Appendix 6: Other Organizations Providing the EPA Lead-Based Paint Abatement Supervisor and Inspector Course Curriculum

This list is not complete and is simply a compilation of training providers made available to HUD at the time of publication. All training providers who contacted HUD and indicated a desire to be included are listed below. HUD does not recommend one training provider over any other. This listing is for informational purposes only. Other training providers can be identified through the local telephone directory or trade publications.

AFSCME
1625 L Street, NW
Washington, DC 20036
(202) 429-1232

The Aulson Company, Inc.
191 S. Main St
Middleton, MA 01949
800 - 998-0212

Insulation Industry Apprentice and Training Fund
1680 E. Gude Drive
Rockville, MD 20850
(301) 294-3193

Leadtec Services
8841 Orchard Tree Lane
Baltimore, MD 21286
410-682-5323

International Brotherhood of Painters
1750 New York Avenue, NW
Washington, DC 20006
(202) 637-0740

Laborers’ Health & Safety Fund
905 16th Street, NW
Washington, DC 20006
(202) 628-2596

National Ironworkers & Employers
1750 New York Avenue, NW #400
Washington, DC 20006

National Training Fund/SM&ACI
Edward Carlough Plaza
601 N. Fairfax Street, #240
Alexandria, VA 22314
(703) 739-7200

United Brotherhood of Carpenters
101 Constitution Avenue, NW
Washington, DC 20001
(202) 546-6206

Committees on Occupational Safety and Health that provide Lead Abatement Training

Alaska Health Project
1818 W. Northern Lights Blvd., Ste 103
Anchorage, AK 99517
(907) 279-3089

Alice Hamilton Occupational Health Center
408 7th Street, SE
Washington, DC 20003
(202) 543-0005/(301) 731-8530

Maine Labor Group on Health
Box V
Augusta, Maine 04330
(207) 622-7823
MASSCOSH
555 Amory Street
Boston, MA 02130
(617) 524-6686

SEMCOSH
2727 Second Street
Detroit, MI 48206
(313) 961-3588

WASHCOSH
677 E. Marginal Way South
Building D
Seattle, WA 98108
(206) 433-4721

Western MASSCOSH
458 Bridge Street
Springfield, MA 01103
(413) 731-0760

NORTHEAST REGION
CON-TEST Education Resource Center
39 Spruce Street, P.O. Box 591
East Longmeadow, MA
(800) 626-8378

Environmental and Occupational Health Sciences Institute (EOHS)
45 Knightsbridge Road
Piscataway, NJ 08854-3923
(908) 235-5062

FailSafe Risk Management Alternatives, Inc.
433 River Street, Bldg. E
Troy, NY 12180
(518) 270-8391

Quality Control Services, Inc.
10 Lowell Junction Road
Andover, MA 01810
(508) 475-0623

US Lead Training Institute, Inc.
206 S. Third Street, 2nd Floor
Philadelphia, PA 19106
(215) 625-3512

GREAT LAKES & MID-ATLANTIC REGION

Industrial Training Company
551 W. Grace Street
Richmond, Va 23220-1132
(804) 648-7836

Occupational Training Services
700 S. Pulaski Road, Bldg. 200
Chicago, IL 60652
(708) 385-1325

Professional Service Industries, Inc.
510 East 22 Street
Lombard, IL 60148
(708) 990-8282

Retraining Centers/USA 2000
34 South High Street
Akron, OH 44308
(800) 849-4083

SOUTHERN REGION

Environmental Resource Center
101 Centre Point Drive
Cary, NC 27512
(919) 469-1585

Gebo Associates, Inc.
669 Airport Freeway
Hurst, TX 76053-3962
(817) 268-4006

Health & Hygiene
420 Gallimore Road
Greensboro, NC 27409
(910) 665-1818

NATEC of Texas, Inc.
8981 Interchange Drive
Houston, TX 77054
(800) 446-2832
Seagull Environmental Training
903 Northwest Sixth Avenue
Fort Lauderdale, FL 33311
(800) 966-9933

University of Alabama
College of Continuing Studies
Box 870388
Tuscaloosa, AL 35487
(205) 348-3028

University of Florida
TREEO Center
3900 SW 63rd Boulevard
Gainesville, FL 32608
(904) 392-9570

