THE SCHOOL DISTRICT OF PHILADELPHIA

BOARD OF EDUCATION
Office of Capital Programs
440 North Broad Street, 3rd Floor – Suite 371
Philadelphia, PA 19130

TELEPHONE: (215) 400-4730

Addendum No. 2

Subject: **Bid B-068 C of 2018/19 for General Contractor Services on Building Envelope Project**

Location: **James J. Sullivan Elementary School**

This Addendum, dated August 25, 2021, shall modify and become part of the Contract Documents. Any items not mentioned herein, or affected by, shall remain strictly in accordance with the original document.

NOTICE: BID OPENING HAS BEEN POSTPONED TO THURSDAY, SEPTEMBER 2, 2021

Questions from Bidders:

1. Glass specified in "Section 08 8000 Glazing" will not meet Performance Requirements as specified in "Section 08 5113 Aluminum Windows", Page 2 of 8, Paragraph R "ASTM E1996", Page 5 of 8, Paragraph 2.03 Performance Requirements, Sub-Paragraph D "Wind-Borne Debris Resistance". This will require laminated glass with either 0.090" PVB interlayer (Large Missile) or 0.060" PVB interlayer (Small Missile).

Should this be a requirement, we'll need to know which impact to test for, i.e. Large Missile or Small Missile. Glazing will change from currently specified to laminated as required for either Large Missile or Small Missile impact. We will need to know impact requirement

Response: ***Remove Paragraph D, Wind-Borne-Debris Resistance from the Section 08 5113 Aluminum windows.***

2. Glass specified in "Section 08 8000 Glazing" will not meet Performance Requirements as specified in "Section 08 5113 Aluminum Windows", Page 5 of 8, Paragraph I "Acoustic Performance" with a minimum outdoor-indoor transmission class (OITC) rating of 34.

Should this be a requirement, glazing will need to be changed from currently specified to 1-1/4" thick laminated glass. This would meet an estimated OITC of 33. Testing would be required on specified window configuration to determine best glazing combination to achieved required OITC.

Response: ***Remove Paragraph I, Acoustic Performance from Section 08 5113 Aluminum windows.***

3. If neither specification is required [for questions #1 and #2 above], then what would be the intended glass makeup for the windows?

Response: ***Provide glazing and window unit performance as specified under Article 2.03 Performance Requirements, and Section 08 8000 Glazing.***

4. Drawing A-103 keynote 15 indicates light fixtures to be removed & reinstalled. None are shown. How many should we include?

Response: ***Assume quantity of 10 light fixtures for bidding purposes.***

5. Drawing A-103 Keynote 16 indicates a length of pipe is to be replaced. How long is the replacement pipe?

Response: ***Keynote 16 indicates replacement of pipe to the first knuckle. Assume 10 LF for bidding purposes.***

6. Drawing A -103 Keynotes 4, 5, 11, and 12 indicates shows in plain view items of work are typical but in many cases the item numbers do not appear on all parapets, coping, drains, etc. Please clarify with quantities.

Response:
1) General - See Photographs on Sheet A-103.
2) Keynote 4 carries "Typical". This keynote applies to all parapet walls. See Detail 7 on Sheet A-601.
3) Keynote 5 carries "Typical". This keynote applies to all parapet coping. See Detail 7 on Sheet A-601.
4) Keynote 11 carries "Typical". This keynote applies to all roof drains.
5) Keynote 12 carries "Typical". This keynote applies to all counter flashing on vertical wall surfaces that are not parapets. See Detail 8 on A-601.

7. I wanted to see if PPG paints would be an accepted manufacturer for the Building Envelope Renovations at James J. Sullivan Elementary School Project

Response: ***Yes.***

8. Specifications 085113 Page 6 of 8, Paragraph 2.07 FINISHES, Sub-Paragraph A indicates Color Anodized Finish AAMA 612: Sub-Paragraph B indicates AAMA 2605 painted finish.

Response: ***Provide AAMA 2605 finish as specified in 2.07 Finishes, Paragraph B.***

9. Keynote 3 – Clean Steel Lintel Surfaces and Apply High Performance Coatings As Per Specification 09 9600 on drawings S-201 and S-202, is the brick above the lintels being removed to expose the lintels or are we just coating the exposed portion without any brick removal?

Response: ***Brick will be removed and replaced at specified lintels. See Sheets S-201 and S-202. Provide high performance coating on exposed surface of steel lintel once brick is reinstalled.***

10. Is the abatement being handled by the school district or is that scope on the contractor?

Response: ***Abatement is included in the General Contractor's scope of work for the project.***

11. There is no window height listed for Type W24. Please provide/advise

Response: ***Verify dimension in field during construction.***

12. 085113-Aluminum Windows

12.1. Paragraph 2.03.D refers to Wind-Borne-Debris resistance but the specified glass would not provide for that. Please verify that this is not required.

