other applicable specification sections, and all health and safety codes.

4.7.2.5 Work shall be stopped and the area cleaned if visible emissions of dust are observed outside the contained area.

4.8 HEPA VACUUM POWER TOOL CLEANING

4.8.1 Power tool cleaning involves the use of an air compressor to power the sanding, impacting (needle gun), grinding, or brushing equipment in order to remove all paint, rust, and mill scale on metal and irregular surfaces. When surfaces are flat and the tool is used properly, dust generation is minimal. However, dust will escape in areas of complex configuration when an adequate seal between the tool and the surface cannot be maintained.

4.8.2 Containment shall consist of a tarp or wind screen to isolate the work area and ground covering of 10 mil plastic.

4.8.3 Execution

4.8.3.1 Select the proper shroud for the shape of the surface to be treated. Attach tool to HEPA vacuum. Worker fatigue may cause the shroud to loose contact with the surface and may cause a significant amount of dust and chips to be emitted if this occurs. All debris shall be cleaned up as soon as possible to avoid tracking material out of the work area.

4.8.3.2 100percent of this work shall be air sampled.

4.9 PEELING PAINT

4.9.1 There is a substantial amount of peeling paint on the structures to be demolished.

4.9.2 Execution

4.9.2.1 Demolish the structures in a manner to avoid creating lead-containing dust and fumes.

4.9.2.2 During the course of demolition and at the end of each work shift, the fallen paint chips shall be collected manually and/or with a HEPA vacuum. One or more persons shall be assigned this work with no other duties. The paint chips and dust with paint chips collected in this manner shall be disposed as hazardous waste.

4.10 ENCLOSURE - PANELING (INTERIOR)

4.10.1 Materials

4.10.1.1 Pre-finished Plywood Panel: Pre-finished plywood paneling shall be 5/32 inch thick, good (1) grade, lauan backing grade veneer, with Type II bonding glue. Surface flame spread shall not exceed a 200 rating in accordance with ASTM E84 - Surface Burning Characteristics of Building Materials, or in accordance with building code, whichever is most restrictive.

4.10.1.2 Panel Finish-Nails, Putty Stick, Molding: The panel finish shall be as selected by the Project Manager from samples submitted. Nails shall be finish type. Color of nails, putty stick, and molding shall be matched to the paneling. Molding shall be as recommended by the manufacturer.

4.10.1.3 Adhesive: Adhesive for bonding paneling to framing or existing surfaces shall be as recommended by the paneling manufacturer.

4.10.1.4 Furring Strips: If furring strips are used, a system that is enclosed at the top, bottom, and sides of the walls in addition to the placement of the strips for enclosure installation shall be used. Adhesive shall be applied to the top, side, and bottom furring strips prior to attaching the paneling.

4.10.2 Execution

4.10.2.1 Surface Preparation

4.10.2.1.1 Remove foreign material by wash-down with a 5 percent to 10 percent trisodium phosphate solution. Remove loose plaster, loose paint, and loose wallpaper.

4.10.2.1.2 Repair damaged areas flush with existing wall surface prior to installation of paneling.

4.10.2.1.3 Warning labels stating surface contains "LEAD-BASED PAINT" shall be affixed to the surface prior to being enclosed. Labels shall be 3" x 5" and placed every 4' across the wall being enclosed.

4.10.2.2 Test for Soundness

4.10.2.2.1 Test for soundness of paint bond where the condition is questionable by application of 3/8" x 3" long bead of adhesive to the face of an 8" square of gypsum wallboard and press wallboard square on to wall surface to be tested. Allow setting time recommended by adhesive manufacturer. Pull square away from wall. Paint bond is acceptable if the paper surface is separated from the wallboard square.

4.10.2.2.2 Repeat test procedure wherever wall surface is questionable. If test fails, Contractor will notify LAC for further instructions.

4.10.2.3 Paneling Installation

4.10.2.3.1 Panel shall fit as tight as possible to adjacent surfaces (zero clearance). Each panel shall be fitted before applying adhesive.

4.10.2.3.2 The adhesive shall be applied in a 3/8 inch diameter bead at 16 inch o.c. or on all framing and continuous 1/2 inch from edges. One bead shall be installed at each abutting edge.

