

## EXHIBIT "J" - Environmental Coordination

### SECTION 11000 – ENVIRONMENTAL COORDINATION

#### PART 1 – GENERAL

##### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and other Division 1 Specification Sections, apply to this section.
- B. Applicable School District Procedures and Directives including but limited to the following:
  - 1. An Asbestos Inspection Report (AIR) completed by \_\_\_\_\_ Inc. is included in these bid documents and must be posted on site and available to all contractor personnel in order to avoid the unknowing disturbance to any asbestos containing materials. The AIR is not to be used for bidding purposes. Contractors are to refer to the Asbestos Abatement Specification including in these bid documents.
  - 2. An Asbestos Abatement Specification prepared by \_\_\_\_\_, Inc. is included in Section \_\_\_\_ of these bid documents.

##### 1.2 BACKGROUND–CONSTRUCTION, RENOVATION AND MAINTENANCE SPECIAL CONSIDERATIONS WITHIN THIS FACILITY AND ON SCHOOL DISTRICT PROPERTY

- A. Construction, renovation and maintenance projects can generate large amounts of dust, particulates, odors and debris. All SDP contractors and Sub-contractors are responsible for preventing dust, particulates, odors and debris from impacting or reaching any occupied areas within the facility as a result of any and all aspects of their work activities on this site.
- B. The contractor shall submit a plan that identifies the location of all machines, tanks and vessels to be used on site and in addition documents the inventory and storage plan and location of all chemicals that will be used on site. The plan must also include copies of all Material Safety Data Sheets (MSDS) for any products used on site.
- C. All SDP contractors and Sub-contractors shall avoid usage of any equipment and/or tools resulting in excessive noise or vibration that impacts the Educational Process during Occupied School Hours.
- D. The contractor shall submit a plan that identifies the location of machines and documents the inventory and storage plan and location of all chemicals that will be used on site. The plan must also include copies of all Material Safety Data Sheets (MSDS) for any products used on site as stated above.

##### **During Construction Project**

- 1.3 Provide active means to prevent dust, particulates and odors in the air from dispersing into the occupied areas of the facility. All contractors and Sub-contractors must supply and install dust walk off pads/sticky mats at all exits to all work areas. The mat is mounted on a reusable, hard plastic frame with a nonskid backing. When all layers of the mat are eventually used, a new refill pad can be easily installed on the reusable frame.
  - 1. Alter/isolate the air handling system in the area where the work is being performed to prevent contamination of the duct system. The contractor staff shall be responsible for blocking off supply ducts and covering return air ducts to prevent contamination with dust and particulates.
  - 2. Complete all construction barriers before construction work begins.
    - a. Where containment is possible; utilize building walls and doors (all doors except construction access doors), close and seal with duct tape to prevent dust and debris from escaping.

- b. Where construction, demolition, or reconstruction is not capable of containment by utilizing existing building walls and doors, use one of the following methods of isolation:
  - 1) Airtight plastic barriers extending from floor to ceiling decking, or ceiling tiles if not removed.
  - 2) Plastic barrier seams to be sealed with duct tape to prevent dust and debris from escaping.
  - 3) Drywall barriers. Seams or joints will be covered or sealed to prevent dust and debris from escaping.
  - 4) Seal holes, pipes, conduits and punctures to prevent dust migration.
- 3. Place isolation barriers at penetration of ceiling envelopes, chases and ceiling spaces to stop movement of air and debris.
- 4. When openings are made into existing ceilings in work areas, where possible, the decontamination unit should be used which will seal off openings and fit tightly from ceiling to floor.
- 5. Construct to maintain airflow from clean area through and into work area. Require all personnel to pass through this room. Create overlapping flap (minimum of 2 feet wide) at plastic enclosures for personnel access.
- 6. Maintain negative pressure within the work site including venting outside of the building
- 7. Direct pedestrian traffic from construction areas away from occupied areas to limit opening and closing of doors (or other barriers) that may cause dust dispersion, entry of contaminated air, or tracking of dust to occupied areas.
- 8. Place dust mats (walk off pads) at entrance to work area and replace or clean regularly.
- 9. Contain construction waste before being transported in covered containers.

