

**Part 1            General**

**1.1                SITE CONDITIONS**

- .1        Review work including materials and procedures; identifying and taking precautions to protect environment.
- .2        Notify Departmental Representative before disrupting building access or services.

**Part 2            Products**

**2.1                NOT USED**

**Part 3            Execution**

**3.1                EXAMINATION**

- .1        Inspect building and systems with Departmental Representative and verify extent and location of items designated for removal, disposal, alternative disposal, recycling, salvage and items to remain.
- .2        Locate and protect utilities. Preserve active utilities traversing site in operating condition.
- .3        Notify and obtain approval of utility companies before starting demolition.

**3.2                PREPARATION**

- .1        Demolition/Removal:
  - .1        Remove and dispose items as indicated on drawings.
  - .2        Remove parts of existing system to permit new construction.
  - .3        Remove and retain items as indicated on drawings.
- .2        Demolition and construction shall be staged in order to minimize interruption to steam production. Refer to Section 01 11 00 – Summary of Work for staging requirements.

**3.3                CLEANING**

- .1        Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning

**END OF SECTION**

## **Part 1      General**

A 2003 Hazardous Materials Assessment Report issued by PWGSC Environmental Services indicates that asbestos containing materials have been identified in the Powerhouse. The Work of this contract is not expected to come in contact with asbestos because asbestos was identified near Boiler 3, which has since been replaced.

In the event that asbestos is encountered during Work, the precautions and procedures in this section shall be followed.

### **1.1      RELATED REQUIREMENTS**

- .1      NOT USED.

### **1.2      REFERENCE STANDARDS**

- .1      Transportation of Dangerous Goods Act (TDGA), as amended.
- .2      Transportation of Dangerous Goods Regulations (TDGR), as amended.
- .3      Transport of Dangerous Good Act (RSBC 1996), as amended.
- .4      Dangerous Goods Transportation and Hauling Act, as amended.
- .5      Canadian General Standards Board (CGSB)
  - .1      CAN/CGSB-1.205-94, Sealer for Application of Asbestos Fibre Releasing Materials.
- .6      Department of Justice Canada (Jus)
  - .1      Canadian Environmental Protection Act, 1999 (CEPA).
- .7      Health Canada/Workplace Hazardous Materials Information System (WHMIS)
  - .1      Material Safety Data Sheets (MSDS).
- .8      Underwriters' Laboratories of Canada (ULC)

### **1.3      DEFINITIONS**

- .1      HEPA vacuum: High Efficiency Particulate Air filtered vacuum equipment with filter system capable of collecting and retaining fibres greater than 0.3 microns in any direction at 99.97% efficiency.
- .2      Amended Water: water with nonionic surfactant wetting agent added to reduce water tension to allow thorough wetting of fibres.
- .3      Asbestos-Containing Materials (ACMs): materials that contain 1 per cent or more asbestos by dry weight and are identified under Existing Conditions including fallen materials and settled dust and,
  - .1      the material contains less than one per cent asbestos, but it is known that a “restricted area” is likely to occur when it is disturbed

- .2 the material contains less than one per cent asbestos and there is a reasonable chance that asbestos fibres may be released when the material is disturbed, either due to the condition of the material or the work procedures that will be used
- .4 Asbestos Work Area: area where work takes place which will, or may, disturb ACMs.
- .5 Authorized Visitors: designated representatives, and representatives of regulatory agencies.
- .6 Competent worker: in relation to specific work, means a worker who:
  - .1 Is qualified because of knowledge, training and experience to perform the work.
  - .2 Is familiar with the provincial laws and with the provisions of the regulations that apply to the work.
  - .3 Has knowledge of all potential or actual danger to health or safety in the work.
- .7 Friable material: means material that:
  - .1 When dry, can be crumbled, pulverized or powdered by hand pressure, or
  - .2 is crumbled, pulverized or powdered.
- .8 Non-Friable Material: material that when dry cannot be crumbled, pulverized or powdered by hand pressure.
- .9 Occupied Area: any area of the building or work site that is outside Asbestos Work Area.
- .10 Polyethylene: polyethylene sheeting or rip-proof polyethylene sheeting with tape along edges, around penetrating objects, over cuts and tears, and elsewhere as required to provide protection and isolation.
- .11 Sprayer: garden reservoir type sprayer or airless spray equipment capable of producing mist or fine spray. Must have appropriate capacity for work.