University of North Carolina
Occupational Safety and Health Educational Resource Center
109 Connor Drive, Suite 1101
Chapel Hill, NC 27514
919-962-2101

WESTERN REGION

Occupational Knowledge, Inc.
2030 Franklin Street, Suite 220
Oakland, CA
(510) 444-0163

Health & Environmental Technology Center
Moore-Norman Area Vo-Tech Center
4701 12th Ave NW
Norman, OK 73069
800-872-4623

University of California
UC Berkeley Extension, Environmental Management
2223 Fulton Street
Berkeley, CA 94720-7012
(510) 643-7143
Appendix 7.1: Elements of Inspection and Risk Assessment RFPs

A. Scope of Work—A detailed description of the services to be provided.
   1. List of Housing Locations, Site Plans, and Location Maps.
   2. Description of Structures: Describe building type, construction, painting history (if known), special conditions.
   3. Unit Size Breakdowns for Each Development: Require that sampling include all bedroom sizes in the proportion that they occur in each development.
   4. List of Common Areas, Management and Community Facilities, and Other Areas to Be Included (For Risk Assessment—Playgrounds and Large Parking Areas).
   5. Inspection Report Requirements.

The Risk Assessment Protocol in Chapter 5 and the Inspection Protocol in Chapter 7 provide specific report formats for risk assessments and inspections. Report requirements may be governed by EPA regulations issued pursuant to Section 402 and 404 of TSCA, or by local authorities.

For inspection reports, the following may be required: Executive summary (includes a listing of components that tested positive), sections on regulatory compliance, overall scope of work, unit selection methods, field procedures, laboratory and field quality control procedures, Substrate Equivalent Lead determination, data analysis and reduction, laboratory procedures, and application of HUD decisionmaking rules.

B. Standards—References or regulatory standards to be met in providing services.
   1. *HUD Guidelines for the Evaluation and Control of Lead Hazards in Housing.*
   2. State or Local Regulations, if applicable.
   3. Environmental Protection Agency (EPA) regulations.
   4. HUD regulations.
   5. Occupational Safety and Health Administration (OSHA) Regulations.

C. General Instructions.
   1. Submission Time and Dates.
   2. Notice of Preproposal Conferences and Site Reviews. (Such conferences are strongly recommended so that proposers can review conditions in the field.)
   3. Opportunities and Form for Submitting Questions or Comments.

5. Conditions for Award of Contract.

6. Proposed Form of Contract. The applicable HUD Handbook includes a model consultant contract for use by housing authorities and other public agencies.

D. Financial, Insurance, and Legal Requirements: If not included in proposed contract, special requirements should be defined.

E. Proposal Format and Content.
   1. Required Presentation Format.
   2. Transmittal Letter Contents.
   3. Statements of:
      a. qualifications—certification and training are required (some jurisdictions may also require certifications).
      b. related experience—directly applicable experience in performing these services for comparable housing.
      c. references.
      d. proposed staffing and project organization.
      e. work plan/technical approach.
      f. base price and unit prices for additional work (e.g., paint chip samples and collection).

F. Proposal Evaluation and Contract Award.
      a. Qualifications, experience, and references.
      b. Staffing and organization.
      c. Quality of proposed work plan/technical approach.
      d. Cost and price.
   2. Other Special Requirements—Local preferences, minority participation.

G. Other Issues.
   1. Qualifications—For both inspection and risk assessment, qualifications must include certification and/or licensing by a specific State or local agency.
   2. Experience—Experience in inspection/risk assessment of similar housing in accordance with HUD protocols.
   3. Related Qualifications, Experience, and Training.
a. Experience in inspection (other than lead-based paint), maintenance, renovation, or management of housing similar to the housing units for which services are being sought. This experience is most relevant for risk assessment.

b. Experience in the planning, design, and monitoring of lead-based paint hazard control projects. This experience is most relevant to inspection services.

c. Experience in collecting environmental samples and interpreting test results. Collection and analysis of lead samples such as dust wipes, soil, paint chips, and water samples in housing environments. Applicable to both risk assessment and inspection.

d. Experience in environmental report writing. Ability to outline a lead hazard control strategy with an order of priorities and recommended methodologies.


