

**COMPLIANCE ENVIRONMENTAL, INC.****SECTION 01013 - SUMMARY OF THE WORK - ASBESTOS ABATEMENT****PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

**1.2 WORK COVERED BY CONTRACT DOCUMENTS**

- A. **The Project** consists of interior and exterior asbestos abatement at the The Lewes School as follows:
1. **Project Name:** 2020 Asbestos Abatement at The Lewes School.
  2. **Project Location:** The Lewes School, 820 Savannah Road, Lewes, Delaware.
  3. **Owner:** Cape Henlopen School District, 1270 Kings Highway, Lewes, Delaware 19958.
  4. **Work Period:** All required activities must be started on or about January 6, 2020 and substantial completion of the project must be achieved within one-hundred twenty (120) calendar days starting from the Notice to Proceed date.
  5. **Desired Work Schedule:** The Owner desires that all work be completed as soon as possible without the addition of overtime hours. The Contractor shall start and complete the project in this desired sequence:
    - a. Complete all interior work first except any work which will disturb the use of the boilers to provide heat in the building to prevent pipe freezing and potable water systems which including, but not limited to, heating units, gaskets and crawlspace work.
    - b. Complete all exterior work. **The Contractor shall start and complete all exterior work as one task on the project. Prior to performing this work, a 72-hour notification from the Contractor must be provided so that the Construction Manager can coordinate replacement of building components.**
    - c. Turn-off boiler heating system. Complete all work relating to boilers including heating units, gaskets and crawlspace work and all other outstanding work on the project.
  6. **Prevailing Wage Rates:** Current State of Delaware Prevailing Wage Rates are in effect. Wage rates are provided in the specification. The project is in Sussex County. (Part II., General Specifications)
  7. **Liquidated Damages:** The Contractor shall pay liquidated damages at the rate of \$ 2,000.00 per calendar day if substantial completion is not achieved within the work period as listed above.
  8. **Owner's Representative:** Compliance Environmental, Inc. will represent the Owner on this project.
- B. **Contract Documents**, dated July 23, 2019 were prepared for the Project by Compliance Environmental, Inc., 150 South Bradford Street, Dover, Delaware 19904, CEI Project Number CEI-072319. Conditions and requirements are indicated on the Contract Documents including, but

not limited to, this specification, drawings, and any addenda to the specifications.

C. **The Work** consists of the removal of asbestos-containing materials as listed on Tables 1 and 2 of these specifications and shown on the drawings. The work also requires the Contractor to complete all break-in points through out the buildings to inspect within ceilings, walls and floors. Also, the work involves removal of pipe coverings, debris and soil from all crawlspaces. Work areas are shown on the drawings for work described in this specification. The work also includes the removal of assumed asbestos-containing materials which were inaccessible during the asbestos building inspection. The work also requires the removal of non-asbestos-containing building materials to access asbestos-containing materials. This work is being performed in preparation for renovation of the building. All asbestos-containing materials and assumed asbestos-containing materials must be removed on this project.

1. **Work to be Performed Under This Contact:** includes complete removal and proper disposal of all asbestos-containing and asbestos-contaminated materials at the The Lewes School shown on the drawings, Table 1 and Table 2. Asbestos locations and assumed asbestos locations are shown on Contract Documents prepared by Compliance Environmental, Inc. The bulk sampling information is provided for reference.

The total estimated asbestos-containing materials to be abated and location is shown on the attached Table 1 and Table 2. Table 1. shows the location and estimated quantity of positive asbestos-containing building materials that require abatement. Table 2. shows the location and estimated quantity of assumed asbestos-containing materials. **The Contractor shall provide in its lump sum cost for the project, all of the work included on the drawings and in Table 1 and Table 2, and all other requirements in the Contract Documents.**

2. **Work to be Performed Prior to Work Under This Contact:** The Owner shall remove desired non-fixed articles (e.g., furniture, computers, boxes) from work area(s) that are not contaminated. All non-fixed articles remaining in work areas shall be moved to non-work areas prior to the start of any asbestos abatement work by the Contractor at no additional cost to the Owner.