#### **1.4 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit proof satisfactory to Departmental Representative that suitable arrangements have been made to dispose of asbestos-containing waste in accordance with requirements of authority having jurisdiction.
- .3 Submit Provincial Notice of Project Form.
- .4 Submit proof of Contractor's Asbestos Liability Insurance.
- .5 Submit to Departmental Representative necessary permits for transportation and disposal of asbestos-containing waste and proof that asbestos-containing waste has been received and properly disposed.
- .6 Submit proof that all asbestos workers and supervisor have received appropriate training and education by a competent person as per Section 15 of the OHS Regulation. The training at a minimum must include: health hazards associated with exposure to asbestos; responsibility of workers, employers, contractors and suppliers under the OHS Act; asbestos requirements in Part 4 of the OHS Code; safe work procedures related to the work, as appropriate; and how to properly wear, use and maintain personal protective equipment that will be used at the work site.

- .7 Submit proof satisfactory to Departmental Representative that employees have respirator fitting and testing. Workers must be fit tested (irritant smoke test) with respirator that is personally issued.
- .8 Submit documentation including test results, fire and flammability data, and Material Safety Data Sheets (MSDS) for chemicals or materials including:
  - .1 Encapsulants;
  - .2 Amended water;
  - .3 Slow drying sealer.
- .9 Submit Public Works and Government Services Canada Asbestos-Related Work Record.
- .10 Submit Public Works and Government Services Canada Contractor Notification and Acknowledgement.

## **1.5 QUALITY ASSURANCE**

- .1 Regulatory Requirements: comply with Federal, Provincial, and local requirements pertaining to asbestos, provided that in case of conflict among these requirements or with these specifications, more stringent requirement applies. Comply with regulations in effect at time Work is performed.
- .2 Health and Safety:
  - .1 Perform construction occupational health and safety in accordance with Section 01 35 29.06 - Health and Safety Requirements
  - .2 Safety Requirements: worker protection.
    - .1 Protective equipment and clothing to be worn by workers while in Asbestos Work Area include:
      - .1 Air purifying half-mask respirator with N-100, R-100 or P-100 particulate filter, personally issued to worker and marked as to efficiency and purpose, suitable for protection against asbestos and acceptable to Provincial Authority having jurisdiction. The respirator to be fitted so that there is an effective seal between the respirator and the worker's face, unless the respirator is equipped with a hood or helmet. The respirator to be cleaned, disinfected and inspected after use on each shift, or more often if necessary, when issued for the exclusive use of one worker, or after each use when used by more than one worker. The respirator to have damaged or deteriorated parts replaced prior to being used by a worker; and, when not in use, to be stored in a convenient, clean and sanitary location. The employer to establish written procedures regarding the selection, use and care of respirators, and a copy of the procedures to be provided to and reviewed with each worker who is required to wear a respirator. A worker not to be assigned to an operation requiring the use of a respirator unless he or she is physically able to perform the operation while using the respirator.
      - .2 Disposable-type protective clothing that does not readily retain or permit penetration of asbestos fibres. Protective clothing to be

provided by the employer and worn by every worker who enters the work area, and the protective clothing shall consist of a head covering and full body covering that fits snugly at the ankles, wrists and neck, in order to prevent asbestos fibres from reaching the garments and skin under the protective clothing to include suitable footwear, and to be repaired or replaced if torn.