**Upon Completion of Project**

- 10. Do not remove barriers from the work area until completed project is thoroughly cleaned.
- 11. Vacuum work area including barriers.
- 12. Wet mop area and wipe down horizontal surfaces.
- 13. Remove barrier material carefully to minimize spreading of dirt and debris associated with construction.
- 14. Barrier material should be wet wiped before removal.
- 15. Remove alterations to the air handling system in the area where the work is being performed.

***Contain construction waste before being transported in covered containers.***

**IMPORTANT** – Contrary to any drawing notes or other statements in the technical specification that may indicate “Hazardous Materials by others”, the scope of work for the Contractor does include requirements to remove, handle and dispose of some pre-existing regulated materials as may be necessary to complete the work outlined in the summary of work. The contract work does include selective demolition, abatement, and/or removal and disposal of pre-existing materials which are covered by occupational, environmental, health and safety regulatory programs. Contractor(s) shall be obligated to perform the contract work in consideration of the presence of these materials at the project site and will be required to perform special handling and/or abatement of these materials as required to complete the project. Contractor(s) shall integrate and sequence any required special handling and/or abatement activities within the Contractor’s CPM Construction Cost and Manpower Loaded schedule. Proper procedures, precautions, protections and controls must be used with these materials in accordance with all applicable safety and environmental regulations as well as the Project Safety Manual and the Site Specific Safety Program.

- E. This Contract includes renovation work where all Contractors must be aware that the Contract Work involves work with Pre-Existing Regulated Building Materials.
1. The Contract Work includes selective demolition, abatement, and/or removal and disposal of pre-existing materials which are covered by occupational, environmental, health and safety regulatory programs. Contractors shall be obligated to perform the contract work in consideration of the presence of these materials at the project site and will be required to perform special handling and/or abatement of these materials as described below. Contractors shall integrate and sequence any required special handling and/or abatement activities within the General Contractor’s Coordinated CPM schedule. Proper procedures, precautions, protections and controls must be used with these materials in accordance with all applicable safety and environmental regulations as well as the Project Safety Manual and the Site Specific Safety Program.  
  
All activities, including but not limited to, handling, abating, selective demolition, removal, surface preparation, or cleaning, involving the materials listed below are **not** excluded from the contract work per General Conditions.
  2. **Non-Friable Asbestos Containing Materials** are **not** expected to be encountered in replacement or repair work involving this project, if it becomes necessary it shall be removed by non-friable methods and per the Asbestos Abatement Specification. Prior to any work with this material, a plan is required that will ensure that removal of this material occurs in a manner that meets all regulatory standards. The plan shall be submitted for review to School District of Philadelphia Office of Environmental Management and Services (SDP OEM&S) with a copy to the Project Manager and Construction Manager.
  3. **Friable Asbestos Containing Materials** exists and are **not** expected to be impacted by this project. If it becomes necessary to abate it shall be abated by others at no additional cost to this contractor. The asbestos abatement shall be performed in accordance with the direction and oversight of a licensed Asbestos Project Inspector(s) as assigned to the project(s) by the SDP OEM&S..
  4. Due to the buildings construction date, the presence of **Lead Based Paint (LBP)** is possible. A detailed assessment for LBP was not conducted for this project. Nevertheless, the Contractor should expect to encounter LBP as is typical for buildings of this vintage. All surface preparation prior to painting or other specified renovation work which may result in disturbance of LBP, and is not regulated as LBP abatement under applicable state and federal regulations, is included in the contract scope of work. In work involving LBP, Contractor shall follow and document all applicable procedures required by OSHA. Renovation work involving LBP is covered and must comply with Section 18 Lead Reduction Plans of the Project Safety Manual for the School District of

Philadelphia. In addition, for schools built prior to 1978 and defined as a child occupied facility (Children under age 6) contractors performing work must comply with the US EPA LEAD Safety for Renovation, Repair and Painting (US EPA RRP) regulation. Any and all waste material including waste water generated by any Lead Stabilization Activity shall be stored securely on site in 55 gallon drums supplied by the contractor. The Office of Environmental Management and Services shall be notified by the Construction Project Management team to schedule a HAZMAT pick up of drummed waste. The HAZMAT vendor will ensure the waste material is properly tested for waste characterization and proper disposal.