Response: ***See Response #1.***

12.2. Paragraph 2.03.H calls for a 0.35 whole window u-value "on sizes required for this project". Not all project sized/configured windows would satisfy this. We are reviewing the Type W18, which is by far the most common, for compliance and will advise of our determination.

Response: ***Comply with S2.03H.***

12.3. Paragraph 2.03.I call for a 34 OITC but the specified glass would not provide for that. Please verify that this is not required.

Response: ***See Response #2.***

12.4. There is no hardware specification. Please provide/advise.

Response: ***See Article 2.06 Hardware in spec section 08 5113 Aluminum Windows.***

12.5. Paragraph 2.07 refers to both color anodizing and an AAMA 2605 paint. It also calls for "Dark Bronze or color selected by Architect from manufacturer's custom line to match existing conditions".

Response: ***See Response #8.***

12.6. Are we to assume color anodized or Duranar paint?

Response: ***See Response #8.***

12.6.i. If anodized, there would be no custom colors available and a Standard Dark Bronze must be assumed.

Response: ***See Response #8.***

12.6.ii. If Duranar, are we to assume standard dark bronze or a custom color?

Response: ***Dark Bronze.***

12.6.iii. In either case, would you like an alternate for a Duracron baked enamel paint at the interior?

Response: ***No. Provide the same finish for the entire window assembly.***

13. 088000-Glazing

13.1. Paragraph 2.03.B.3.b calls for a self-cleaning coating on the #1 surface. Please confirm that this is not required.

Response: ***Self-cleaning shall be removed.***

13.2. Paragraph 2.03.B.3 calls for clear lites of glass at the vision areas but bronze tinted is specified at the spandrel glass. Please confirm.

Response: ***Provide clear lites at spandrel panels. Provide low-e coating on surface #2 as indicated in Article 2.03.***

13.3. Paragraph 2.03.C.4.b indicates that the spandrel glass opacifier is to be on the #3 surface. This would make the finished side face the interior, which we assume is not the intent. Please verify whether the frit should be on surface #2 or #4 sp as to be viewed from the exterior.

Response: ***Surface #4.***

13.4. Paragraph 3.05 calls for a plastic film, which we will exclude.

Response: ***Plastic film is required where indicated.***

14. Due to the limited scope of work on this project, can the MBE/WBE ranges be reduced or combined?

Response: ***No.***

15. The project manual calls for solar shades AND blackout shades, however the drawings do not indicate where each type of shade is required. Are black out shades required at all, and if so, where are their locations?

Response: ***Refer to Sheet A-601, Drawing 4, Note 2.; Refer to Specification Section 12 2413 Window Shades.***

16. No mounting details can be seen in the bid set. Are shades to be mullion mounted or jamb mounted, and if jamb mounted, will blocking be provided? If no blocking is provided, is it safe to assume we will need to anchor to the concrete / steel plates shown by detail 6/A-601?

Response: ***Refer to Specification Section 12 2413 Window Shades.***

17. Is it fair to assume that we will not be covering the insulated aluminum panels in the window openings above the glass portion?

Response: ***Most insulated aluminum panels will be visible from the interior. Provide window shades for the full height of the window assembly and masonry opening.***

18. What is the anticipated schedule?

Response: ***Refer to Bid Documents for anticipated schedule.***

19. How many rooms will be provided at a time?

Response: ***For bidding purposes, it shall be assumed that up to three (3) classrooms may be occupied for project work concurrently due to lack of available swing space. Availability of rooms shall be coordinate with SDP OCP and building personnel.***

20. When can the abatement work take place?

Response: ***Abatement work shall take place during off-hours as described in the project specifications.***

Clarifications:

A. Please refer to the updated "ASBESTOS ABATEMENT WORK PLAN" prepared by The Vertex Companies, Inc., Dated December 9, 2020, revised March 8, 2021, included as part of this addendum. Please delete the previous version and replace with the provided document.

End of Addendum No. 2

The Vertex Companies, Inc.

ASBESTOS ABATEMENT WORK PLAN

Date Prepared: December 9, 2020; revised March 8, 2021

Work Location: James J. Sullivan Elementary School
5300 Ditman Street
Philadelphia, PA 19124

Environmental Consultant: The Vertex Companies, Inc.

1.1 GENERAL REQUIREMENTS:

1.1.1 The following information is presented for the performance of environmental remediation activities for the abatement of designated asbestos containing materials (ACM) in the James J. Sullivan Elementary School (Building Envelope Renovations Project) located at 5300 Ditman Street in Philadelphia, Pennsylvania. The project will entail abatement in designated locations throughout the school building. This work is being performed in conformance with all applicable Federal (AHERA), City of Philadelphia Asbestos Control Regulations, and with the policy(s) set forth by the School District of Philadelphia (SDP).