- .2 Eating, drinking, chewing, and smoking are not permitted in Asbestos Work Area.
- .3 Before leaving Asbestos Work Area, the worker can decontaminate his or her protective clothing by using a vacuum equipped with a HEPA filter, or by damp wiping, before removing the protective clothing, or, if the protective clothing will not be reused, place it in a container for dust and waste. The container to be dust tight, suitable for asbestos waste, impervious to asbestos, identified as asbestos waste, cleaned with a damp cloth or a vacuum equipped with a HEPA filter immediately before removal from the work area, and removed from the work area frequently and at regular intervals.
- .4 Ensure workers wash hands and face when leaving Asbestos Work Area. Facilities for washing shall be provided within or close to the Asbestos Work Area.
- .5 Ensure that no person required to enter an Asbestos Work Area has facial hair that affects seal between respirator and face.

## **1.6 WASTE MANAGEMENT AND DISPOSAL**

- .1 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .2 Collect and separate for disposal paper, plastic, corrugated cardboard, polystyrene packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.
- .3 Separate for recycling or reuse and place in designated containers (metal, steel, plastic) non asbestos containing waste in accordance with Waste Management Plan.
- .4 Place materials defined as hazardous or toxic in designated containers.
- .5 Handle and dispose of hazardous materials in accordance with the CEPA, TDGA, Regional and Municipal regulations.
- .6 Fold up metal banding, flatten and place in designated area for recycling.
- .7 Disposal of asbestos waste generated by removal activities must comply with Provincial and Municipal regulations. Dispose of asbestos waste in sealed double thickness 6 mils bags or leak proof drums. Label containers with appropriate warning labels.
- .8 Provide manifests describing and listing waste created. Transport containers by approved means to licensed landfill for burial.

## **1.7 EXISTING CONDITIONS**

- .1 Reports and information pertaining to ACMs to be handled, removed, or otherwise disturbed and disposed of during this project are available for inspection upon request. A

2003 Hazardous Materials Assessment Report issued by PWGSC Environmental Services may be available upon request to the Departmental Representative.

- .2 Notify Departmental Representative of friable material or any suspect asbestos containing material discovered during Work and not apparent from drawings, specifications, or report pertaining to Work. Do not disturb such material pending instructions from Departmental Representative.

## **1.8 SCHEDULING**

- .1 Schedule of abatement work to be approved by Departmental Representative in the event abatement work is required.

## **1.9 PERSONNEL TRAINING**

- .1 Before beginning Work, provide Departmental Representative satisfactory proof that every worker has had instruction and training in hazards of asbestos exposure, in personal hygiene and work practices, and in use, cleaning, and disposal of respirators and protective clothing.
- .2 Instruction and training related to respirators includes, following minimum requirements:
  - .1 Fitting of equipment.
  - .2 Inspection and maintenance of equipment.
  - .3 Disinfecting of equipment.
  - .4 Limitations of equipment.
- .3 Instruction and training must be provided by a competent, qualified person.

## **Part 2 Products**

### **2.1 MATERIALS**

- .1 Drop Sheets:
  - .1 Polyethylene: 0.15 mm thick.
  - .2 FR polyethylene: 0.15 mm thick woven fibre reinforced fabric bonded both sides with polyethylene.
- .2 Wetting Agent: 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with water in a concentration to provide thorough wetting of asbestos-containing material.
- .3 Waste Containers: contain waste in two separate containers.
  - .1 Inner container: 0.15 mm thick sealable polyethylene waste bag.
  - .2 Outer container: sealable metal or fibre type where there are sharp objects included in waste material; otherwise outer container may be sealable metal or fibre type or second 0.15 mm thick sealable polyethylene bag.
  - .3 Labelling requirements: affix pre-printed cautionary asbestos warning in both official languages that is visible when ready for removal to disposal site.
- .4 Slow - drying sealer: non-staining, clear, water - dispersible type that remains tacky on surface for at least 8 hours and designed for purpose of trapping residual asbestos fibres.

- .5 Tape: fibreglass - reinforced duct tape suitable for sealing polyethylene under both dry conditions and wet conditions using amended water.