5. **Avian Droppings**, Pigeon or otherwise, if encountered during the execution of the work shall be addressed by the Contractor(s) according to the procedures detailed in Section 20 Histoplasmosis of the Project Safety Manual for the School District of Philadelphia.
6. The Contractor shall separate all used lamps removed for the project that contain mercury from other demolition waste and store them safely on site, in appropriate containers supplied by the contractor in a secure location, without breakage (breakage releases the mercury and may convert the resultant waste into "Hazardous Waste"). Mercury Containing Light bulbs include all Fluorescent bulbs, High Intensity Discharge, Mercury Vapor, Metal Halide, High-Pressure Sodium, and Low-Pressure Sodium. The storage containers supplied by the contractor must be labeled: "Used Lamps - Universal Waste". Upon accumulation of the used lamps from a completed phase of demolition, the contractor shall notify the Project Manager to arrange for the SDP Office of Environmental Management and Services (OEM&S) to properly remove them from the site for reuse or recycling per the Universal Waste regulations.
7. Electrical equipment that may contain Polychlorinated biphenyls (PCBs) may be present in the building. Removal and demolition of fluorescent lighting fixtures and ballasts shall be the responsibility of the Contractor. Almost all fluorescent light fixtures made before July 1979 have ballasts with capacitors containing small amounts of highly concentrated PCBs (polychlorinated biphenyls). When these ballasts fail, or are physically damaged, the PCBs can leak out. PCBs can be harmful to children and adults. Therefore, the contractor must take care to remove all fluorescent fixtures without damage to the ballast. Fluorescent Light Ballasts must be assumed to contain PCBs unless proven otherwise. For all employees handling light fixtures or ballasts that may contain PCBs, Contractor shall follow all regulations and procedures under paragraph 4, Hazardous Non-Routine Tasks and Nearby Work, of Section 15, Hazard Communication, in the Project Safety Manual for the School District of Philadelphia.
8. Light fixtures that are assumed to have PCB containing ballasts must be securely stored in a container supplied by the contractor that is approved for PCB disposal at a secure on-site location. The container must be marked "Contains PCBs" and dated with the date of initial accumulation. Upon accumulation of light fixtures and ballast from a completed phase of demolition, the Contractor shall notify the Project Manager to arrange for the SDP OEM&S to remove them from the site and coordinate the proper disposal performed by SDP OEMS. If an OEMS inspection indicates these materials to be non-PCB ballast the contractor will then be responsible for proper disposal from the site.
9. In addition, light fixtures that are clearly marked with a manufacture date later than July 1979 or labels or marks indicating "No PCBs," fixtures shall be segregated by the contractor from the Demolition Debris and stored separately for inspection by a person designated by the SDP OEM&S. Upon OEMS inspection of these fixtures the contractor will then be responsible for proper recycling or disposal from the site.

## PART 2 – SILICA SPECIFICATION

## 2.1 FOR MASONRY GRINDING, CUTTING AND SAWING

### A. Purpose

1. The purpose of this specification is to protect employees, the public, the environment and property from the detrimental affects of silica-containing dust generated from construction and restoration/maintenance activities.

### B. Scope and Application

1. This specification applies to powered tools or equipment used to cut, grind, core or drill masonry or concrete materials.

