

## SECTION 02076 – LEAD REMEDIATION PROCEDURES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Contractor shall be responsible for lead remediation necessary to remove lead-based paint from existing structural members and metal components prior to cutting operations for demolition. All work shall be performed in accordance with all applicable rules and regulations regarding lead remediation and this specification section.

#### 1.2 SUBMITTALS

- A. The following submittals must be approved by the Owner and/or Owner's Authorized Representative prior to bid award:
  - 1. Names and qualifications (experience and training) of supervisor and personnel who will be working on-site.
  - 2. Evidence of current training in LBP abatement by an EPA or State accredited program, or equivalent. Provide proof of successful completion of LBP worker training, and documentation describing the training provider, subject matter, duration, and dates of the course.
  - 3. Name and qualifications of the analytical laboratory used to profile wastes.
  - 4. Names and qualifications of each contractor that will be transporting, storing, treating, recycling, and/or disposing of the wastes. For each facility provide the facility location, phone number, and a 24-hour point of contact. Include copies of all environmental permits and certifications necessary to satisfy local, state and federal requirements.
  - 5. Name, address, and telephone number of landfill. Include all necessary permits and certificates.
- B. The following submittals are required to be approved by the Owner and/or Owner's Authorized Representative after award, but prior to beginning work:
  - 1. Detailed site specific work plan.
  - 2. Methods and materials for lead-based paint abatement and/or the engineering controls to be used when disturbing lead-based paint surfaces (enclosures, dust control and collection mechanisms, etc.). A material safety data sheet and product cut-sheets shall be provided for all chemical removers proposed for use.
  - 3. Work plan for waste containment, removal, and disposal. Wastes shall be cleaned up and containerized daily.
- C. The following submittals are required to be submitted to the Owner and/or Owner's Authorized Representative at the completion of work:
  - 1. All sample results
  - 2. Waste disposal receipts (manifests and Certificates of Destruction).

### 1.3 CODES AND REGULATIONS:

- A. The Contractor is responsible for ensuring compliance with all Legal Requirements including:
  - 1. 29 CFR 1910.1025: US-DOL (OSHA) General Industry for Lead 29 CFR 1926.62: US-DOL (OSHA) Lead in Construction
  - 2. 29 CFR 1926: US-DOL (OSHA) Construction (all provisions)
  - 3. 40 CFR 260-299: US-EPA Resource Conservation and Recovery Act (RCRA)
  - 4. 40 CFR 300-399: US-EPA Comprehensive Environmental Response Compensation and Liability Act (CERCLA)
  - 5. 49 CFR 171-180: US-DOT Hazardous Materials Regulations

## PART 2 - PRODUCTS

### 2.1 PAINT AND ADHESIVE REMOVER:

- A. Liquid products to remove paint and adhesive shall be a type recommended by the manufacturer for removing paint or adhesive from each substrate without causing undue damage to the substrate. Materials used are to be of limited toxicity, volatility, and flammability. Products containing methylene chloride are prohibited. A material safety data sheet (MSDS) and other appropriate product information for all removers proposed for use shall be submitted to the Owner for approval (as required by 1.2B above).

### 2.2 VACUUMS

- A. All vacuums used during paint and adhesive removal shall be equipped with HEPA filters conforming to ANSI Z9.2 1979.

### 2.3 RESPIRATORS AND PROTECTIVE CLOTHING

- A. At a minimum, workers shall wear disposable coveralls including shoe covering and respiratory protection appropriate for the hazard. Use special precautions if chemical strippers will be used (clothing, gloves, and face shields per MSDS recommendations). The contractor shall place disposable coveralls with abatement waste on a daily basis. All workers shall be trained on the hazards of lead and good personal hygiene, such as no eating/drinking/smoking in the work area, and washing when leaving the work area.

## PART 3 - EXECUTION

- A. Numerous trades workers and project personnel will be active at the site simultaneously during demolition (e.g., a multi-contractor work site as defined by OSHA). Abatement and/or demolition activities must comply with submittal information and precautions must be taken to protect unaffected adjacent areas from exposure to lead-contaminated dust.
- B. Interior demolition of lead painted surfaces and other activities that generate lead dust shall be performed within an enclosure that is dust tight and is equipped with HEPA exhaust.

### 3.2 PREPARATION

- A. Before beginning lead paint removal in any area, cover all surfaces that may accumulate dust and paint chips with 6 mil plastic sheeting taped securely in place. Barriers and coverings shall be adequate to ensure that dust, debris, fumes, etc, are contained within the work area and do not contaminate building surfaces.
- B. Warning signs shall be placed at the entrance to LBP work control areas.
- C. Exits and stairwells shall not be blocked without the permission of the Owner.