### **Part 3 Execution**

#### **3.1 PROCEDURES**

- .1 Follow construction occupational health and safety in accordance with codes and regulations. Before beginning Work, isolate Asbestos Work Area using, minimum, preprinted cautionary asbestos warning signs that are visible at access routes to Asbestos Work Area.
  - .1 Remove visible dust from surfaces in the work area where dust is likely to be disturbed during course of work.
  - .2 Use HEPA vacuum or damp cloths where damp cleaning does not create a hazard and is otherwise appropriate.
  - .3 Do not use compressed air to clean up or remove dust from any surface.
- .2 Prevent spread of dust from Asbestos Work Area using measures appropriate to work to be done.
  - .1 Use FR polyethylene drop sheets over flooring such as carpeting that absorbs dust and over flooring in Asbestos Work Area where dust and contamination cannot otherwise be safely contained. Drop sheets are not to be reused.
- .3 Wet materials containing asbestos to be cut, ground, abraded, scraped, drilled, or otherwise disturbed unless wetting creates hazard or causes damage.
  - .1 Use garden reservoir type low - velocity fine - mist sprayer.
  - .2 Perform Work to reduce dust creation to lowest levels practicable.
  - .3 Work will be subject to visual inspection and air monitoring.
  - .4 Contamination of surrounding areas indicated by visual inspection or air monitoring will require complete enclosure and clean-up of affected areas.
- .4 Frequently and at regular intervals during Work and immediately on completion of work:
  - .1 Dust and waste to be cleaned up and removed using a vacuum equipped with a HEPA filter, or by damp mopping or wet sweeping, and placed in a waste container, and
  - .2 Drop sheets to be wetted and placed in a waste container as soon as practicable.
- .5 Cleanup:
  - .1 Place dust and asbestos containing waste in sealed dust-tight waste bags. Treat drop sheets and disposable protective clothing as asbestos waste; wet and fold these items to contain dust, and then place in plastic bags.
  - .2 Clean exterior of each waste-filled bag using damp cloths or HEPA vacuum and place in second clean waste bag immediately prior to removal from Asbestos Work Area.
  - .3 Seal waste bags and remove from site. Dispose of in accordance with requirements of Provincial Authority having jurisdiction. Supervise dumping and

ensure that dump operator is fully aware of hazardous nature of material to be dumped and that the appropriate guidelines and regulations for asbestos disposal are followed.

- .4 Perform final thorough clean-up of Work areas and adjacent areas affected by Work using HEPA vacuum.

### **3.2 INSPECTION**

- .1 Perform inspection of Asbestos Work Area to confirm compliance with specification and governing authority requirements. Deviations from these requirements that have not been approved in writing by Departmental Representative may result in Work stoppage, at no cost to the Departmental Representative.
- .2 Departmental Representative will inspect Work for:
  - .1 Adherence to specific procedures and materials.
  - .2 Final cleanliness and completion.
  - .3 No additional costs will be allowed by Contractor for additional labour or materials required to provide specified performance level.
- .3 When asbestos leakage from Asbestos Work Area has occurred or is likely to occur Departmental Representative may order Work shutdown.
  - .1 No additional costs will be allowed by Contractor for additional labour or materials required to provide specified performance level.

**END OF SECTION**

## **Part 1      General**

A 2003 Hazardous Materials Assessment Report issued by PWGSC Environmental Services indicates that lead containing materials have been identified in the Powerhouse. Lead was identified on the walls of the boiler room and control room. Lead was also identified on and near Boiler 3, which has since been replaced.

In the event that lead containing materials are encountered during Work, the precautions and procedures in this section shall be followed.

### **1.1      SUMMARY**

- .1 Comply with requirements of this Section when performing following Work:
  - .1 Removal of lead-containing coatings with a chemical gel or paste and fibrous laminated cloth wrap on walls.
  - .2 Removal of lead-containing coatings or materials using a power tool with an effective dust collection system equipped with a HEPA filter on walls.
  - .3 Removal of lead-containing coatings or materials with non-powered hand tool, other than manual scraping and sanding on walls.