a. Inspection—Proposals should contain an estimate of the number of XRF measurements and a brief description of locations where XRF measurements will be made in order to demonstrate that costs are reasonable. If this cost breakdown is provided, it will be possible to compare proposals on a systematic basis. The proposal should also contain unit prices for:

i) collection and analysis of paint chip samples if necessary for confirmatory purposes; and

ii) addition or deletion of XRF measurements.

b. Risk Assessment—Proposals should include a breakdown of the total price into:

i) the cost for laboratory analysis of the estimated number of environmental samples to be collected; and

ii) the cost for all other services, including the cost of collecting the samples and other field work and report writing. If this cost breakdown is provided, it will be possible to compare proposals on a systematic basis. The proposal should also contain a unit price for the collection and analysis of additional environmental samples in case they are needed.


a. Certification, training, and price should be considered in evaluating proposals.

b. Understanding and experience in using HUD Lead-Based Paint Testing and/or Risk Assessment Protocols are essential requirements.
Appendix 7.2: Types of Lead-Based Paint Enclosure Systems

General Notes

The following notes apply to several of the Enclosure Systems used to seal interior and exterior surfaces of walls, ceilings, floors, doors, windows and trim which contain lead-based paint.

a. Application of gypsum board, plywood paneling, or solid board paneling directly to existing wall or ceiling surfaces requires anchorage to structural wood or steel joists or ceiling joists or rafters by suitable screws penetrating the structure at least ¾". Attachment may also employ a combination of screws and construction adhesive. For application directly to masonry surfaces, case-hardened masonry nails, of sufficient length to extend into the masonry, and construction adhesive are required.

b. Furring may be required to produce a true and even support for panel or board finish materials. Furring may be wood 1" x 2" strips or metal channels. Resilient metal channels may be used where additional sound attenuation is desired. Furring may be applied vertically or horizontally to accommodate the direction of the finish material. Furring shall be anchored to structural studs, ceiling joists or rafters preferably with bugle-head screws or annular-ringed nails; to steel studs or channel framing, anchorage shall be by bugle-head screws. Anchorage of furring strips to concrete or masonry walls shall be by case-hardened masonry nails, anchors, or toggle bolts. Furring shall not be more than 16" on center of walls or 24" on center for ceilings.

c. Gypsum, cement, or metal lath shall be anchored to structural wood or steel studs, joints, or rafters, or to wood or metal furring by bugle-head screws. Anchorage of metal lath to concrete or masonry walls shall be by case-hardened masonry nails, power or hand drive.

d. All enclosure systems (wood panels, boards, plaster and stucco systems, siding and tile) shall include the sealing of all joints, edges and corners with suitable materials. Penetrations of walls and ceilings serving electrical outlets, switches and fixtures, heating and cooling duct registers, plumbing and heating pipes shall be sealed by collars, foam or other approved devices to prevent dust from lead-based painted surfaces escaping enclosed surfaces. All sealing materials shall have an expected service life of a minimum of twenty years.

e. Enclosing systems shall leave interior space dimensions, areas and ceiling heights sufficient to meet all building codes and minimum property standards. Exterior enclosure systems shall permit structures to meet zoning restriction for set back requirements.

f. For enclosure systems which do not produce an air-tight enclosure such as plaster and stucco systems with control joints, wood paneling, and aluminum and vinyl siding, the
covering of the surface by a breathable wrap such as Tyvek® should be required to prevent lead-containing dust particles from migrating. Where breathable cloth is used to enclose existing wall surfaces, required ventilation strips and openings shall not be covered but shall remain open.

1. **Gypsum Board Applied Directly to Existing Walls or Ceiling Surfaces**

Enclosure of lead-based paint on gypsum board or plaster surfaces may be achieved by application of ¼" or 3/8" thick standard gypsum board directly to existing walls and ceilings. Gypsum board with tapered edges shall be attached with drywall screws or a combination of screws and construction adhesive. If quarter inch thick drywall is used, the surface to be enclosed must be essentially free of holes.

Screws shall be of sufficient length to pass through the existing drywall or plaster and intrude into the structural wood studs or ceiling joist 5/8" - 3/4".