4.10.2.3.3 Press panel firmly into contact with adhesive. Nail top, bottom, and side edges at 6 inch o.w. Caulk or seal around perimeter of each panel with an approved caulk or sealant.

4.10.2.3.4 Nails used to install paneling over existing wall surfacing shall be sized to penetrate a

minimum of 7/8 inch into the existing wall framing.

4.10.2.3.5 Molding shall be installed with mitered, tight, smooth corners.

4.10.2.3.6 Penetrations made in paneling to accommodate electrical receptacles, switches, light fixtures, etc., shall be sealed continuous with a non-hardening caulk or sealer. Penetrations shall be slightly larger than the existing opening to allow for a tight seal to the existing wall surfacing.

4.11 ENCLOSURE - GYPSUM WALLBOARD

4.11.1 Materials

4.11.1.1 Gypsum Wallboard Gypsum wallboard shall be in accordance with ASTM C36-70 or Federal Specification SS-L030C, Type III, Grade R, Class I and shall be 1/2 inch thick.

4.11.1.2 Molding-Beading

4.11.1.2.1 Corner bead shall be U.S. Gypsum No. 101 dura-bead or equal.

4.11.1.2.2 Casing bead shall be U.S. Gypsum No. 200A metal trim or equal.

4.11.1.2.3 Molding shall be installed with formed, mitered, tight and smooth corners and splices.

4.11.1.3 Adhesive: Adhesive for bonding wallboards to framing or to existing surfaces shall be as recommended by the wallboard manufacturer.

4.11.1.4 Nails: Nails shall not be used.

4.11.1.5 Screws: Screws shall be self-tapping, bugle-head for use with power driven screwdrivers. Type S, 1" long, shall be used to fasten wallboard to sheet metal. Type W, 1-1/4" long shall be used to fasten wallboard to wood. Type G, 1-1/2" long shall be used to fasten wallboard to wallboard. Type G, 1-1/2" long shall be used to fasten wallboard to

an existing plaster wall and shall be penetrated into framing a minimum of 5/8 inch.

4.11.1.6 Furring Strips: If furring strips are used, a system that is enclosed at the top, bottom, and sides of the walls in addition to the placement of the strips for enclosure installation shall be used. Adhesive shall be applied to the top, side, and bottom furring strips prior to attaching the paneling.

4.11.1.7 Joint Materials

4.11.1.7.1 Joint tape shall be perforated type or in accordance with ASTM C475-70 or FS SS-J-570A, Type II.

4.11.1.7.2 Joint compound shall be in accordance with ASTM C475 or FS SS-J-570, Type I, or equal.

4.11.1.8 Laminating Adhesive. Laminating adhesive shall be in accordance with wallboard manufacturer's recommendation or ASTM C557-67.

4.11.2 Execution

4.11.2.1 Surface Preparation

4.11.2.1.1 Remove foreign material by wash-down with a 5 percent to 10 percent high phosphate solution. Remove loose plaster, loose paint, and loose wallpaper.

4.11.2.1.2 Repair damaged areas larger 3" x 3" flush with existing wall surface prior to installation of gypsum wallboard.

4.11.2.1.3 Wallboard shall be conditioned prior to application by storing in the room in which wallboard is to be applied no less than 24 hours before wallboard is installed.

4.11.2.1.4 Warning labels stating surface contains "LEAD-BASED PAINT" shall be affixed to the surface prior to being enclosed. Labels shall

be 3" x 5" and placed every 4' across the wall being enclosed.

4.11.2.2 Test for Soundness

4.11.2.2.1 Test for soundness of paint bond where the condition is questionable by application of 3/8" x 3" long bead of adhesive to the face of an 8" square of gypsum wallboard and press wallboard square on to wall surface to be tested. Allow setting time recommended by adhesive manufacturer. Pull square away from wall. Paint bond is acceptable if the paper surface is separated from the wallboard square.

4.11.2.2.2 Repeat test procedure wherever wall surface is questionable.

4.11.2.2.3 If the test fails, Contractor shall notify the Owner or the Owner's Representative for further instruction.

4.11.2.3 Wallboard Installation

4.11.2.3.1 Wallboards shall be used in maximum lengths to minimize end joints. End joints shall be staggered and located as far as possible from wall and ceiling centers. Each sheet of wallboard shall be fitted before applying adhesive. Fill the perimeter of each sheet with "non-asbestos containing mud" and tape.