1.1.2 The selected abatement contractor will be retained by the General Construction Contractor for this project. The Vertex Companies (VERTEX) shall be acting as the School District of Philadelphia's representative for the purpose of coordinating environmental consulting, air monitoring/Asbestos Project Inspector (API), and laboratory and documentation services.

1.1.3 All work shall be performed in accordance with:

- City of Philadelphia Asbestos Control Regulations
- USEPA 40.CFR Part 61
- AHERA Regulations
- OSHA 29.CFR Part 1926.1101
- Philadelphia Fire Code
- All other applicable Regulations or Directives when applicable
- Contract Documents

1.1.4 Where a conflict is noted within any regulations or requirements, the most stringent provisions as detailed therein shall apply. The abatement contractor shall thoroughly review all contract documents and investigate the building and work areas to verify the quantities of materials to be addressed and all conditions that may affect the work. The omission of any location, area or surface within the contracted work areas containing ACM/asbestos contamination shall not relieve the abatement contractor from performing an independent and detailed investigation before submitting the bid, nor the remediation of these materials, consistent with the project intent, within the base contract amount.

1.1.5 Before submitting a proposal, the abatement contractor shall fully inform themselves as to all existing conditions and limitations with respect to the site and work involved.

1.1.6 The abatement contractor shall not rely upon the accuracy of existing conditions noted on any drawings, but shall make a personal examination and accept all existing conditions unless an item is "concealed" by solid physical barriers and could not have been discovered during a diligent inspection of the work site. If conditions do exist that may be "concealed" and are not described herein to be incorporated as part of the work and cannot be accessed without performing some demolition, the abatement contractor should bring it to the attention of the School District of Philadelphia, its designees, and the Environmental Consultant for clarification prior to submitting a bid. The preparation and submission of the bid shall indicate that the abatement contractor has personally examined the work area and existing and anticipated conditions and accepts the building and work area "AS IS".

1.1.7 Quantities of material(s) and areas referenced for this project are presented to assist the contractor/bidder in the preparation of a bid and are not intended to limit the scope of work. The contractor/bidder is responsible for confirming quantities and locations of all ACM, and resulting ACM related activities, prior to submitting their bid.

1.1.8 The abatement contractor shall provide all required submittal documentation and shall have received non-disapproval of such submittal prior to commencing any work required under the contract.

1.1.9 The Owner, its designees, or its Environmental Consultant may modify the Abatement Work Plan and/or required work during the period of the contract. All requests for changes to this work plan must be submitted in writing to the Project Designer for review and approval from the owner.

1.1.10 The Abatement Contractor and Consultant will follow all Necessary Mandatory Covid Protocols Daily as per all School District of Philadelphia, City, State and Federal Guidelines and will be strictly enforced.

1.2 SCOPE OF WORK

The scope of work for this project shall entail the removal of confirmed or presumed asbestos containing materials identified within the designated work areas per the planned renovations associated with the Building Envelope Renovations Project.

Specific locations were identified from the Gannett Fleming's Project Manual for Building Envelope Renovations at James J. Sullivan Elementary School, Engineer's Project No. 065021.002 and School District Project No. B-068 of 2018/2019, dated October 11, 2019. Also, from a review of the SDP Design Drawing Nos.: G-001; A-001 through A-601; and S-001 through S-500.

Specific locations and corresponding quantities for abatement are detailed in the Asbestos Inspection Report (AIR) and detailed below with specific circumstances/criteria for abatement.

