

ITEM 18570.0100NN - Lead Health & Safety Program

ITEM 18570.0200NN - Lead Exposure Control Plan

ITEM 18570.0300NN - Medical Testing and Exposure Monitoring Sample Analysis

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DESCRIPTION

Work under this item shall consist of the development and implementation of a Lead Health & Safety Program (LH&SP). The purpose of this program shall be to protect all contractor and subcontractor employees from the harmful effects of lead exposure. The structure(s) on this project is (are) coated with paint containing lead, and any work activities which disturb the paint coating may expose workers to health hazards. Such activities may include abrasive blasting; paint removal using hand or power tools; torchcutting, welding or grinding; rivet busting; use of heat guns; cleanup of paint debris; and cleaning, relocating or dismantling containment systems. Under OSHA regulations, the contractor is fully responsible for the protection of his or her own employees, and any subcontractor employees, from harmful lead exposure.

The LH&SP shall include all of the elements required by the Interim Standard for Lead in Construction (Title 29 Code of Federal Regulations, Part 1926.62), by this specification, and by all other applicable State and Federal laws. Additional Federal regulations that must be complied with include, but are not limited to, the following:

DISAPPROVED BY
EI 95-014

- 29CFR1910.20 Access to Employee Exposure and Medical Records
- 29CFR1910.94 Ventilation in Abrasive Blasting
- 29CFR1910.120 Hazardous Waste Operations & Emergency Response
- 29CFR1910.132 General Requirements for Personal Protective Equipment
- 29CFR1910.133 Eye and Face Protection
- 29CFR1910.134 Respiratory Protection
- 29CFR1910.141 Sanitation
- 29CFR1910.1000 Air Contaminants
- 29CFR1926.16 Rules of Construction
- 29CFR1926.20 General Safety and Health Provisions
- 29CFR1926.28 Personal Protective Equipment
- 29CFR1926.32 Definition of Competent Person
- 29CFR1926.51 Sanitation
- 29CFR1926.55 Gases, Vapors, Fumes, Dusts and Mists
- 29CFR1926.57 Ventilation
- 29CFR1926.59 Hazard Communication
- 29CFR1926.103 Respiratory Protection
- 29CFR1926.154 Temporary Heating Devices
- 29CFR1926.200 Accident Prevention Signs and Tags
- 29CFR1926.353 Ventilation and Protection in Welding, Cutting and Heating
- 29CFR1926.354 Welding, Cutting and Heating in Way of Preservative Coatings

The following components of the LH&SP, if required, shall be submitted to the Engineer:

- two copies of a written Lead Exposure Control Plan (LECP)
- any revisions or updates to the LECP
- certification of completion of lead training for supervisors and employees
- documentation of respirator fit testing for all employees who will wear respirators
- depersonalized results of all employee medical testing
- documentation of any medical removals, a description of what triggered them, and the

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- corrective measures taken
- lead exposure monitoring results
- documentation of purchase or mobilization of respirators and personal protective equipment (PPE)
- documentation of purchase or mobilization of decontamination facilities
- monthly progress reports

MATERIALS

The contractor shall provide and maintain all of the equipment and materials necessary to develop and implement the Lead Health and Safety Program. Equipment and materials shall meet the requirements of 29CFR1926.62, the New York State Standard Specifications, and all other applicable State and Federal Regulations.

CONSTRUCTION DETAILS

A. LEAD HEALTH & SAFETY PROGRAM (LH&SP)

The contractor shall implement and carry out the LH&SP as described in a written Lead Exposure Control Plan (LECP), with day-to-day supervision by the competent person. The LH&SP shall include, but not be limited to, the following elements:

1. A written LECP
2. Recordkeeping
3. Exposure monitoring
4. Medical surveillance and removal program
5. Notifying employees and the Engineer of the results of exposure monitoring and medical tests
6. Worker and supervisor training
7. Monthly summary reports
8. Decontamination facilities
9. Implementation of mandatory hygiene practices
10. Implementation of engineering, administrative and work practice controls
11. Implementation of a Respirator Program
12. Provision of Personal Protective Equipment (PPE), and cleaning or replacement as required

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13. Posting and maintenance of warning signs

14. Jobsite inspections

If the contractor can document (by air monitoring or the use of appropriate historical data as described in 29CFR1926.62d(3)) that lead exposure for all employees will be below the OSHA Action Level (AL), then items 3 through 14 are not required.

If the contractor can document (by air monitoring or the use of appropriate historical data as described in OSHA 1926.62d(3)) that the highest employee lead exposure will be above the AL but below the Permissible Exposure Limit (PEL), then items 8 through 14 are not required.