### **1.2      REFERENCE STANDARDS**

- .1 Department of Justice Canada
  - .1 Canadian Environmental Protection Act, 1999 (CEPA).
- .2 Health Canada
  - .1 Workplace Hazardous Materials Information System (WHMIS), Material Safety Data Sheets (MSDS).
- .3 Human Resources and Social Development Canada (HRSDC)
  - .1 Canada Labour Code Part II, - SOR 86-304 - Occupational Health and Safety Regulations.
- .4 Transport Canada (TC)
  - .1 Transportation of Dangerous Goods Act, 1992 (TDGA).
- .5 U.S. Environmental Protection Agency (EPA)
  - .1 EPA 747-R-95-007-1995, Sampling House Dust for Lead.
- .6 U.S. Department of Health and Human Services/Centers for Disease Control and Prevention/National Institute for Occupational Safety and Health (NIOSH)
  - .1 NIOSH 94-113 - NIOSH Manual of Analytical Methods (NMAM), 4th Edition (1994).
- .7 U.S. Department of Labour - Occupational Safety and Health Administration (OSHA) - Toxic and Hazardous Substances
  - .1 Lead in Construction Regulation - 29 CFR 1926.62-1993.

- .8 Underwriters' Laboratories of Canada (ULC)

### **1.3 DEFINITIONS**

- .1 HEPA vacuum: High Efficiency Particulate Air filtered vacuum equipment with a filter system capable of collecting and retaining fibres greater than 0.3 microns in any direction at 99.97% efficiency.
- .2 Authorized Visitors: Departmental Representative or designated representatives.
- .3 Polyethylene: polyethylene sheeting or rip-proof polyethylene sheeting with tape along edges, around penetrating objects over cuts and tears, and elsewhere as required to provide protection and isolation. For protection of underlying surfaces from damage and to prevent lead dust entering in clean area.
- .4 Sprayer: garden reservoir type sprayer or airless spray equipment capable of producing mist or fine spray. Must be appropriate capacity for scope of work.
- .5 Action level: employee exposure, without regard to use of respirators, to airborne concentration of lead of 50 micrograms per cubic metre of air (50 ug/m<sup>3</sup>) calculated as 8-hour time-weighted average (TWA). Minimum precautions for lead abatement are based on airborne lead concentrations less than 0.05 milligrams per cubic metre of air for removal of lead based paint by methods noted in paragraph 1.1.
- .6 Competent person: Individuals capable of identifying existing lead hazards in workplace taking corrective measures to eliminate them.
- .7 Lead dust: wipe sampling on vertical surfaces and/or horizontal surfaces, dust and debris is considered to be lead contaminated if it contains more than 40 micrograms of lead in dust per square foot.

### **1.4 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Provide proof satisfactory to Departmental Representative that suitable arrangements have been made to dispose of lead based paint waste in accordance with requirements of authority having jurisdiction.
- .3 Provide proof of Contractor's General Insurance.
- .4 Quality Control:
- .1 Provide Departmental Representative necessary permits for transportation and disposal of lead based paint waste and proof that lead based paint waste has been received and properly disposed.
- .2 Provide proof satisfactory to Departmental Representative that employees have had instruction on hazards of lead exposure, respirator use, dress, and aspects of work procedures and protective measures.

### **1.5 QUALITY ASSURANCE**

- .1 Regulatory Requirements: comply with Federal, Provincial/Territorial and local requirements pertaining to lead paint, provided that in case of conflict among those

requirements or with these specifications more stringent requirement applies. Comply with regulations in effect at time work is performed.