1.2.1 Classroom 301

1. Approximately 6 linear feet of pipe insulation.

1.2.2 Classroom 301 Closet

1. Approximately 12 linear feet of pipe insulation.

1.2.3 Classroom 302

1. Approximately 6 linear feet of pipe insulation.

1.2.4 Classroom 303

1. Approximately 12 linear feet of pipe insulation.

1.2.5 Classroom 303 Closet

1. Approximately 12 linear feet of pipe insulation.

1.2.6 Stairwell adjacent to Classroom 303 (3rd Floor Area)

1. Approximately 20 linear feet of pipe insulation.

1.2.7 Classroom 304

1. Approximately 6 linear feet of pipe insulation.

1.2.8 Classroom 306

1. Approximately 6 linear feet of pipe insulation.

1.2.9 Speech Room across from Classroom 307

1. Approximately 2 pipe fittings.
2. Approximately 20 linear feet of pipe insulation.

1.2.10 Classroom 308 Closet

1. Approximately 12 linear feet of pipe insulation.

1.2.11 Classroom 309

1. Approximately 12 linear feet of pipe insulation.

1.2.12 Classroom 310

1. Approximately 24 linear feet of pipe insulation.

1.2.13 Classroom 310 Closet

1. Approximately 10 linear feet of pipe insulation.

1.2.14 Hallway between Classrooms 304 and 307

1. Approximately 1 pipe fitting.
2. Approximately 12 linear feet of pipe insulation.

1.2.15 Hallway between Classrooms 308 and 310

1. Approximately 12 linear feet of pipe insulation.

1.2.16 Stairwell adjacent to Classroom 308 (3rd Floor Area)

1. Approximately 20 linear feet of pipe insulation.

1.2.17 Classroom 214 (Former Teacher's Lounge)

1. Approximately 6 pipe fittings.
2. Approximately 30 linear feet of pipe insulation.

1.2.18 Office 215

1. Approximately 5 pipe fittings
2. Approximately 16 linear feet of pipe insulation.

1.2.19 Nurse's Office

1. Approximately 18 pipe fittings.
2. Approximately 64 linear feet of pipe insulation.

1.2.20 Classroom 201

1. Approximately 24 linear feet of pipe insulation.

1.2.21 Classroom 201 Closet

1. Approximately 4 pipe fittings.
2. Approximately 13 linear feet of pipe insulation.

1.2.22 Classroom 203

1. Approximately 12 linear feet of pipe insulation.

1.2.23 Classroom 203 Closet

1. Approximately 4 pipe fittings.
2. Approximately 14 linear feet of pipe insulation.

1.2.24 Stairwell adjacent to Classroom 203 (2nd Floor Area)

1. Approximately 8 pipe fittings.
2. Approximately 30 linear feet of pipe insulation.
3. Remove any visible debris inside the radiators. Seal the edges/seams on approximately 50 square feet of radiator insulation, as well as, the access panels on the radiators.

1.2.25 Classroom 206

1. Approximately 12 linear feet of pipe insulation.

1.2.26 Hallway from Classroom 204 to 207

1. Approximately 16 pipe fittings.
2. Approximately 62 linear feet of pipe insulation. Note: Abatement will be in two separate containments.

1.2.27 Office 211

1. Approximately 8 pipe fittings.
2. Approximately 45 linear feet of pipe insulation.

1.2.28 Hallway from Classroom 208 to 210

1. Approximately 8 pipe fittings.
2. Approximately 34 linear feet of pipe insulation.

1.2.29 Main Office Closet

1. Approximately 13 pipe fittings.
2. Approximately 45 linear feet of pipe insulation.

1.2.30 Principal's Office

1. Approximately 12 pipe fittings.
2. Approximately 45 linear feet of pipe insulation.

1.2.31 Assistant Principal's Office (Room 107B)

1. Approximately 9 linear feet of pipe insulation.

1.2.32 Office Suite 107 - Closet

1. Approximately 2 pipe fittings.
2. Approximately 10 linear feet of pipe insulation.

1.2.33 Right side Auditorium Entrance Steps (in hallway)

1. Approximately 2 pipe fittings.
2. Approximately 18 linear feet of pipe insulation.

1.2.34 Hallway from Classroom 104 to 107

1. Approximately 16 pipe fittings.
2. Approximately 64 linear feet of pipe insulation. Note: Abatement will be in two separate containments.

1.2.35 Hallway from Classroom 108 to 110

1. Approximately 2 pipe fittings.
2. Approximately 13 linear feet of pipe insulation.

1.2.36 Auditorium

1. Remove any visible debris inside the six radiators. Seal the edges/seams on approximately 290 square feet of radiator insulation, as well as, the access panels on the radiators.

1.2.37 Stairwell by Men's Restroom (1st Floor)

1. Approximately 2 pipe fittings.
2. Approximately 15 linear feet of pipe insulation.

1.2.38 Former Library in Basement

1. Approximately 22 pipe fittings.
2. Approximately 60 linear feet of pipe insulation.

1.2.39 Closet in former Library in Basement

1. Approximately 2 pipe fittings.
2. Approximately 10 linear feet of pipe insulation.

1.2.40 Gas Meter Room in former Library in Basement

1. Approximately 1 pipe fitting.
2. Approximately 5 linear feet of pipe insulation.

1.2.41 Cafeteria/Gymnasium

1. Approximately 20 pipe fittings.
2. Approximately 125 linear feet of pipe insulation.

1.2.42 Boy's and Girl's Club Office (in Gym)

1. Approximately 5 pipe fittings.
2. Approximately 25 linear feet of pipe insulation.

1.2.43 Gymnasium Electrical Room

1. Approximately 7 linear feet of pipe insulation.

1.2.44 Hallway between Kitchen and Boy's Restroom

1. Approximately 8 pipe fittings.
2. Approximately 33 linear feet of pipe insulation.

1.2.45 Classroom B9

1. Approximately 17 pipe fittings.
2. Approximately 68 linear feet of pipe insulation.

1.2.46 Hallway by Boiler Room

1. Approximately 5 pipe fittings.
2. Approximately 4 linear feet of pipe insulation.

1.2.47 Hallway between Girl's Restroom and Classroom B7

1. Approximately 6 pipe fittings.
2. Approximately 20 linear feet of pipe insulation.

1.2.48 Basement Entrance Vestibule by Girl's Restroom

1. Approximately 6 pipe fittings.
2. Approximately 17 linear feet of pipe insulation.

1.2.49 Rear Courtyard Exterior Doors

1. Approximately 200 linear feet of door caulk.

Note: Caulking must be removed by an abatement contractor from the doors/frames before the components leave the site. Any residual caulking exposed and remaining on building masonry/structure shall also be removed by an abatement contractor.