NYS DOT requirements for the LH&SP are the same as described in 29CFR1926.62, with the following exceptions:

1. Except where the contractor can document that employee lead exposure will be below the AL, the contractor shall engage an Industrial Hygienist (IH) meeting one or more of the following qualifications:

- Current certification by the American Board of Industrial Hygiene.
- A Bachelor's Degree in engineering, chemistry, physics, biological sciences, industrial hygiene, toxicology, the environmental sciences or a related field, and at least three years of documented full-time work as an IH, including field and sampling experience.
- A Master's Degree in one of the above fields, and at least two years of documented full-time work as an IH, including field and sampling experience.

The IH shall have the following responsibilities:

- a. Coordinate the development of a written LECP, and of any updates to the LECP.
- b. Provide general oversight of all aspects of the LH&SP.
- c. Review all employee medical tests and exposure monitoring results and, if necessary, take corrective actions. Intervention by the IH is required if either of the following conditions are encountered on the project:
 - 1) Blood Lead Level (BLL) >40 µg/dl (micrograms/deciliter) for one or more workers.
 - 2) BLL increase of 10 µg/dl or more between successive tests for any individual worker.

Intervention shall consist of an on-site investigation by the IH, implementation

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of corrective action, and notification of the Engineer in the next monthly report.

- d) Inspect the jobsite at least once a month during work which entails a potential for lead exposure, except where the contractor can document that employee lead exposure will be below the PEL,
 - e) Coordinate preparation of monthly summary reports.
2. Except where the contractor can document that employee lead exposure will be below the AL, at the end of each month of work which entails potential lead exposure, the contractor shall submit a report to the Engineer which has been reviewed and signed by the IH. This report shall contain the following elements:
 - a. A summary of the work entailing potential lead exposure which was completed in the past month.
 - b. A certification that, with the exception of any deficiencies noted, the past month's work has been in compliance with the requirements of 29CFR1926.62, this specification, and all other applicable State and Federal regulations.
 - c. A description of any interventions or deficiencies noted, along with a summary of the corrective actions taken.
 - d. A summary of the results of any exposure monitoring or medical testing which was completed in the past month. To protect worker privacy, these results shall not include the individual names or Social Security numbers of the workers tested. Instead, workers shall be identified by trade (e.g. ironworker, painter, laborer, etc.) and with an individual control number so that their exposure can be tracked throughout the project.
 3. Requirements for the written LECP are described under Construction Details Section B. below. NYSDOT requires the LECP to address a number of elements that are not required by 29CFR1926.62.
 4. An exit medical exam, as described under Construction Details Section C. below, shall be offered to all employees who were offered an initial medical exam.
 5. Except where the contractor can document that employee lead exposure will be below the PEL, a minimum of one decontamination facility is required, as described under Construction Details Section D. below.
 6. The LECP and the LH&SP shall be modified as necessary during the life of the contract to comply with any newly issued Federal, State or local regulations, or revisions to existing regulations.

B. LEAD EXPOSURE CONTROL PLAN (LECP)

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At least 20 days prior to starting any work which could entail employee exposure to lead, the contractor shall submit two copies of a written Lead Exposure Control Plan (LECP) to the Engineer for review and acceptance. This LECP shall be coordinated with the site-specific Health and Safety Plan required under §107-05, and it relieves the contractor of the responsibility to address lead issues in the general H&S Plan. Any comments or changes suggested by the Engineer shall be reviewed by the contractor for incorporation into the LECP. The contractor shall not begin any work which could entail lead exposure until the LECP has been accepted by the Engineer.

Submission of the LECP and its acceptance by the Engineer shall not be construed to imply approval of any particular method for addressing lead health and safety concerns, or to relieve the contractor of the responsibility for adequately protecting the health and safety of all workers involved in the project.

Except where the contractor can document that employee lead exposure will be below the AL, the LECP shall be prepared under the direction of the IH.

The LECP shall address all of the elements required by 29CFR1926.62(e)(2)(ii), by this specification, or by other applicable State or Federal regulations. These elements include, but are not limited to, the following:

1. A description of the contractor's lead health and safety organization, including the responsibilities and qualifications of the IH (if required), the competent person, and the project Health and Safety Officer.
2. A description of each activity which will entail a risk for lead exposure.
3. An initial assessment of anticipated exposure level(s), including any relevant historical exposure monitoring data.
4. A description of arrangements for ensuring that subcontractors, if any, will comply with the LECP.
5. Plans for updating the LECP.
6. Plans for keeping and maintaining records.
7. Plans for worker and supervisor lead training.
8. Plans for performing exposure monitoring, and for notifying employees and the Engineer of results.
9. A description of the contractor's medical surveillance and removal program, including plans for notifying employees and the Engineer of results. This description shall include the name and address of the clinic(s) where testing will be performed, and of the OSHA-approved laboratory (as required by 29CFR1926.62(j)(2)(iii)) where blood samples will be analyzed.
10. A description of the engineering, administrative and work practice controls which will

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be used to reduce exposure. As required by 29CFR1926.62, all feasible engineering, administrative and work practice controls must be implemented before considering the use of respirators to reduce exposure. Also note that other specifications in the contract may require the use of specific exposure control procedures.