3. **Project Site Notices:** The Contractor shall provide, as a minimum and at all times, at a visible location at the project site, the following:

- (i). Equal Employment Opportunity and Minimum Wage Information
- (ii). U.S. EPA 10-Day Notification
- (iii). State of Delaware DNREC 10-Day Notification
- (iv). State of Delaware Prevailing Wage Determination
- (v). Site Supervisor and Worker Badges
- (vi). Air Sampling Results (if any)
- (vii). Emergency Planning Procedures
- (viii). Subcontractor List
- (ix). Material Safety Data Sheets

4. **Submittals Prior to Site Work:** The Contractor shall provide the following items to the Owner's Representative prior to asbestos abatement:

- (i). Signed Contracts.

- (ii). Signed Payment and Performance Bonds.
  - (iii). Certificate of Liability Insurance.
  - (iv). Copy of the U.S. EPA 10-Day Notification.
  - (v). Copy of the State of Delaware DNREC 10-Day Notification.
  - (vi). Project Schedule.
  - (vii). Completed Initial Exposure Assessment Form (Appendix C, Section 01562)
  - (viii). Completed Certificates of Site Worker's Acknowledgment Forms (Appendix C, Section 01560).
  - (ix). Complete list of Project Supervisors and Workers including names and addresses.
  - (x). Fit test results, medical results, and certifications for Project Supervisors and Workers.
5. **Assumed Asbestos Materials:** The project contains assumed asbestos-containing materials as shown in the specification. The Contractor shall include in its bid the cost of complete abatement and proper disposal of all assumed asbestos-containing materials. Some locations require that the Contractor "break-in" into wall, floor and ceiling for inspection by the Owner's Representative. The size, number and shape of the break-in shall be adequate as determined by the Owner's Representative to perform a proper inspection. Some locations shown on the drawing will require multiple break-ins. The Contractor shall include in its bid all costs associated with break-in activities and complete abatement of all of the quantities of assumed materials listed in the specifications at no additional cost to the Owner.
6. **Unit Prices:** The unit prices listed on the bid form could be used to adjust the Contractor's base bid and alternates, add or deduct, for changes in quantities on the project. However, the Owner reserves the right to accept or reject these listed unit prices and to ask the Contractor to provide other pricing based upon project conditions.
7. **Measurements and Dimensions:** It is the Contractor's responsibility to verify all measurements prior to the openings of the bids. Any discrepancies in the measurements or work site conditions must be made prior to the opening of the bids.
8. **Work Area Security & Protection:** In performing the work, the Contractor is responsible for the security of the work area and protection of any and all equipment, materials, and surfaces not scheduled for work activities. The Contractor shall not be provided with a key to building(s) where work is to be performed. It is the Contractor's responsibility to adequately barricade, sign and control access to work areas in such a way to prevent accidental access to work areas.
9. **Damage Repair & Missing Item Replacement:** The Contractor shall repair or replace, at his own expense, any damage occurring during his activities to any building component not scheduled for asbestos abatement or movement. Any damaged or missing items will be replaced or paid for by the Contractor prior to receipt of final contract payment.
10. **Payment Requests:** The Owner's Representative shall review and recommend payment of all invoices from the Contractor. Invoices shall be submitted by the Contractor in a form acceptable to both the Owner's Representative and Owner.
11. **Critical Barriers:** Critical barriers consisting of two (2) single layers of 6-mil polyethylene sheeting applied separately by the Contractor with varying tape lines shall be installed, as

a minimum, at ventilation systems, doors, windows, electrical wall switches and receptacle, and other openings in the work area. See Section 01526 for more information.