4.11.2.3.2 Adhesive bead shall be applied as a 3/8" diameter bead and installed at 16" o.c. or on all framing. Secure all ends and abutting edges by application of a 3/8" diameter bead, continuous 1/2" in from ends and abutting edges.

4.11.2.3.3 Press wallboard firmly into contact with adhesive. Screw top, bottom, and side edges at 8 inch o.c.

4.11.2.3.4 Penetrations made in wallboard to accommodate electrical receptacles, switches, light fixtures, etc., shall be sealed continuous with a non-hardening caulk or sealer. Penetrations shall not be smaller than those in existing wall surfacing to allow a tight seal to the existing surfacing.

4.11.2.4 Joint Treatment

4.11.2.4.1 V-grooves formed by abutting rounded edges of wallboard shall be filled with non-asbestos containing prefill joint compound. Permit prefill joint compound to harden prior to application of tape.

4.11.2.4.2 A thin uniform layer of joint compound shall be applied to all joints and angles that are to be reinforced and reinforcing tape applied immediately. Apply a skim coat immediately following tape embedment.

4.11.2.4.3 Fastener depressions shall be filled level with the wallboard surface by three separate applications of joint compound.

4.11.2.4.4 Two finish fill coats shall be applied and adequate time shall be allowed for drying between coats. Light sanding shall be done between coats to provide a smooth surface before application of second coat.

4.11.2.4.5 All joint compound surfaces shall be sanded to provide a flat smooth surface ready for decorative painting.

4.12 ENCAPSULATION

4.12.1 Encapsulation is the process that makes LBP inaccessible by providing a barrier between the LBP and environment. The barrier is formed using a liquid applied coating or adhesive bonding covering material. The encapsulation product/system shall be warranted by the manufacturer to perform for at least 20 years as a durable barrier. The encapsulant must be capable of being applied safely; must not contain toxic substances; must adhere to existing paint films; must have the ability to remain intact for an extended period of time when

exposed to environmental conditions and use patterns; and it must comply with fire, health and environmental regulations as well as the requirements of ASTM E-1795. Encapsulation is not recommended for friction surfaces (e.g., window jambs, exterior wood flooring, or stairs) deteriorated components or paint films, severely deteriorated paint films, or surfaces in which there is known incompatibility between two existing coating layers.

4.12.2 When encapsulation is used, all areas in which the material exists shall be labeled and recorded.

4.12.3 When encapsulation is utilized LAC shall conduct surface by surface visual inspection of all encapsulant applications at minimum 1 month and 6 months from the date of completion. Any failures of the encapsulant shall be repaired by the Contractor within 30 days.

4.12.3.1 Execution

4.12.3.1.1 The selection and use of encapsulation products or systems: follow the manufacturer's recommendations, select several potential encapsulants and surface preparations and conduct patch tests with the selected products.

4.12.3.1.2 Surfaces to be encapsulated shall be thoroughly cleaned with non-sudsy degreasers or other appropriate cleaning products. Flaking, peeling paint shall be removed and the surface stabilized. If the painted surface is smooth and glossy, the surface shall be de-glossed. Corroded metal should be cleaned using HEPA power tools to remove rust and contaminants. Bare concrete and masonry materials should be washed to remove loose dirt, degraded materials or other surface contaminants.

4.12.3.1.3 Field Patch Tests: When the encapsulant has cured according to the manufacturer's directions, conduct a patch test for each encapsulant, surface preparation, and component. For liquid-applied systems the test patch size is approximately 6 x 6 inches. Smaller 3 x 3 inch patch sizes may be used for fiber-reinforced coverings.

First visually inspect the covering for signs of incompatibility with the paint film.

Cut an 2" x 2" into the patch area approximately 1.5 to 2 inches long. Place the cutting tool at the intersection of the two cut lines and using the point of the cutting tool attempt to peel or lift the patch. If the patch peels or tears a large (1/2 x 1/2 square inch) portion or section of patch away from the existing top coat then the test fails. Document all patch test results.

4.12.3.2 Encapsulants may be brushed, rolled, or sprayed on. Containment shall consist of ground covering with 10 mil plastic. Ventilation is required when using volatile solvents or chemicals.