11. A respirator program, in accordance with 29CFR1926.62(f)(4), including plans for respirator fit testing and respirator training.
12. A description of the Personal Protective Equipment (PPE) to be provided, and plans for regular laundering or replacement of protective clothing.
13. A description and floor plan of the decontamination facilities to be provided, a description of any hand wash stations to be provided, and a description of the hygiene practices which employees will be required to follow.
14. Plans for posting warning signs in high exposure areas.
15. Plans for regular inspection of the jobsite by the IH and the competent person.

If the contractor can document (by air monitoring or the use of appropriate historical data as described in 29CFR1926.62d(3)) that lead exposure for all employees will be below the OSHA Action Level (AL), then items 7 through 15 are not required.

If the contractor can document (by air monitoring or the use of appropriate historical data as described in OSHA 1926.62d(3)) that the highest employee lead exposure will be above the AL but below the Permissible Exposure Limit (PEL), then items 10 through 15 are not required.

C. MEDICAL TESTING AND EXPOSURE MONITORING SAMPLE ANALYSIS

The contractor shall arrange for employees to receive all medical tests required by 29CFR1926.62. All medical tests shall be completed by, or under the supervision of, a licensed physician. Blood sampling and analysis shall meet the accuracy requirements of 29CFR1926.62(j)(2)(iii), and shall be conducted by an OSHA-approved laboratory. A current list of approved labs may be obtained from the OSHA Technical Center at (801) 487-0267, or at the following address:

OSHA Technical Center
P. O. Box 65200
Salt Lake City, UT 84165-0200

In addition, the contractor shall arrange an exit medical exam consisting of blood sampling and analysis for lead and zinc protoporphyrin (ZPP) levels for all employees who were offered an initial medical exam. An exit exam shall be provided within 5 working days of the time an employee completes or is permanently removed from all on-project work which entails a potential for lead exposure. Exit exams shall also be offered within 5 working days of the time a project is closed down for the winter or for other periods exceeding 30 days in which no work involving potential lead exposure is scheduled or anticipated. All other protocols of the exam are as detailed in 29CFR1926.62(j) for the initial exam.

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For employees who are offered an exam but choose not to participate or fail to respond, the contractor shall provide documentation that the exam was offered in the form of a written declination signed by the employee or, for employees who are no longer on the payroll, a registered letter to the employee's last known address.

The results of all medical tests shall be provided to affected employees within 5 working days of receipt, and to the Engineer in the next monthly report.

The contractor shall arrange exposure monitoring as required by 29CFR1926.62(d). Exposure monitoring samples shall be obtained by the IH, the competent person under the direction of the IH, or other qualified persons as specified in the LECP. The sampling protocol shall be in accordance with the requirements of 29CFR1926.62(d). Exposure monitoring samples shall be analyzed by a laboratory selected by the contractor, using a method which meets the accuracy requirements of 29CFR1926.62(d)(9).

D. DECONTAMINATION FACILITIES

Except where the contractor can document that employee lead exposure will be below the PEL, a minimum of one climate-controlled decontamination facility shall be provided, and shall be utilized by project personnel for the duration of work which entails a potential for lead exposure. The number of facilities to be provided will be dictated by site conditions and by the contractor's sequence of operations, and shall be approved by the IH and the Engineer. Each facility shall consist of a "clean" area where workers can remove and store their street clothing when they arrive on site; a shower room with hot and cold running water, soap and clean towels; and a "dirty" area where workers can remove and store their work clothing and PPE at the end of their work shift. The "clean" area and the "dirty" area shall each have a separate entrance. Decontamination facilities shall be cleaned as required, or at least once every week of use. All waste water generated from showers or as a result of cleaning operations shall either be tested, filtered through a 5 µm filter or considered as lead contaminated, and disposed of in accordance with State and Federal regulations.

METHOD OF MEASUREMENT

- A. LEAD HEALTH & SAFETY PROGRAM.** The work to develop and implement a Lead Health & Safety Program, except as provided in the separate payment items of this section, will be measured on a lump sum basis.
- B. LEAD EXPOSURE CONTROL PLAN (LECP).** The work to develop an LECP will be measured on a lump sum basis.
- C. MEDICAL TESTING AND EXPOSURE MONITORING SAMPLE ANALYSIS.** The contractor will be paid for all reasonable and customary costs incurred, based on receipted bills submitted to the Engineer, plus 5% overhead and profit.