12. **Ventilation Systems:** The Contractor shall completely immobilize any ventilation systems in work areas by, as a minimum, by sealing supply and return ducts with critical barriers, locking and tagging the system “off,” notifying building operators, and providing proper labeling. See Section 01513 for more information.
13. **Toilet Facilities:** The Contractor shall provide, at his own expense, toilet facilities for his use during the project.
14. **Floor Tile Machines:** The use of floor tile machines are allowed on this project at the discretion of the Contractor and if the Contractor can demonstrate after bidding and prior to the start of the work, that proper usage and effective decontamination procedures will be used by the Contractor. If the Contractor elects to use a floor tile machine for any portion of the work herein, prior to its usage, the Contractor shall submit a written Work Plan for review and have the Work Plan approved. The Work Plan shall contain, at a minimum, the following elements:
  - (i). The floor tile machine(s) will be visually inspection by the Owner’s Representative prior to use on this Project to verify that the machine is clean and containing no viable debris or contamination. If not acceptable, the floor tile machine(s) cannot be used on this Project.
  - (ii). The Contractor shall be responsible for any damage caused by the machine(s).
  - (iii). Detailed description of the method(s) which will be used by the Contractor to decontaminate the equipment and verify using AHERA visual and air testing clearance protocols, that the equipment was effectively decontaminated. All visual and air testing required will be at no additional cost to the Owner. The Contractor shall provide documentation to the Owner’s Representative that it has passed all AHERA visual and air testing clearance protocols prior removal of any floor tile machines from its decontamination area.
  - (iv). Decontamination shall be performed prior to moving of the machine(s) out of any Work Area to effectively remove any asbestos residue. Decontamination shall be performed in a dedicated containment (the equipment decontamination/bag-out area can be used provided it can accommodate all of the required activities). After decontamination, the Contractor shall provide documentation to the Owner’s Representative that the machine was properly decontaminated prior to removal of the machine out of any Work Area including all air testing results.

**The Contractor acknowledges by submission of its bid, that there are no guarantees made by the Owner that approval of floor tiles machines will be granted and the Contractor reaffirms that if floor tile machines are not approved for use on this project, that manual scrapping methods will be used to complete the project in accordance with the Specifications at no additional cost to the Owner.**

**15. Removal Procedures:****(i). Floor Tile and Associated Mastics:**

Some work areas contain multiple layers of floor tiles with carpeting and stair treads at some locations. All asbestos floor tile layers including all non-asbestos floor tile layers on top of or below asbestos floor tiles and all associated mastics must be removed and disposed by the Contractor. Install a three-stage decontamination unit, with shower, at the entrance to the work area containments. The decontamination units shall be installed in such a manner as to allow for separate equipment room/bag-out off to the side. **In No Instance Will the Personal Decontamination Unit Be Used for Bag-out or Equipment Passage.** Install and operate HEPA filtered air filtration devices. Pre-clean any areas needing critical barriers, and install critical barriers. The work area shall consist of two (2) layers of 6-mil plastic sheeting as critical barriers at all openings. Establish and maintain at all times a pressure differential of minus 0.02 inches of water measured on a strip chart recorder or other approved method. The pressure differential recorder shall be checked several times daily by the Contractor. The contractor shall supply a calibrated differential pressure manometer capable of monitoring and recording on a strip chart and measuring differential pressure of 0.005 inches of water. The manometer shall be equipped with an automatically activated alarm system which will sound a warning if the pressure rises above the minimum value. All strips charts will be submitted to the Owner's Representative at the completion of the project. **Work will not begin or continue until an adequate differential pressure is achieved and maintained.** Once negative air is established, the Contractor may start removing the carpet and/or stair treads (if applicable). If the carpet and/or stair treads covering comes up without disturbing the floor tile, it may be disposed by the Contractor as a general debris. However, if the floor tile is disturbed while removing the carpeting (and padding if applicable) and/or stair treads, the carpeting (and padding if applicable) and stair treads shall be disposed by the Contractor of as contaminated waste. The Contractor is responsible for proper handling, storage, transporting and disposal of all wastes. **The use of floor tile machines are allowed on this project at the discretion of the Contractor and if the Contractor can demonstrate after bidding and prior to the start of the work, that proper usage and effective decontamination procedures will be used by the Contractor in accordance with this Section.** Remove floor heater covers in work area (if applicable) to inspect interior of units for asbestos. If asbestos floor tile is found, follow specified removal and disposal procedure. Remove and dispose of any floor tile under window and/or wall mounted HVAC units. All floor tile shall be thoroughly wetted and double-bagged in 6-mil poly bags and goose-necked or thoroughly wetted and wrapped in double-layers of 6-mil poly for proper disposal. All waste shall be properly handled and labeled for disposal by the Contractor. All asbestos-containing and contaminated materials shall be properly handled, stored, transported and disposed by the Contractor in accordance with all Federal, State, and local laws, regulations, ordinances, guidelines, and the requirements of this Specification. Fiber and/or metal drums may be used. All daily air sampling will be laboratory analyzed by Phase Contrast Microscopy (PCM) methods unless the Owner or State Agency requires other methods. Final air clearance samples will be by TEM unless work area are less than asbestos NESHAP quantities and then by PCM. See Sections 01529, 02081, 02087 and this specification for more information.