Finishing materials including joint tape, corner and edge beading and spackle shall be as approved by gypsum board manufacturers and installed in accordance with their recommendations.

In high moisture areas, such as laundries and baths, moisture-resistant gypsum board shall be used. In bathtub or shower enclosures to be covered by tile, cement board shall be used.

All joints, corners, and edges and all surface penetrations for electrical outlets, switches, light fixtures, pipes and duct grilles and registers shall be sealed by means of collars, foam, or other approved devices to prevent dust from lead-contaminated surfaces from reaching newly enclosed areas.

Gypsum board shall be applied in accordance with the General Notes.

2. **Gypsum Board Applied to Furring Strips**

Where existing plaster or gypsum board surfaces are not suitable for direct application, a new layer of gypsum board may be applied over furring strips. Furring may be designated where the surface is uneven or has deteriorated or to cover existing surface moldings.

Furring may be wood 1" x 2" strips or metal channels shimmed as required to produce a true and even surface. Resilient metal channels may be used where additional sound attenuation is desired. The thickness of gypsum board shall be a minimum of ½" and spacing of furring shall meet industry standards.

Furring shall be anchored to structural studs, ceiling joists or roof rafters not more than 16" on center preferably with annular ringed nails penetrating the members approximately ¾".

Gypsum board panels shall be applied to furring strips as described in Section 1 and in accordance with the General Notes.
3. Lath and Plaster Applied Directly to Existing Wall and Ceiling Surfaces

Where existing wall and ceiling surfaces are sound and even, enclosure may be achieved by application of expanded metal lath or gypsum lath and required base and finish plaster coats. Selection of a plaster system depends on the desired surface and finish characteristics such as a smooth, sanded, hard or moisture resistant. Plasters may be job-mixed or ready-mixed systems as needed to satisfy the requirement of the job. Job-mixed plasters include lime plasters, sand gauging plasters, and Keenes cement.

Lath systems include gypsum lath and a variety of metal laths. Gypsum lath is usually available in sheets 16” x 48”. Lath shall be applied as described in the General Notes.

4. Lath and Plaster Applied Over Furring strips

Where instability or unevenness of the existing surface requires, furring shall be installed prior to application of lath and plaster.

Furring may be 1” x 2” x 2” x 2” wood strips, metal hat-shaped channels, resilient metal channels or plaster lath strips. Anchorage of furring shall be to structural members, studs, joists or rafters by suitable nails, screws or other devices as described in the General Notes.

Lath may be gypsum lath, 16” x 48”, or expanded metal or ribbed metal.

As an alternative to a conventional 3-coat plaster system, a veneer system of one or two veneer coats to a thickness of 1/16” to 1/8” may be used. Veneer plaster is applied to a specially prepared gypsum baseboard.

For spaces where high-moisture is expected, such as steam rooms or swimming pool enclosures, Keenes cement lime-sand plaster is recommended. Edges, corners, joints, and spaces around openings for electrical, plumbing and heating devices shall be properly sealed by materials with a life-expectancy of not less than 20 years from the passage of dust particles.

Application shall also be in accordance with the General Notes.

5. Stucco and Metal Lath Applied Directly in Wall and Ceiling Surfaces

Where greater surface durability, water resistance, variety of texture or integral color is desired, stucco systems may be used in place of gypsum plaster. When used as a lead-based paint enclosure system, stucco - a wet mixture of portland cement and lime - is trowel or spray applied to anchored expanded metal lath to produce a complete seal of wall or ceiling surfaces.

Stucco may also be used to enclose lead-based paint surfaces over expanded metal lath or over rigid foam board. The latter systems using polymer-based or polymer-modified plasters are spray or trowel applied to insulation board to which a mesh reinforcement has been attached. These systems are known as Exterior Insulation Finish (EIF) and should be installed in accordance with recommendations of the Exterior Insulation Manufacturers Association (EIMA). In order to prevent lead-contaminated dust from leaving the surface and migrating through control joints a breathable wrap material such as Tyvek® may be required.
All stucco systems for interior or exterior lead-based paint enclosures shall provide control joints to prevent surface cracking. Other recommendations in General Notes shall also apply.