Note: Where feasible, one (1) containment will be constructed to facilitate abatement in classroom locations.

Note: The contractor and the Consultant's Asbestos Project Designer/API will design each containment to include calculations for air changes/sizing of Negative Air Units/Critical Barriers and Secondary Critical Barriers and worker paths of travel. The design may be altered at any time with the approval of the Asbestos Project Designer. The plan shall be readily available on site for review.

The following items are listed but will likely be performed by the roofing contractor:

1.2.50 Flat Roof (Main Building)

1. Approximately 200 ft^2 of perimeter flashing sealer.
2. Approximately 50 ft^2 of tar sealer.
3. Approximately 200 ft^2 of perimeter capping stone tar sealer. **Note:** The perimeter capping stone sealer may not be impacted by the roofing replacement.

1.2.51 Sloped Roof (Auditorium)

1. Approximately 4,300 ft^2 of roofing material (tar sealer and felt paper). **Note:** This material is assumed ACM and should be sampled by a licensed asbestos building inspector and analyzed immediately prior to the start of the project to determine if they are ACM. The asphalt shingles were sampled and tested negative for asbestos. However, the roofing contractor could not guarantee leak proofing the sampling locations where felt paper or tar sealer are located, thus those materials were not sampled when the shingles were sampled.

1.3 Additional Specifications

1.3.1 Abatement contractor will pre-clean, protect/repair all fiberglass pipe insulation that is inside a containment. If this is not feasible, the contractor shall remove the fiberglass and re-insulate the line.

1.3.2 Abatement contractor will utilize Amended water in all contaminants. API will verify use and document.

1.3.3 Abatement contractor will remove any loose paint inside a containment as part of the pre-cleaning process. Additional scraping of loose paint may also be necessary after containment walls are removed prior to final clearance sampling.

1.3.4 Abatement contractor will be responsible to re-insulate all piping/fittings. **Any uninsulated heating and water piping located in a space where abatement is performed shall be re-insulated by the abatement contractor**. Insulation that will come in contact with staff or students shall be sleeved with a rigid barrier to minimum height of 6 feet.

1.3.5 As part of the final clearance sampling protocol, a secondary containment will be established at a designated location outside the regulated work area. The location will be determined onsite by the Asbestos Project Designer or the API for the project. The purpose in establishing a secondary containment is to create an area to facilitate "outside" clearance samples. This secondary containment will be constructed utilizing critical barriers and hard isolation barriers over all entrances. Critical barriers shall consist of a minimum of two layers of 6 mil plastic sheeting. Hard isolation barriers shall consist of 3/8 inch plywood and shall be located outside the secondary containment.

1.3.6 Secondary 6-millimeter Polyethylene Sheeting must be added to enclose the Outside Work Sampling in all Areas.

1.3.7 Hard/Rigid Barriers must be constructed as necessary for all Work Areas.

1.3.8 A separate electrical panel (in good working order) shall be provided by the abatement contractor within 25 feet of a work area. A School District of Philadelphia electrician shall install the contractor provided electrical panel in the location(s) identified by the Asbestos Project Designer.

1.3.9 Once a work area passes final air samples, if a structure is reported on the analysis, the Abatement Contractor will HEPA Vac and wet wipe the work area before it is removed, as an added protective measure. The API must document this procedure.

1.4 SPECIAL CONDITIONS

The general description, specific requirements and sequencing of the work to be performed is presented below. The abatement contractor is responsible for the performance of all required activities, whether stated herein or not, to complete the work consistent with the project intent.

1.4.1 Pre-Construction Meeting: The abatement contractor awarded the project will be required to attend a pre-construction meeting prior to the initiation of the abatement project. The meeting will be attended by School District construction personnel, the general contractor, the abatement contractor, OEMS and the environmental consultant designated to this project.

1.4.2 Project Schedule: The abatement phase of this project shall be completed within the timeframe designated by the Owner. A work shift is defined as one 8-hour period.

1.4.3 Phasing: The abatement contractor shall coordinate all abatement operations with the School District of Philadelphia, its designee, and the Environmental Consultant.

1.4.4 Mobilization: Building access and transportation of equipment and materials shall be through the use of designated routes.

1.4.5 Equipment: All materials and equipment brought on to the site shall arrive clean and empty. Consumable supplies shall arrive onsite in their original packages, containers, or bundles bearing the name of the manufacturer. Equipment with questionable maintenance and/or obvious physical damage and/or visible surface debris will not be allowed onsite. Any delays due to these provisions shall be at the abatement contractor's cost.