**(ii). Carpet Glue, Associated Mastics, and Fiberboard:**

Work areas contain carpet, asbestos-containing glue, associated asbestos containing mastics and asbestos-containing fiberboards at some locations. All asbestos-containing carpet glue and associated mastics must be removed. Materials having asbestos shall be removed and properly disposed by the Contractor as asbestos-contaminated materials. Install a three-stage decontamination unit, with shower, at the entrance to the work area containments. The decontamination units shall be installed in such a manner as to allow for separate equipment room/bag-out off to the side. **In No Instance Will the Personal Decontamination Unit Be Used for Bag-out or Equipment Passage.** Install and operate HEPA filtered air filtration devices. Pre-clean any areas needing critical barriers, and install critical barriers. The work area shall consist of two (2) layers of 6-mil plastic sheeting as critical barriers at all openings. Establish and maintain at all times a pressure differential of minus 0.02 inches of water measured on a strip chart recorder or other approved method. The pressure differential recorder shall be checked several times daily by the Contractor. The contractor shall supply a calibrated differential pressure manometer capable of monitoring and recording on a strip chart and measuring differential pressure of 0.005 inches of water. The manometer shall be equipped with an automatically activated alarm system which will sound a warning if the pressure rises above the minimum value. All strips charts will be submitted to the Owner's Representative at the completion of the project. **Work will not begin or continue until an adequate differential pressure is achieved and maintained.** Once negative air is established, the Contractor may start removing the asbestos-containing materials. If the carpet (and padding if applicable) comes up without glue or mastic it may be disposed by the Contractor as a general debris. However, if the carpet an applicable padding contains glue or mastic, it shall be disposed by the Contractor of as contaminated waste. The Contractor is responsible for proper handling, storage, transporting and disposal of all wastes. Remove floor heater covers in work area (if applicable) to inspect interior of units for asbestos. If asbestos glue or mastic is found, follow specified removal and disposal procedure. All materials shall be thoroughly wetted and double-bagged in 6-mil poly bags and goose-necked or thoroughly wetted and wrapped in double-layers of 6-mil poly for proper disposal. All waste shall be properly handled and labeled for disposal by the Contractor. All asbestos-containing and contaminated materials shall be properly handled, stored, transported and disposed by the Contractor in accordance with all Federal, State, and local laws, regulations, ordinances, guidelines, and the requirements of this Specification. Fiber and/or metal drums may be used. All daily air sampling will be laboratory analyzed by Phase Contrast Microscopy (PCM) methods unless the Owner or State Agency requires other methods Final air clearance samples will be by TEM unless work area are less than asbestos NESHAP quantities and then by PCM. See Sections 01529, 02081, 02087 and this specification for more information.