The lump sum of money shown in the itemized proposal for this work will be considered the price bid even though payment will be made only for actual work performed. This lump sum figure is not to be altered in any manner by the bidder. Should the bidder alter the amount shown, the altered figure will be disregarded, and the original price will be used to determine the total amount bid for the contract.

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- D. DECONTAMINATION FACILITIES.** The work to furnish, install, clean, maintain, relocate and remove these facilities as necessary will be measured by the sum total of the number of calendar weeks that each facility is in place and in operation, measured to the nearest calendar week.

BASIS OF PAYMENT

- A. LEAD HEALTH & SAFETY PROGRAM.** The lump sum price bid shall include labor costs for the IH and the competent person, and the cost of all materials, equipment, and fees necessary to complete the work, except as provided in the separate payment items of this section. Labor costs other than for the IH and the competent person shall be included in the price bid for other items.

Progress payments will be computed in accordance with the following schedule:

1. 15% of the lump sum price will be paid when work entailing a potential for lead exposure has begun, the work is in compliance with the LH&SP as determined by the Engineer, and the following items (if required) have been completed:
 - Certification of completion of lead training for supervisors and employees is provided to the Engineer.
 - Certification of completion of respirator training and documentation of respirator fit testing for all employees who will wear respirators is provided to the Engineer.
 - Documentation of purchase or mobilization of all required respirators and Personal Protective Equipment (PPE) is provided to the Engineer.
 - Documentation of purchase or mobilization of decontamination facilities is provided to the Engineer.
 - Documentation of initial medical testing and a summary of the results is provided to employees and the Engineer.
 - Documentation of initial exposure monitoring and a summary of the results is provided to employees and the Engineer.
 - Warning signs are posted in high exposure areas.
2. 75% of the lump sum price will be paid in proportional amounts over the duration of work which entails a potential for lead exposure. The Engineer will determine a daily rate of payment by dividing 75% of the lump sum amount bid for the Lead Health & Safety Program by the total number of work days which entail a potential for lead exposure, as shown in the contractor's schedule, without regard to any extension of time. This amount will be used to authorize payment in accordance with §102-17, Article 7. At any time, the Engineer may request the contractor to submit a revised schedule which reflects the actual progress of the work. Failure to submit a revised schedule upon request will result in termination of the progress payments.

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No payments will be made under this item for each calendar day during which there are substantial deficiencies in compliance, as determined by the Engineer. The amount of such calendar day non-payment(s) will be deducted from the next progress payment.

3. 10% of the lump sum price will be paid when exit medical exams (if required) have been offered as required and results provided to employees and the Engineer, the final monthly report (if required) has been received, all work which entails a potential for lead exposure has been demobilized, and all equipment associated with such operations has been removed from the project site.

B. LEAD EXPOSURE CONTROL PLAN (LECP). The lump sum price bid shall include the cost of all materials, equipment, and labor necessary to develop the LECP, and to provide two copies to the Engineer. Payment shall be made when the LECP is accepted by the Engineer. Costs to implement and carry out the LECP shall be paid under the other payment items of this section.

C. MEDICAL TESTING AND EXPOSURE MONITORING SAMPLE ANALYSIS. Except as noted below, payment shall include all reasonable and customary costs incurred (based on receipted bills submitted to the Engineer, plus 5% overhead and profit), for the following items as required by this specification: medical tests performed by the clinic, laboratory analysis of samples taken by the clinic, and laboratory analysis of exposure monitoring samples. All other costs related to this work, including worker time and transportation, the cost of providing results to employees and the Engineer, and the cost for collection of exposure monitoring samples, shall be included in the price bid for the Lead Health & Safety Program. Monthly payments will be made for this work based on the amount of receipted bills submitted during the estimate period.

No payments shall be made for additional medical tests or laboratory analysis required due to an increase in the BLL of any employee(s) above the OSHA threshold of 40 µg/dl.

D. DECONTAMINATION FACILITIES. The unit price bid per week for each facility shall include the cost of all materials, equipment, labor, ground rental, utility and disposal charges necessary to furnish, install, clean, maintain, relocate and remove the facility as necessary to complete the work.

Payment will be made under:

<u>Item No.</u>	<u>Item</u>	<u>Pay Unit</u>
18570.0100NN	Lead Health & Safety Program	Lump Sum
18570.0200NN	Lead Exposure Control Plan	Lump Sum
18570.0300NN	Medical Testing and Exposure Monitoring Sample Analysis	Lump Sum
18570.0400NN	Decontamination Facilities	Calendar Week