6. **Stucco Applied to Metal Lath on Furring Strips**

Stucco may be used to cover lead-based paint on interior walls and ceilings and exterior surfaces of many construction systems where the condition of the substrate requires furring strips for adequate anchorage of the lath.

Stucco, usually applied to lath in three coats - scratch, brown, and a finish coat - produces a highly water-resistant surface. Finish coats are available in a variety of textures and colors.

Lath for stucco is available in expanded metal, ribbed and self-furring lath. Accessories for control joints, reinforcing and corner beads are available.

Furring may be wood, 1" x 2" or 2" x 2" strips or metal hat-shaped channels. Rigid foam board for EIF systems may also be used.

Recommendations included in General Notes should be followed for stucco systems.

7. **Plywood Paneling Applied Directly to Existing Wall and Ceiling Surfaces**

Prefinished plywood panels or panels to be finished after installation, usually ¼" thick, may be installed to walls and possibly to ceiling surfaces where the condition of the surface is suitable for application using annular-ringed nails and construction adhesive.

Care must be exercised in sealing all joints and edges to prevent passage of lead-containing dust particles. Non-hardening sealants such as silicone or urethane having a minimum 20 year life expectancy must be used for this purpose.

Lead-painted exterior surfaces may be enclosed with plywood panels such as Texture 1-11 or other plywood sheets, usually 5/8" to ¾" thick. Application of these panels directly to existing surfaces requires anchorage to structural members using suitable nails or a combination of nails and construction adhesive. Passage of lead-containing dust must be prevented by sealing all edges and joints by suitable sealants and where necessary a surface wrap with a breathable cloth such as Tyvek®.

Additional recommendations listed under General Notes should also be followed.

8. **Plywood Paneling Applied Over Furring Strips**

Where plywood is used to enclose lead-based painted surfaces, which are unsuitable for direct attachment of plywood, furring strips, shimmed as required, may be used to provide a sound, level base to which plywood may be secured.

Wood furring, usually 1" x 2" or 2" x 2" strips, 16" to 24" on center is securely anchored using nails or screws to exiting structural members or by means of masonry anchors, nails or toggle bolts to brick or masonry block walls.
All edges and corners of plywood panels must be sealed and surfaces wrapped where required to prevent dust migration. Other appropriate recommendations listed under General Notes must also be followed.

9. **Solid Board Paneling Applied Directly to Wall or Ceiling Surfaces**

Solid board paneling may be used to enclose lead-based painted interior wall and ceiling surfaces and exterior wall surfaces by application directly to suitable substrates.

Interior paneling may be unfinished or prefinished softwoods such as cedar, cypress, redwood, fir, and pine and hardwoods such as oak, elm, ash, fruitwoods, maple and walnut.

Exterior woods are usually the more insect-resistant woods such as cedar, cypress and redwood.

Most solid wood paneling is finished with tongue and groove or shiplapped edges for horizontal or vertical application or with interlocking edges, tapered for horizontal application. Some particle board material for horizontal application is also manufactured. Wood shingles, usually cedar, may also be used for exterior enclosure. Anchoring devices may be suitable nails or staples often used with a construction adhesive.

For most systems a breathable cloth wrap, such as Tyvek® is recommended as are other General Note suggestions.

10. **Solid Board Paneling Applied Over Furring Strips**

Where the condition of the surface to be enclosed lacks stability or evenness, the solid board paneling materials, minimum thickness of 5/8", as described in Section 9 above, may be installed over furring strips shimmed to produce an even, stable surface.

Furring may be wood 1" x 2" or 2" x 2" strips applied horizontally to accommodate vertical paneling or vertically to accommodate horizontal paneling. A wrap of the lead-based painted surface is usually required prior to installing furring. A breathable plastic cloth such as Tyvek® is used as wrap material to prevent lead-contaminated dust particles from migrating. Application shall also be in accordance with the General Notes.

11. **Extruded or Shaped Sheet Metal over Existing Trim**

In some construction situations, door and window frames and trim containing lead-based paint may be enclosed by the use of extruded vinyl shapes more cost effectively than removal and replacement of the in-place trim. Enclosure of the existing trim surfaces must completely seal all edges, corners and joints of the new trim covers with sealants such as silicone or urethane having a life expectancy of at least 20 years. Attachment may be accomplished by suitable nails, screws or clips and construction adhesive.