- .2 Health and Safety:
  - .1 Do construction occupational health and safety in accordance with Section 01 35 29 - Health and Safety Requirements.
  - .2 Safety Requirements: worker and visitor protection.
    - .1 Protective equipment and clothing to be worn by workers and visitors in work Area include:
      - .1 Respirator NIOSH approved and equipped with replaceable HEPA filter cartridges with an assigned protection factor of 10, acceptable to Authority having jurisdiction. Suitable for type of lead and level of lead dust exposure. Provide sufficient amount of filters.
      - .2 Half mask respirator: half-mask particulate respirator with N-series filter, and 95% efficiency could be provided.
    - .2 Eating, drinking, chewing, and smoking are not permitted in work area.
    - .3 Ensure workers wash hands and face when leaving work area.
    - .4 Visitor Protection:
      - .1 Provide approved respirators to Authorized Visitors to work areas.
      - .2 Instruct Authorized Visitors procedures to be followed in entering and exiting work area.

## **1.6 WASTE MANAGEMENT AND DISPOSAL**

- .1 Handle and dispose of hazardous materials in accordance with CEPA, TDGA, Regional and Municipal regulations.
- .2 Disposal of lead waste generated by removal activities must comply with Federal, Provincial, Territorial and Municipal regulations. Dispose of lead waste in sealed double thickness 6 ml bags or leak proof drums. Label containers with appropriate warning labels.
- .3 Provide manifests describing and listing waste created. Transport containers by approved means to licensed landfill for burial.

## **1.7 EXISTING CONDITIONS**

- .1 Notify Departmental Representative of lead based paint discovered during Work and not apparent from drawings, specifications, or report pertaining to Work. Do not disturb such material until instructed by Departmental Representative.

## **1.8 SCHEDULING**

- .1 Not later than two days before beginning Work on this Project notify following in writing:
  - .1 Appropriate Regional or Zone Director of Medical Services Branch, Health Canada.

- .2 Provincial Ministry of Labour.
- .3 Disposal Authority.
- .2 Inform sub trades of presence of lead-containing materials identified in Existing Conditions.
- .3 Provide Departmental Representative copy of notifications prior to start of Work.

## **1.9 PERSONNEL TRAINING**

- .1 Provide Departmental Representative satisfactory proof that every worker has had instruction and training in hazards of lead exposure, in personal hygiene, in aspects of work procedures, and in use, cleaning, and disposal of respirators.
- .2 Instruction and training related to respirators includes, at minimum:
  - .1 Proper fitting of equipment.
  - .2 Inspection and maintenance of equipment.
  - .3 Disinfecting of equipment.
  - .4 Limitations of equipment.
- .3 Instruction and training must be provided by competent, qualified person.
- .4 Supervisory personnel to complete required training.

## **Part 2 Products**

### **2.1 MATERIALS**

- .1 Polyethylene 0.15 mm thick unless otherwise specified; in sheet size to minimize joints.
- .2 Tape: fibreglass - reinforced duct tape suitable for sealing polyethylene under dry conditions and wet conditions using amended water.
- .3 Slow - drying sealer: non-staining, clear, water - dispersible type that remains tacky on surface for at least 8 hours and designed for purpose of trapping residual lead paint residue.
- .4 Lead waste containers: metal type acceptable to dump operator with tightly fitting covers and 0.15 mm thickness sealable polyethylene liners.
  - .1 Label containers with pre-printed bilingual cautionary Warning Lead clearly visible when ready for removal to disposal site.

## **Part 3 Execution**

### **3.1 SUPERVISION**

- .1 One Supervisor for every ten workers is required.
- .2 Supervisor must remain within work area during disturbance, removal, or handling of lead based paints.

### **3.2 PREPARATION**

- .1 Remove and store items to be salvaged or reused.
  - .1 Protect and wrap items and transport and store in area specified by Departmental Representative.
- .2 Work Area:
  - .1 Shut off and isolate HVAC system to prevent dust dispersal into other building areas. Conduct smoke tests to ensure duct work is airtight.
  - .2 Pre-clean fixed casework and equipment within work area, using HEPA vacuum and cover and seal with polyethylene sheeting and tape.
  - .3 Clean work area using HEPA vacuum. If not practicable, use wet cleaning method. Do not raise dust.
  - .4 Seal off openings with polyethylene sheeting and seal with tape.
  - .5 Protect floor surfaces covered from wall to wall with polyethylene sheets.
  - .6 Maintain emergency fire exits or establish alternatives satisfactory to Authority having jurisdiction.
  - .7 Where water application is required for wetting lead containing materials, provide temporary water supply appropriately sized for application of water as required.
  - .8 Provide electrical power and shut off for operation of powered tools and equipment. Provide 24 volt safety lighting and ground fault interrupter circuits on power source for electrical tools, in accordance with applicable CSA Standard. Ensure safe installation of electrical cables and equipment.
- .3 Do not start work until:
  - .1 Arrangements have been made for disposal of waste.
  - .2 Tools, equipment, and materials waste containers are on site.
  - .3 Arrangements have been made for building security.
  - .4 Notifications have been completed and preparatory steps have been taken.