### C. Definitions

1. Masonry Material – For purposes of this specification includes, concrete block, brick, stones (natural and man-made), terra cotta tile, mortar and concrete made by mixing cement, and water with sand, and aggregate such as gravel or crushed stone. Material that is apparently stone-like in appearance and texture shall be presumed to be concrete or masonry material, unless otherwise indicated by evidence as presented by the employer.
2. NIOSH REL – The National Institute of Occupational Safety and Health Recommended Exposure Limit. For silica this is 0.05 milligrams per cubic meter (mg/c) averaged over a 10-hour time-weighted average.
3. OSHA PEL – The Occupational Safety and Health Administration's Permissible Exposure Limit is expressed as per 1926.55 - Gases, vapors, fumes, dusts, and mists - by the equation:  
$$\text{PEL} = 10 \text{ mg/ m}^3$$
$$\% \text{ silica} + 2$$
4. Powered tools or equipment – Tools in which the motive force that disrupts concrete or masonry materials is provided by a source other than human energy. Powered tools and equipment include those powered by electrical, combustion, hydraulic, chemical, or pneumatic energy.
5. Dust reduction system – Technology that utilizes the application of water or local exhaust ventilation to reduce airborne dust generated by the use of powered tools or equipment. Local exhaust ventilation may include vacuum systems, dust collection systems, and dust exhaust systems.

### D. Controls

1. In all cases, engineering and/or work-practice or administrative controls that reduce dust at the source where it is being generated shall be the control of choice. In those instances where such controls cannot be used – even temporarily — employees shall be protected with respirators that are used as part of a respiratory protection program. Additionally, the contractor must document how they determined that engineering and/or work practice or administrative controls could not be used.
  - a. Safety and Effectiveness of Dust Control Systems
    - 1) Procedures shall be implemented to ensure that dust reduction systems maintain their effectiveness for dust reduction throughout the work shift.
    - 2) Dust reduction systems shall be installed, operated, and maintained in accordance with manufacturer recommendations when there are such.
    - 3) When electrical tools are used with water as a dust reduction system, it shall be done in accordance with applicable requirements of electrical safety.

b. Dust Collection/Management

- 1) Dust shall be contained and disposed of in bags that can effectively hold dust without breaking.
- 2) Work surfaces and clothing shall be cleaned with vacuums and not by dry sweeping or the use of compressed air.
- 3) Respirators shall be worn when changing out bags or handling dust.

E. Evaluating the Effectiveness of Controls

1. The primary purpose of exposure monitoring and site inspections for the presence of dust is to ensure that engineering controls are effective in reducing silica dust generation. When personal air monitoring results are elevated or when there is visible dust, the contractor must intervene to determine the cause of the problem and fix it.
2. As soon as possible after the beginning of cutting or grinding tasks, the contractor shall conduct personal air monitoring of workers performing the cutting/grinding tasks. An industrial hygienist shall perform the monitoring and must be consulted prior to the execution of work. If personal air monitoring results indicate that the exposures are above the NIOSH Recommended Exposure Limits (REL) for silica, the contractor must ensure that the controls are functioning and being used properly. In all cases when the REL is exceeded, workers shall be provided with proper respiratory protection.
3. Following modification of controls as described above, the contractor shall conduct personal air monitoring to verify the effectiveness of those modifications in reducing employee exposure to silica.
4. If the contractor has done similar work in the past, has conducted exposure monitoring, and has records of this, the results can be used as a preliminary means to evaluate the effectiveness of controls. It is important that the previous jobs where the monitoring was conducted be similar to the current job, and that the control used be the same, including the manufacturer and model of the vacuum used.
5. Periodic monitoring shall be performed to assure the effectiveness of controls over time.
6. The contractor shall conduct daily visual inspections of the site for the presence of visible dust during grinding and cutting tasks. The presence of such dust is a sign that the controls are not doing their job.

F. Training

1. Employee training. An employer whose operations include using powered tools or equipment to cut, grind, core, or drill concrete or masonry materials shall provide training on the following topics to all employees prior to their assignment to jobs or work areas where the employer will be conducting these operations that potentially expose them to silica-containing dusts:
  - a. The potential health hazards of overexposure to airborne dust generated from concrete and masonry materials, including silicosis, lung cancer, chronic obstructive lung disease (COPD) and decreased lung function.
  - b. Methods used by the employer to control employee exposures to airborne dust from concrete and masonry materials, including wet cutting, local exhaust ventilation systems, and process isolation, as applicable.