12. **Ceramic Tile Applied in "Thin-Set" Mastic Directly to Existing Surfaces**

Where condition of existing walls or floors allows, ceramic tile may be applied by "thin-set" method to surfaces containing lead-based paint to be enclosed. Tile should be pressed into a full-covering layer of mastic and allowed to set before applying grout to all surface joints. Sufficient grout shall be used to fill all spaces around and between tiles.
13. **Ceramic Tile Applied in Mud Coat to Lath Directly to Existing Surfaces**

Where it is desired to set ceramic tile in a mud coat, expanded metal lath or cement board lath is applied to existing lead-based painted surfaces. Tile is then set in a mud coat to the lath, allowed to set and then grouted with full joint grout. General Notes requirements also apply.

14. **Ceramic Tile Applied in "Thin-Set" Mastic Over Furring**

Where the surface of existing lead-based painted walls requires furring to achieve a sound, level support for application of ceramic tile, a cement board panel may be anchored to wood strip, metal channel or cement board strips shimmed as required. Ceramic tile is then set in mastic on the furred cement board base. After the mastic has set up, all edges and joints between the tile are grouted with grout forming a full joint in all voids. General Notes requirements also apply.

15. **Ceramic Tile Applied in "Mud Coat" Over Furring**

Ceramic tile to be used for enclosing lead-based painted surfaces may require a "mud coat" setting bed on a furred base. This may be especially true of the less precise hand-formed floor tile which requires a thicker setting bed permitting adjustments to produce an even floor.

On walls, metal lath or cement board lath may be attached to furring as a base for mud-coat setting bed. Furring should be shimmed as required to produce a level base for tile.

On floors, cement board, furred or shimmed as required to produce a true and level surface, is a suitable base for a "mud coat" application. General Note requirements apply.

After the tile has set, joints are grouted with suitable joint materials. Ceramic tile on floors requires a sand-mixed grout to produce a strong joint.

16. **Brick Veneer Used to Enclose Lead-Based Painted Surfaces**

A single width of brick may be applied as a brick veneer to enclose lead-based painted surfaces on both interior and exterior surfaces.

The first course of brick must be provided with the adequate structural support of a beam or steel shelf angle designed and attached to carry the load of the brick veneer wall without excessive deflection. The brick shall be laid in full beds or mortar, with full head joints attached to existing walls by suitable galvanized or stainless anchors imbedded in masonry joints, 24" on center, vertically and horizontally. All joints shall be tooled to produce a dense mortar joint.

At returns to frames, jambs, heads and sills of window and door openings, provision shall be made to seal existing surfaces from dust migration. A wrap cloth of breathable material such as Tyvek® may be required on exterior walls, especially where weep holes are provided to control moisture which has penetrated brick surfaces.

All building code room size and area requirements and exterior set-back restrictions must not be violated by the addition of the brick veneer.

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**App 7.2-6**
17. **Masonry Block Veneers Used to Enclose Lead-Based Painted Walls**

A nominal 4" concrete masonry veneer may be applied to enclose lead-based painted surfaces on both interior and exterior wall surfaces.

All requirements listed above for brick veneer including structural support, anchorage to existing structure, treatment of joints and sealing of voids and joints shall also apply as shall requirements of codes and zoning.

18. **Underlayment Grade Plywood, Oriented Strand Board or Particle Board Applied Over Existing Flooring**

Underlayment grade plywood, oriented strand board or particle board, nominal thickness of ¼" may be used to enclose lead-based painted wood floors. The underlayment should be applied just prior to the finish material and should be protected from damage its surface. Panel end joints should be staggered with respect to each other, and all joints should be offset with respect to joints in the subfloor. Panel edges and ends should be butted to a close but not tight fit (1/32" space). Panels should be nailed 6" along edges and 8" on center each way throughout the remainder with 3d annular-ringed nails or 16 gauge staples, 3" on center along edges and 6" on center throughout. End joints shall be filled and thoroughly sanded.

Underlayment is suitable as a base for resilient tile such as rubber, vinyl and cork, sheet flooring and carpeting usually with a pad. It may also be used as a base for think, mastic-set strip or parquet wood finish systems.