### 3.3 WORK PROCEDURES

- A. The method of lead-based paint abatement removal chosen by the contractor must minimize the generation of lead dust. The following methods of paint and adhesive removal will not be allowed: open flame burning, dry scraping, and machine sanding without attached high efficiency particulate air (HEPA) filtration.
- B. Coordinate work of all trades to ensure that their work is performed in accordance with applicable regulations and to ensure that the integrity or isolation of the regulated lead removal (control) area is maintained.
- C. The contractor is responsible for personal air monitoring under OSHA regulations to document and control worker exposure. OSHA regulations include provisions for exposure monitoring, engineering and work practice controls, training, medical monitoring, record keeping, and job removal. Personal air monitoring results can be used to determine the effectiveness of engineering controls, the adequacy of personal protective equipment, and to determine if proper work practices are being employed (decisions to be made by contractors "competent" person). The Owner shall be notified of all air monitoring results and any personal air monitoring result that equals or exceeds 30 micrograms per cubic meter of air (ug/m<sup>3</sup>) shall be flagged. The contractor shall take steps to reduce the lead concentrations in the air.
- D. The Owner or his designated representative will perform environmental testing prior to beginning work, to demonstrate that there is no appreciable elevation of airborne lead outside the work area. Sampling will also be performed outside the work area during the initial phase of removal to evaluate whether lead levels are maintained below the OSHA action level of 30 ug/m<sup>3</sup>.
- E. Upon exiting the removal area, personnel shall decontaminate by vacuuming gross debris from disposable clothing and thoroughly wash all exposed body surfaces. The contractor is responsible for supplying adequate washing facilities for their employees. Workers shall not leave work area wearing protective clothing.

### 3.4 CLEANUP AND DISPOSAL

- A. Housekeeping: Surfaces in the LBP control area shall be maintained free of accumulations of paint chips and dust. Spread of dust and debris shall be restricted. Dry sweeping or compressed air shall not be used for cleanup.

- B. At the end of each work period, HEPA vacuum and collect all debris to maintain surfaces free of paint chips and dust accumulation. Seal lead debris in airtight containers and remove from work site.
- C. Final cleaning/approval: HEPA vacuum and damp clean area with an anionic solution. Area shall be visually clean of all debris and dust. If the Owner and/or Owner's Authorized Representative, i.e. Industrial Hygiene firm, finds the area unacceptable, the contractor, at his own cost, shall re-clean until acceptance is gained. Final inspections will be performed by the Owner and/or Owner's Authorized Representative. In some instances, lead wipe samples may be collected for acceptance after final cleaning.
- D. Handling and disposal of all waste and debris is to be in compliance with OSHA, EPA, DOT, state, and all other applicable regulations. The contractor is responsible for performing TCLP (toxic characteristic leaching procedure) sampling to determine if debris is to be handled and disposed of as hazardous waste.
- E. A copy of each manifest is to be provided to the Owner and designated facility contact at the time the shipment is made. Within 30 days of the time the Hazardous Waste Treatment Storage and Disposal Facility (TSDF) receives the waste a completed copy of the manifest is to be provided to the Owner and facility contact. Certificates of Destruction or Disposal (CD) shall be provided to the same parties within 90 days of delivery of waste to the TSDF.
- F. For materials that are recycled, contractor shall provide an affidavit or notarized statement indicating the quantity of material, and its recycling location by business entity name and address.

### 3.5 REMEDIATION METHODS

- A. Contractor shall be an experienced lead remediation contractor or appropriately experienced subcontractor shall be retained for the remediation process. The contractor/subcontractor shall identify the remediation methods to be used to remove the potential hazard posed by the existing paint coatings. The contractor retained for the remediation shall be knowledgeable in the practices and procedures of lead remediation, and demonstrate proof of such knowledge, and also demonstrate past compliance with the OSHA Lead in Construction Standard (29 CFR 1926.62). At a minimum, the contractor should submit the following information prior to commencement of the remediation:
  - Medical Surveillance Program
  - Lead Abatement Training Records/Certificates
  - Lead Compliance Program
  - Respiratory Protection Program
  - Previous Exposure Assessments

### 3.6 METHODS OF REMEDIATION

- A. Method # 1 - Manual Scraping (utilizing hand tools)
  - 1. The contractor shall utilize wet misting techniques using an airless water sprayer to both reduce workers exposure to airborne lead dust and prevent the dispersal of such dust outside of the contained work area. Dry removal methods are absolutely prohibited. After

the wet misting procedure, the contractor shall remove and containerize all loose, chipped, peeling, flaking and blistering lead-containing paint and other debris created, for disposal as determined through lab analysis.

B. Method # 2 - Chemical Stripper

1. The contractor shall utilize safe and effective chemical agents to perform spot removal of building components. The procedure is very similar to painting in that the chemical is applied by brush or sprayer. Each stripper has a different "cure" time which is affected by the thickness of application, the substrate, the thickness of the paint, and atmospheric conditions (i.e., high humidity). Removal of the stripper is accomplished by manual scraping (Method # 1) or by applying a special paper to the chemical after it is applied. This paper adheres to the stripper and is peeled away after the appropriate curing period. Test patches are always conducted to determine the appropriate chemical and curing period. This method of remediation may involve a considerable amount of time (curing period); however, airborne concentrations of lead are significantly reduced.

C. Method # 3 - Power tool / HEPA shroud

1. The contractor may choose to utilize power tools equipped with a HEPA shroud vacuum attachment and exhaust to perform spot removal of coatings on building components. The exhaust system shall be of sufficient strength and power to contain any dust and debris generated by the power tool removal. Materials shall be wetted prior to removal. The contractor shall have airless sprayers and HEPA vacuums in the work area to control any airborne emissions of dust and debris.

END OF SECTION 02076