4.12.3.2.1 Adhesively Bonded Coverings

- Surfaces shall be thoroughly cleaned with non-sudsy degreasers or other appropriate cleaning products. Flaking, peeling paint shall be removed and the surface stabilized.
- Apply adhesive with a roller according to manufacturer's directions.
- Align and trowel the covering over the adhesive.
- Apply top coat if needed.

4.13 OFF-SITE CHEMICAL REMOVERS

4.13.1 Chemical Stripping Removers. Chemical removers shall contain no methylene chloride products. Chemical removers shall be compatible with and not harmful to, the substrate that they are applied to. Chemical removers used on wood substrate shall be of a product that will not raise or discolor wood grain.

4.13.2 Execution

4.13.2.1 Extreme care shall be taken to not damage or cause harm to elements to be taken off-site. Elements must be

marked and identified using an inconspicuous engraving. Hardware associated with an element shall be bagged and marked as to which element the hardware is associated with. If needed, hardware shall be chemically stripped, cleaned, or reconditioned as required.

4.13.2.2 Chemical stripping agents shall be applied and the lead-based paint removed in accordance with the recommendations of the manufacturer. Stripping agents shall not be allowed to penetrate wood or other fibrous substrate.

4.13.2.3 Care must be taken to adhere to all health/safety codes and other specification section requirements that apply to the job site areas.

4.14 REMOVAL AND REPLACEMENT

4.14.1 Materials. All substrates that are removed for future replacement shall be reviewed and approved by the LAC. Substrates include plaster trim, plaster walls/ceilings, wood door trim, wood window trim, wood base, wood chair/crown moldings, and exterior components. No historical architectural elements can be removed without prior written consent by the LAC. A written plan for removal of substrate shall be submitted prior to the start of work for any removal.

4.14.2 Execution

4.14.2.1 Care shall be taken to avoid damage to adjacent areas during the removal of substrate to be replaced.

5.0 INTERIM CONTROL METHODS (INCLUDE IN SSWP)

5.1 GENERAL

The alternatives covered in this section are included for awareness in the even they may be necessary and available for the contractor to use. Methods that do not generate dust or fume shall be proposed in the SSWP.

5.2 PAINT FILM STABILIZATION

5.2.1 Eliminate any exterior and interior leaks in the building.

5.2.1.1.1 Roofing leaks, including porches, gutters, and downspouts must be fully repaired prior to stabilizing the LBP.

5.2.1.2 Missing/deteriorated caulking, trim, fasteners, windows should be replaced and corrected.

5.2.1.3 Eliminate moisture sources such as plumbing leaks and inadequately ventilated areas which can cause paint film

failure.

5.2.2 SUBSTRATE REPAIRS

5.2.2.1 Repair all rotted structural, siding, or railing components; defective plaster; missing door hardware; loose siding or trim; and loose wallpaper.

5.2.2.2 Voids, deterioration, cracks, dents, and other defects in the substrate must be corrected in order to stabilize paint on the substrate.

5.2.2.3 Friction and abrasion points on lead-contaminated surfaces should be repaired and eliminated.

5.2.3 Paint Removal Methods

Recommended approaches to surface preparation are as follows:

5.2.3.1 Wet scraping: continually mist surface with water while scraping to remove all loose, flaking, and deteriorated paint

5.2.3.2 Wet scraping: continually mist surface with water while scraping to remove all loose, flaking, and deteriorated paint

5.2.3.3 Do not remove paint by burning or torching, power sanding with HEPA attachments, or abrasive blasting. Dry scraping and chemical strippers with methylene chloride is prohibited

5.2.4 Special Surface Preparation – Clean, degloss, neutralize, and rinse surfaces.

5.2.4.1 Chemically treat surfaced if necessary to ensure good paint adhesion. Follow manufacture's printed recommendations for the stabilization system used.