19. **Vinyl Siding**

Prefinished vinyl siding, having a life expectancy of at least 20 years, may be installed over a variety of existing exterior wall surfaces to enclose lead-based paint. Installation of a building wrap system using breathable cloth such as Tyvek® and sealing all joints with silicone or urethane sealers should be used to ensure that dust particles cannot migrate through the vinyl siding system.

All siding panels, components and trim shall be installed in accordance with manufacturer’s recommendations using appropriate fastening devices for proper anchorage.

20. **Aluminum Siding**

Prefinished aluminum, siding having a life expectancy of at least 20 years, may be installed over a variety of existing exterior wall surfaces to enclose lead-based painted surfaces. Siding installation application recommendations are similar to those for vinyl siding in Section 19 above.

Anchorage of all siding panels, trim and components for aluminum siding shall employ the use of aluminum nails. All siding panels, components and trim shall be installed in accordance with manufacturer’s recommendations using appropriate fastening devices for proper anchorage.
Appendix 7.3: Lead-Based Paint Abatement Specification Example

The following is an example of a detailed specification for lead-based paint abatement work in a large multifamily public housing development. Because all specifications are site-specific, its provisions may not be suitable for other situations. This level of detail may not be appropriate for all lead-based paint hazard control work.

This specification has been provided by Mr. Neal Freuden of EnviroScience Consultants, Inc., its chief author. It was formulated over the course of several projects and includes contributions from Fred Eberle of Dewberry and Davis, the staffs of the Cambridge, Massachusetts Housing Authority and the Dover, New Hampshire Housing Authority, the staff of Housing Environmental Services, Dennison Environmental, Dan LaBrie of the Housing Authority Risk Retention Group and Dave Jacobs. A model specification may be available from the National Institute for Building Sciences in the future.

PART 1 - GENERAL

1.01 SUMMARY OF WORK

A. The work under the contract consists of the following:

1. Exterior lead abatement and comprehensive modernization consisting in total of xxx existing occupied units in _____ buildings.

2. Removal of all windows, sashes and window systems, exterior doors and door casings/jambs and installation of new replacement windows and doors and door casings/jambs as indicated in the specifications and drawings. All removal and installation shall be performed and coordinated as indicated in the specifications and drawings.

3. Exterior Lead Paint Abatement by component removal as indicated in the specifications and drawings. All abatement work shall be coordinated with the general Construction Work and as indicated in the specifications and drawings.

4. Replacement of components removed under lead abatement.

5. Installation of wood clapboard and wood shingle siding and replacement of exterior building components as indicated in the specifications and drawings.

6. Creation of handicapped accessible entries to certain designated units.

7. All other work and items either shown on the drawings or included in the specifications.

8. Protection where appropriate of all temporary facilities and utilities and property outside the designated work areas and zones.
9. Maintaining existing occupancy and use: Except as indicated in the specifications, work of the project includes keeping all occupied buildings and units in full complete year round operation. Work of the project includes providing all temporary facilities and utilities needed to insure that occupied units are safely accessible and supplied with electricity, water, sewers, heat, telephone service and other utilities which may currently be present. Occupancy will remain in all units.

10. The Contractor shall be responsible for all means and methods required to perform the work in accordance with the Contract Documents and within the time limits established in the Contract and this Section.

11. There will be a Pre-Bid Walk-through held at a time and place identified in the Bidding Documents. All general Bidders and Abatement Subcontractors should attend this Pre-Bid Walk-through to acquaint themselves with the existing conditions and required scope of work.

1.02 WORK INCLUDED

A. The requirements of this Section govern specific aspects of the administration of the Work. The Contractor is responsible for compliance of his own forces and of his subcontractors with the requirements in this Section.

B. The Contractor is responsible for all corrections of and changes in the Work, and for any delays resulting from his failure to conform with these requirements, and for all costs arising there from.

C. Individual requirements for work provided for under this Section are described in other Sections of the Specifications.

1.03 PERFORMANCE OF WORK

A. Work of the Lead Hazard Control Contractor: The Contractor or subcontractor to perform the following work shall be a Lead hazard control Contractor licensed to perform lead hazard control.