1.4.6 Permits/Notifications/Fees: The abatement contractor shall secure all necessary permits, provide such notifications and pay applicable fees in conjunction with material removal, transportation, and disposal and make timely notification, as may be required by applicable law. This includes, at minimum, City of Philadelphia Air Management Division, PA Department of Environmental Protection, the USEPA, and any other local authorities maintaining jurisdiction.

1.4.7 Work Area Isolation: Upon mobilization by the abatement contractor, the work area shall be isolated in full accordance with the City of Philadelphia Asbestos Control and AHERA Regulations and this Work Plan. Any variance from these regulations must be approved by the School District of Philadelphia, its designee, the Environmental Consultant, and the City of Philadelphia Air Management Division. **Note: Where feasible, one (1) containment will be constructed to facilitate abatement in all locations.**

1.4.8 Negative Air: Negative air shall be established and maintained within each enclosure in full accordance with all applicable regulations. Negative air exhaust will be vented out to a perimeter window.

1.4.9 Respiratory Systems: The abatement contractor shall provide all workers, foreman, superintendents, authorized visitors, and inspectors personally issued and marked respiratory equipment in accordance with OSHA regulation 29 CFR 1926.1101 and 29 CFR 1910.134. When respirators with disposable filters are employed, abatement contractor shall provide a sufficient inventory of filters for replacement as necessary by the worker.

1.4.10 Air Monitoring: Daily air monitoring shall be coordinated by VERTEX, retained as a third-party environmental consultant by the School District of Philadelphia for this project. Samples shall be collected both inside and outside the work area. All samples shall be analyzed via Phase Contrast Microscopy (PCM) Methodologies unless SDP requests Transmission Electron Microscopy (TEM) air samples. Ten percent (10%) of the PCM air samples shall undergo laboratory QA/QC. All perimeter air samples (i.e. outside the work area) shall meet the 0.01 F/cc criteria. Should this level be exceeded, all work shall cease, and the abatement contractor shall be responsible to clean the affected area.

1.4.11 Visual Inspection: Upon completion of removal operations, surface cleaning and transportation of waste from the work area, a visual inspection, of the work area shall be performed by the API and the asbestos abatement contractor supervisor. In addition, the visual inspection will confirm that any penetrations created during the abatement process have been cleaned and sealed with spray foam or an equivalent material. All surfaces within the work area shall be dry prior to performing this inspection. Inspections will incorporate the use of a leaf blower.

1.4.12 Encapsulation: Application of a lockdown encapsulant by the abatement contractor shall be made to visually coat the applied surface in its entirety and shall be subject to inspection by the Environmental Consultant. Preparation, mixing and application shall be in accordance with the manufacturer's instructions. Where deficiencies are observed in the applied application of the lockdown encapsulant, the abatement contractor shall correct such deficiency at no additional cost.

1.4.13 Clearance Testing: Upon successful completion of the application of a lockdown encapsulant, all surfaces are confirmed as dry (i.e., 24-hour drying period), and all interior wall and floor poly (where applicable) have been removed, aggressive air clearance testing shall be performed by the Environmental Consultant. Air clearance testing shall be performed in full accordance with City of Philadelphia Asbestos Control Regulations and AHERA Regulations. For this project, it is anticipated that either PCM or TEM will be utilized as applicable to the specific scope of work area. As part of the final clearance sampling protocol, a secondary containment will be established at a designated location outside the regulated work area. The location will be determined onsite by the project designer or the API for the project. The purpose in establishing a secondary containment is to create an area to facilitate "outside" clearance samples. Utilizing best practices for quantities between 26 and 39 linear feet, a set of two (2) TEMs will be collected after a set of five (5) PCMs has passed. If final air testing results collected by the SDP's API fail to meet the established and required clearance criteria, the abatement contractor will bear the cost for analysis of the subsequent set(s) of final air tests performed.

Note: 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 for each work area. Samples will be collected, analyzed, and addressed, in accordance with all applicable Federal, State, and local regulations. Side by side sampling typically includes TEM analysis.

1.4.14 Final Inspection: Upon completion of demobilization activities, a final inspection shall be performed by the School District of Philadelphia, its designee, its Environmental Consultant, and the asbestos abatement contractor supervisor to ensure demobilization has been completed. Where deficiencies are observed the abatement contractor shall correct such deficiencies at no additional cost.

1.4.15 Disposal: All generated wastes shall be disposed of by the abatement contractor in full accordance with all EPA and other applicable regulations.

1.4.16 Variances: Any variances requested in relation to this Work Plan must be approved by the School District of Philadelphia, its designee, and the Environmental Consultant. Once approved, the variance request(s) shall then be submitted to the City of Philadelphia Air Management Division for review and final approval.