- c. Proper use and maintenance of dust reduction systems, including the safe handling and disposal of waste materials collected in connection with their use.
  - d. The importance of good personal hygiene and housekeeping practices when working in proximity to dust from concrete and masonry materials including: not smoking tobacco products; appropriate methods of cleaning up before eating, and appropriate methods of cleaning clothes.
  - e. OSHA requirements including permissible exposure limits, requirements for engineering controls, and respirator protection program requirements.
2. Supervisor training. Prior to supervision of employees who will be cutting, grinding, drilling, or coring concrete or masonry materials, supervisory employees shall be trained on the following topics:
- a. The information required to be provided by subsection above. Identification of tasks the employees will perform, which may result in employee exposure to concrete or masonry dust.
  - b. Procedures for implementation of the measures used by the employer to reduce the exposure to concrete or masonry dust.
  - c. Measures for verifying the effectiveness of controls.
3. Periodic training. On jobs that last more than one year, the employer shall conduct the training required by this section at least annually.

#### G. Training Records

- 1. General Requirements: The contractor must maintain a record of all training required by this part within the preceding three (3) years for each person, who performs or directly supervises this specific job function (Masonry, Grinding, Cutting and Sawing). These training records must be maintained during the time that the person performs or supervises this job function (Masonry, Grinding, Cutting and Sawing). These training records must be kept for direct employees of the contractor as well as independent contractors, subcontractors and any other person who performs or directly supervises these job functions for the contractor.
- 2. Location of Records: The contractor must retain the training records required by this part to include all initial and recurrent training received within the preceding three (3) years for all persons performing or directly supervising this job function (Masonry, Grinding, Cutting and Sawing). Records may be maintained electronically or by other acceptable means. When the person ceases to perform or directly supervise this job function (Masonry, Grinding, Cutting and Sawing) the contractor must retain the training records for an additional ninety (90) days.
- 3. Contents of Records: Each training record must contain the following:
  - a. The individual's name;
  - b. The most recent training completion date;
  - c. A description, copy or reference to training materials used to meet training requirements;
  - d. The name of the person or organization providing the training.

#### H. Written Program

- 1. The contractor shall have a site-specific, written program that contains the following elements:

- a. Introduction: Project description, location, scope and schedule of work.
- b. Personnel: Project manager, person in charge of silica program.
- c. Silica dust-emitting activities: Tasks, equipment, materials, work crew.
- d. Engineering and work-practice controls: Type of control, use and maintenance procedures and how effectiveness will be verified including personal air monitoring data and schedules for air monitoring.
- e. Respiratory Protection Program.
- f. Schedule: Timetable for implementing compliance program.
- g. Hygiene procedures: Protective clothing (beside respirators) and equipment, housekeeping, hand washing stations.

PART 3 SOIL MANAGEMENT – REFER TO THE UST TANK REMOVAL SPECIFICATION

PART 4 - NOT USED FOR THIS PROJECT

PART 5 - EXECUTION

5.1 EXAMINATION

- A. Existing Conditions: the existence and location of Asbestos Containing Materials per the available Asbestos Inspection Report is not guaranteed to include all that may effect the major renovation.
- B. Before construction, the contractor will inspect areas of work and notify the Construction Manager of any suspected ACM not previously identified for abatement or confirmed as not containing asbestos according to the AIR prepared for the project renovation.

5.2 PERFORMANCE

- A. During the major renovation contract work, if the Contractor discovers or suspects ACM in the area of work, work will not proceed in that area. The Contractor will immediately notify the Project Manager and the School District's Office of Environmental Management and Services who will schedule testing and abatement if required.
- B. All Contractors shall post a copy of the AIR in a visible location in each area of work.
- C. The contractor's renovation schedule must provide for the coordination and phasing of asbestos abatement activities with the renovation contract work. This shall include allowing for post-abatement final air clearance sampling as required by regulations, or as may be requested by the Philadelphia Federation of Teachers.
  - 1. The Philadelphia Federation of Teacher's (PFT) Environmental Consultant shall have the option to conduct side by side final air clearance samples, within 24 hours notice of abatement project work area completion, with the Asbestos Project Inspector (API) for each work area. Samples will be collected, analyzed, and addressed, in accordance with all applicable Federal, State, and local regulations.

SECTION 11000