1. Removal of exterior unit components containing lead-based paint as identified in the Lead Paint Inspection Reports provided by Owner according to the specifications and drawings.

2. Removal of the exterior components containing lead-based paint as listed in Section X.

3. On-site stripping of the exterior components containing lead-based paint as listed in Section X.

4. All work performed by the Lead hazard control Subcontractor shall be in accordance with applicable federal and state and local regulations and the specifications and drawings.
### Appendix 7.3

#### B. Work of the General Contractor

All other work described in these specifications shall be performed according to applicable codes and standards, federal, state and local regulations and the specifications and drawings.

1.04 **PILOT BUILDINGS**

A. Except as provided herein, all materials used on the Sample Buildings shall conform to the Contract Documents and shall have been submitted to and approved by the Architect in accordance with Section X of the Specifications. Where submittals of materials have been made to the Architect but have not been approved, the Contractor may request approval to employ such materials in the Sample Buildings at its own risk and the Architect may permit such use on condition that if any material is later disapproved it shall be removed and replaced with approved material.

In the case of equipment and material which have long lead times for delivery, the Architect may accept the use of the "mock-up" construction simulating the appearance of the completed work upon the condition that as soon as the actual materials and equipment become available the contractor shall promptly install these items in place of the simulations, at no additional cost to the Owner.

B. Upon acceptance of the Sample Buildings by the Owner, Architect, and Consultant, the quality of finish and details thereon shall constitute the minimum level of acceptable workmanship for all other buildings throughout the site. The Contractor shall provide adequate maintenance and security for the Sample Buildings from the start of work thereon until the time of final acceptance by the Owner or until such earlier time as may be established in writing by the Owner. The Sample Buildings will be re-occupied by project residents upon completion.

1.05 **EXISTING SITE CONDITIONS**

A. **Existence of Lead-Based Paint**

1. All Buildings under this Contract have lead-based paint identified on the exterior components, noted herein.

2. Lead-based paint is either known or assumed to exist on the following components considered for the purposes of this project to be on the exterior of the units:

   a. Front and back doors - exterior side
   b. Front and back exterior door jambs, casings, and flashing
   c. Window troughs, sashes, stops, mullions, casings, headers, and flashing
   d. Basement windows
   e. Exterior wood siding, trim, soffit and thresholds, molding, skirt
   f. Electrical conduit
   g. Roof rakeboard and other exterior painted wood components as shown on the drawings
   h. Roof drainage system components
   i. Bulkheads
j. Brick and Concrete surfaces  
k. Exterior railings, guards and balusters  
l. Attic vents  

B. All renovation activities to remove or strip the components on the exterior of these units shall be performed according to all lead abatement procedures of the specifications and drawings and federal, state and local regulations.

C. It is the intent of the Contract Documents to include the abatement of all exterior components with lead-based paint. Nothing shall be charged back to the Owner for the Contractor’s failure to include removal and disposal of all items under the Base Bid and any applicable Add Alternates.

1.06 DEFINITIONS

A. Applicable provisions of the General Conditions and Supplementary Conditions of the Contractor and General Requirements are given in this Section. For the purposes of these Specifications and the Contract:

1. "Owner" shall refer to the owner and its designated, authorized representatives.

2. "Funding Source" shall refer to ____________________________

3. "Contractor" as used in these Contract Documents refers to the General Contractor for the Work under contract with Owner.

4. "Lead Hazard Control Subcontractor" shall refer to the Licensed Lead hazard control Contractor.

5. "Environmental Consultant" shall refer to ____________________________

6. "Architect" and "Landscape Architect" shall refer _______________________

7. "Inspector" shall refer to the on-site licensed lead inspector as employed.

8. "Product" as used in these Contract Documents refers to materials, systems and equipment provided by the Contractor or Subcontractor.


10. "Family Unit" as used in these Contract Documents refers to dwelling units known by Owner to be occupied by at least one child under the age of six years at the time of the Contract.

11. The words "shall" or "will" means "must" as used in these Contact Documents.

B. If the Lead Hazard Control Abatement Subcontractor is the General Contractor, the use of the term "Contractor" shall also refer to the "Lead Hazard Control Abatement Subcontractor". If the Lead Hazard Control Abatement Subcontractor is a subcontractor