1.5 SPECIFIC ABATEMENT PLAN

1.5.1 All plans pertaining to the application/installation of enclosures, barriers, and coverings associated with asbestos abatement operations must be submitted by the abatement contractor for approval by the School District of Philadelphia, its designee, and the Environmental Consultant before the commencement of work activity.

1.5.2 The abatement contractor shall post required OSHA asbestos warning signs at all entrances to the Asbestos Control Area(s) and where waste materials are to be stored. These signs shall remain in place until the successful completion of visual inspection and final clearance testing. The signs shall be posted in such a manner and locations that a person may easily read the legend:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA

1.5.3 Heating and ventilating systems in the Asbestos Controlled Area shall be shut down to the extent feasible by the School District of Philadelphia or its designee. The abatement contractor shall seal any opening with two independent layers of 6 mil plastic sheeting to prevent contamination and fiber dispersal to other areas of the building.

1.5.4 A 3-stage decontamination system shall be constructed for each work area as applicable in full accordance with the City of Philadelphia's Asbestos Control Regulations. The decontamination system shall maintain at least 3 independent chambers equipped with a shower. The shower shall maintain operable hot and cold water. The decontamination system shall maintain a minimum of 1 shower chamber per 8 workers. Note: Upon approval from the Environmental Consultant and the City of Philadelphia Air Management Division, a variance may be requested for the use of a remote 3-stage decontamination system. The remote 3-stage decontamination unit will maintain negative pressure on the dirty room side of the system. Should this variance be approved, a 2-stage pop-up decontamination system will be installed at the entrance to each regulated work area that does not maintain an independent 3-stage decontamination system equipped with a shower. Workers will wear two suits while working in containments that use a remote 3-stage decontamination system. The outer suit will be removed in the decontamination system attached to the containment. The inner suit will be worn while workers proceed to the remote 3-stage decontamination system.

1.5.5 Prior to removal/clean-up activities, the abatement contractor shall additionally isolate the work area establishing a secondary containment. This secondary containment will be constructed utilizing critical barriers and hard isolation barriers over all entrances. Critical barriers shall consist of a minimum of two layers of 6 mil plastic sheeting. Hard isolation barriers shall consist of 3/8 inch plywood and shall be located outside the secondary containment.

1.5.6 Where applicable, negative air HEPA ventilation system shall be installed and operated in accordance with ANSI Z9.2. The AFDs shall be in sufficient quantity to provide a minimum of four air exchanges per hour and a pressure differential of -0.02 inches water column. The local exhaust system shall be operated continuously, 24-hours a day, until the enclosure of the asbestos control area is removed. Manometer readings shall be reviewed by the Environmental Consultant. The Environmental Consultant shall notify the abatement contractor and the School District of Philadelphia or its designee immediately of any variance in the pressure differential which would cause exposure of adjacent unsealed areas to asbestos fiber concentrations in excess of the action level.

1.5.7 Prior to initiating asbestos removal activities, all non-essential and previously generated waste shall be removed from the Asbestos Controlled Area utilizing appropriate decontamination and/or disposal techniques.

1.5.8 Prior to commencing asbestos operations, the abatement contractor shall pre-clean the entire work area of any/all gross or residual debris/material identified within the Asbestos Controlled Area.

1.5.9 Construct an enclosure around each work area. Each enclosure will be constructed of two layers of 6 mil plastic sheeting on the walls and floors and one layer on ceilings as applicable, in accordance with the City of Philadelphia Asbestos Control Regulations. **Note: Where feasible, one (1) containment will be constructed to facilitate abatement in classroom locations.**

1.5.10 Removal/encapsulation of all asbestos material shall be performed following the successful completion of a pre-commencement visual inspection by the Environmental Consultant.

1.5.11 Material from within the Asbestos Controlled Area shall not be permitted outside of the Asbestos Controlled Area except in asbestos identified sealed leak tight containers.

1.5.12 All asbestos and asbestos containing waste shall be properly packaged. All waste shall be thoroughly wetted with amended water before being placed into containers for disposal.

1.5.13 Bags and drums shall be marked with the label prescribed by 40 CFR, Section 61.152 and 29 CFR, Section 1926.58 of OSHA Regulations. The outside of all containers shall be wet cleaned or HEPA vacuumed before leaving the Asbestos Controlled Area.

1.5.14 All free water in contaminated areas shall be retrieved and placed in 6 mil plastic lined, leak tight drums or added to the asbestos waste.

1.5.15 Cleaning of the work area and subsequent visual inspections shall be performed in strict accordance with all applicable asbestos regulations. Visual inspections performed by the Environmental Consultant will incorporate the use of a leaf blower to dislodge and identify any loose debris/material. Should the leaf blowing procedure dislodge and identify residual debris/material, the abatement contractor will be instructed to re-clean the work area. Upon completion of cleaning, the same visual inspection process, including the leaf blower, will be performed. In addition, the visual inspection will confirm that any penetrations created during the abatement process have been cleaned and sealed with spray foam or an equivalent material.