5.2.4.2 Test pH of surfaces

5.2.4.2.1 Place litmus paper on wet surface

5.2.4.2.2 Surface pH should be between 6 and 8

5.2.4.2.3 If pH is not between 6 and 8, rinse surface with clear water or other neutralizing solution until proper pH is achieved

5.2.4.3 Remove oils, waxes, and mold

5.2.4.3.1 Provide appropriate eye, skin, and respiratory protection during mold decontamination procedures

5.2.4.3.2 Remove mold with a 1 percent to 10 percent bleach solution.

5.2.4.3.3 Remove waxes with ammonia and water.

5.2.4.3.4 Degrease surfaces with suitable cleanser.

5.2.4.3.5 Thoroughly rinse surfaces after cleaning.

5.2.5 All surfaces should be dry before priming or repainting

5.2.6 Select primer and topcoat by considering longevity, moisture resistance, and organic compound content with low volatility. Paint film stabilization involves the application of at least two coats (printer and topcoat). Use a primer/topcoat system from the same manufacturer to ensure compatibility.

5.2.7 Apply all paints at appropriate thickness or according to manufacturer's directions. Apply paint only during proper temperature, wind, and humidity conditions. Allow sufficient time for each coat to dry fully.

5.3 LOW PRESSURE WATER WASHING

5.3.1 Uncontained low pressure water washing is strictly prohibited due to the potential for widespread environmental contamination. In the event that this method must be used to remove loose paint from a surface a **full** containment is required. The containment shall be structured in such a way as to capture and contain **all** run off water. The run off water shall be considered hazardous until tested to show otherwise. Since capturing and containing all water is not always feasible, this method of paint removal is not permitted for LBP abatement work in housing.

6.0 CLEARANCE CRITERIA

The clearance criteria for each project shall be established prior to the start of a project as all or part of the specification. These criteria will include such elements as surface wipe concentrations, soil concentrations, etc.

6.1 Visual Clearance

After the lead paint abatement, clean-up and waste removal, LAC or designee shall perform a final visual inspection to the degree of cleanliness of the affected area. After the area has passed the visual inspection LAC or designee shall conduct wipe tests in accordance with the CDPH Title 17 requirements. The wipe testing shall be repeated after all further construction activities have been completed and before area re-occupancy.

6.2 Wipe Tests

The wipe tests shall conform to Table 10.1 in the HUD LBP 2012 Guidelines. Samples shall be analyzed by a qualified laboratory utilizing the EPA 6010 method.

6.3 Clearance Criteria

LAC or designee shall submit the test results indicating that the lead dust level in the tested unit is below that allowable by the regulatory agencies. Laboratory turnaround time will be less than 24 hours. The following Title 17 levels (not to exceed) apply:

6.3.1 Floors: 40 micrograms per square foot.

6.3.2 Interior Horizontal Window Surfaces: 250 micrograms per square foot.

6.3.3 Exterior Floors and Exterior Horizontal Window Surfaces: 400 micrograms per square foot.

6.4 Re-Cleaning Requirements

If the test results indicate higher levels, the Contractor shall repeat the clean-up procedure at no cost as described in 3.6.8 and retesting for dust shall be conducted by LAC or designee until the area is tested anLACd found to contain an acceptable level of lead dust.

7.0 PROJECT MONITORING

LAC, at its discretion, may engage the services of a CIH/with CDPH certifications as a Lead Project Designer, Lead Inspector/Risk Assessor, and Lead Project Monitor to provide surveillance and monitoring of the project on behalf of LAC.

This CIH, either directly or via one or more subordinate lead certified professionals, will be responsible to ensure that the lead-related work is performed in accordance with these specifications and the Contractor=s approved work plan, and to conduct surveillance air monitoring and perform the clearance testing.

7.1 Surveillance and Stopping the Work

7.1.1 LAC or designee will provide daily surveillance of the lead related work. LAC or designee Certified Industrial Hygienist may, in the interests of the health and safety of workers, residents and/or the public, approve deviations from these specifications.

7.1.2 If, at any time, LAC or designee decides that work practices are violating pertinent provisions of these specifications, endangering workers, employees, residents or the public, or endangering LAC facilities, LAC or designee will immediately notify the Contractor that operations shall cease until corrective action is taken and the Contractor shall be responsible for stopping the job and taking such corrective action before proceeding with the work.

7.1.3 If a negative air pressure system is required by the initial air monitoring, periodic exposure and/or area monitoring, and at any time is not operating in compliance with the specified requirements, and/or units are non-operational, operations shall cease until the Contractor corrects the deficiencies.

7.1.4 Delays caused by inappropriate work practices as noted in these specifications and/or excessive concentrations shall be at the Contractor's expense.

7.1.5 No later claims for extra compensation which result from action taken under this section will be recognized by the LAC.