### **3.3 LEAD ABATEMENT**

- .1 Removal of lead-containing coatings with a chemical gel or paste and fibrous laminated cloth wrap; or removal equipped with HEPA filters; or removal with using power tools non-powered hand tool, other than manual scraping and sanding.
- .2 Remove lead based paint in small sections and pack as it is being removed in sealable 0.15 mm plastic bags and place in labelled containers for transport.
- .3 Seal filled containers. Clean external surfaces thoroughly by wet sponging. Remove from immediate working area to staging area. Clean external surfaces thoroughly again by wet sponging. Wash containers thoroughly pending removal to outside. Ensure containers are removed by workers who have entered from uncontaminated areas dressed in clean coveralls.

- .4 After completion of stripping work, wire brush and wet sponge surface from which lead based paint has been removed to remove visible material. During this work keep surfaces wet.
- .5 After wire brushing and wet sponging to remove visible lead based paint, and after encapsulating lead containing material impossible to remove, wet clean entire work area, and equipment used in process. After inspection by Departmental Representative apply continuous coat of slow drying sealer to surfaces of work area. Do not disturb work area for 8 hours no entry, activity, ventilation, or disturbance during this period.

### **3.4 INSPECTION**

- .1 Perform inspection to confirm compliance with specification and governing authority requirements. Deviations from these requirements not approved in writing by Departmental Representative will result in work stoppage, at no cost to Owner.
- .2 Departmental Representative will inspect work for:
  - .1 Adherence to specific procedures and materials.
  - .2 Final cleanliness and completion.
  - .3 No additional costs will be allowed by Contractor for additional labour or materials required to provide specified performance level.

### **3.5 LEAD SURFACE SAMPLING - WORK AREAS**

- .1 Final lead surface sampling to be conducted as follows:
  - .1 After work area has passed a visual inspection for cleanliness approved and accepted by Departmental Representative. Apply coat of lock-down agent to surfaces within enclosure, and appropriate setting period of 8 hours has passed, Departmental Representative will perform lead wipe sampling.
    - .1 Final lead wipe sampling results from horizontal and vertical surfaces must show lead levels of less than 40 micrograms of lead in dust per square foot. Samples collected and analyzed in accordance with EPA 747-R-95-007.
    - .2 If wipe sampling results show levels of lead in excess of 40 micrograms per square foot, re-clean work area at contractor's expense and apply another acceptable coat of lock-down agent to surfaces.
    - .3 Repeat as necessary until fibre levels are less than 40 micrograms per square foot.

### **3.6 FINAL CLEANUP**

- .1 Following cleaning and when lead wipe surfaces sampling are below acceptable concentrations, proceed with final cleanup.
- .2 Remove polyethylene sheet by rolling it away from walls to centre of work area. Vacuum visible lead containing particles observed during cleanup, immediately, using HEPA vacuum.
- .3 Place polyethylene sheets, tape, cleaning material, clothing, and contaminated waste in plastic bags and sealed labelled waste containers for transport.

- .4 Conduct final check to ensure no dust or debris remains on surfaces as result of dismantling operations.

**3.7 RE-ESTABLISHMENT OF OBJECTS AND SYSTEMS**

- .1 Repair or replace objects damaged in course of work to their original state or better, as directed by Departmental Representative.

**END OF SECTION**