1.5.16 Upon completion of successful visual inspection, the application of a lockdown encapsulant by the abatement contractor shall be made to visually coat the applied surface in its entirety and shall be subject to inspection by the Environmental Consultant. Preparation, mixing, and application shall be in accordance with the manufacturer's instructions. Where deficiencies are observed in the applied application of the lockdown encapsulant, the abatement contractor shall correct such deficiency at no additional cost.

1.5.17 Following a sufficient drying time (i.e. 24-hours), the abatement contractor will be instructed by the Environmental Consultant to enter the work area and remove all wall, floor, and ceiling plastic sheeting (where applicable), leaving only critical barriers in place for final testing. Should this process dislodge or create any debris, the abatement contractor will be instructed to clean those areas and possibly re-encapsulate. Note: Any plastic containment walls, which maintain no hard barrier/solid surface behind it, will remain in place.

General Note: Once an area is regulated, only the abatement contractor's licensed and certified workers, the API, and any regulator certified to wear PPE will have access to the work area.

1.6 FINAL TESTING

1.6.1 Following the successful visual inspection by the Environmental Consultant and the appropriate drying time, in accordance with City of Philadelphia Asbestos Control and AHERA Regulations, aggressive final air testing shall be initiated at each regulated work area. Final air tests shall be analyzed utilizing either TEM or PCM methodologies. As part of the final clearance sampling protocol, a secondary containment will be established at a designated location outside the regulated work area. The location will be determined onsite by the project designer or the API for the project. The purpose in establishing a secondary containment is to create an area to facilitate "outside" clearance samples. If final air testing results collected by the SDP's API fail to meet the established and required clearance criteria, the abatement contractor will bear the cost for analysis of the subsequent set(s) of final air tests performed.

Note: The Philadelphia Federation of Teacher's Environmental Consultant shall have the option to conduct side by side final air clearance samples, within 24-hour's notice of abatement project work area completion, with the Asbestos Project Inspector for each work area. Samples will be collected, analyzed, and addressed, in accordance with all applicable Federal, State, and local regulations. Side by side sampling typically includes TEM analysis.

1.6.2 Upon achieving a clean air level below the level designated within the City of Philadelphia Asbestos Control and AHERA Regulations, the work containment/regulated work area shall be dismantled and demobilized. The Environmental Consultant shall perform a final visual inspection to ensure that no residue or debris remains. Should the Environmental Consultant identify any residue or debris, the abatement contractor shall perform clean-up operations of this material. **Once a work area passes final air samples, if a fiber or structure is reported on the analysis, the Abatement Contractor will HEPA Vac and wet wipe the work area before it is removed, as an added protective measure. The API must document this procedure.**

1.7 FINAL INSPECTION

1.7.1 The Environmental Consultant shall perform a thorough inspection of the work area to ensure that all asbestos containing materials per the scope of work have been removed.

1.8 WASTE

1.8.1 All waste generated from this project shall be removed, transported, and disposed of in full accordance with all applicable regulations.

1.8.2 Disposal manifests shall be submitted to the Environmental Consultant for review.

1.9 LEAD PAINTED COMPONENTS

1.9.1 A lead paint assessment was performed at this school in February and March 2020 using an X-ray fluorescence hand-held device. Lead paint was detected on the walls, ceilings, floors, and various building components throughout the building. Any damaged lead painted component within an abatement work area will be addressed as part of the asbestos abatement project.

1.9.2 Any painted surface that has lead content should not be sanded, demolished or disturbed without the proper engineering controls and work methods, as spelled out under the OSHA's 29 CFR Part 1926.62 Lead Exposure in Construction, Interim Rule. Improper disturbance of any paint with lead content can cause lead to become airborne. The emphasis on controlling lead dust derives from the conclusion that lead dust appears to be the primary route of exposure of lead, especially of low-level exposure.

1.9.3 The Environmental Protection Agency's (EPA) Renovation, Repair, and Painting Program Final Rule (40 CFR Part 745) (RRP Rule) mandates that if lead-based paint will be disturbed during renovation or painting activity then the work should be completed using lead-safe work practices as defined in the RRP Rule. The individual disturbing the lead-based paint must be certified as well as the firm with whom he/she is employed. In addition, the demolition/renovation contractor will be required to perform TCLP testing for proper waste streaming and disposal of generated waste.

1.10 MOLD IMPACTED COMPONENTS

1.10.1 At the time of this inspection, no visible mold was identified during the inspection of the school.

1.10.2 Should suspect visible mold growth or moisture damage be encountered during abatement activities, the abatement contractor should bring this to the attention of the School District of Philadelphia or its designee.