**(iii). Pipe Coverings (Insulation & Fittings):**

Asbestos pipe coverings (insulation and fittings) are friable and shall be properly removed, bagged, transported and disposed by the Contractor. **Prior to removal, the Contractor shall verify that all utilities have been shut-off and purged.** The Contractor shall then install a three-stage decontamination unit, with shower, at the entrance to the work area containment. The decontamination unit shall be installed in such a manner as to allow for a combined equipment room/bag-out off to the side. Don personal protective equipment prior to entering the containment area. Personal Protective Equipment shall include as a minimum, full-body coveralls, head and foot covers, and full-faced PAPRs. The Contractor shall use gross removal methods or wrap and cut methods for complete removal of all pipe coverings. For removal or should the fiber counts reach the Permissible Exposure Limit (PEL) at any time, Type C, Grade D respirators operating in the pressure demand mode will be required. Install and operate HEPA filtered air filtration devices. Pre-clean any areas needing critical barriers, and install critical barriers. The work area shall consist of two (2) layers of 6-mil plastic sheeting as critical barriers and one (1) layer of 6-mil plastic sheeting on ceilings and walls. Establish and maintain at all times a pressure differential of minus 0.02 inches of water measured on a strip chart recorder or other approved method. The pressure differential recorder shall be checked several times daily by the Contractor. The contractor shall supply a calibrated differential pressure manometer capable of monitoring and recording on a strip chart and measuring differential pressure of 0.005 inches of water. The manometer shall be equipped with an automatically activated alarm system which will sound a warning if the pressure rises above the minimum value. All strips charts will be submitted to the Owner's Representative at the completion of the project. The Contractor shall place a fire extinguisher and have a first aid kit at each containment. An additional fire extinguisher shall be provided by the Contractor where containments exceed 1,000 square feet. Temporary ground fault electrical panels shall be installed outside of containment areas and used by the Contractor for all electrical connections. The Contractor shall use water-proof lights inside of all work areas. **Work will not begin or continue until an adequate differential pressure is achieved and maintained.** Once negative air is established, the Contractor shall begin abatement of the pipe coverings. The Contractor can use glove bagging means and methods to perform the abatement. The Contractor shall completely remove the pipe coverings in a manner which prevents damage to building materials and components. Pipe coverings shall be double bagged in a manner to prevent the contents of the bag from escaping. The pipe coverings shall be properly wetted and labeled for disposal. Care shall be taken by the Contractor considering the right amount of water required not to create leaking conditions or hazards to the work area or surrounding area, including the ceiling of the first floor. The Building Owner shall provide water for the Contractor's use during the work. The Contractor shall ensure that proper back-flow protection at all sources of water are installed and maintained. The Contractor is responsible for proper disposal of all wastes. A remote three-stage decontamination unit with shower shall be provided and used by the Contractor during the work. As a minimum, all workers shall shower at the end of each shift. The Contractor shall ensure the integrity of all decontamination facilities. All decontamination procedures shall be strictly implemented by the Contractor. Shower wastewater shall be either filtered or jelled. All filters and/or jelled water shall be disposed by the Contractor as contaminated waste. All pipe coverings and fragments shall be thoroughly wetted and double-bagged in 6-mil poly bags and goose-necked for proper disposal. All waste

shall be properly handled and labeled by the Contractor for disposal. All asbestos-containing and contaminated materials shall be properly handled, stored, transported and disposed by the Contractor in accordance with all Federal, State, and local laws, regulations, ordinances, guidelines, and the requirements of this Specification. Fiber and/or metal drums may be used. Final inspection shall consist of a visual inspection and air sampling. All daily air sampling will be laboratory analyzed by Phase Contrast Microscopy (PCM) methods unless the Owner or State Agency requires other methods. Final air clearance samples will be by TEM unless work area are less than asbestos NESHAP quantities and then by PCM. See Sections 01529, 02081, 02087 and this specification for more information.

(iv). **Crawlspace:**

Crawlspace are located in the basement level of the The Lewes School. The crawlspace extend from the boiler room to several locations through-out the basement. The crawlspace connect building vertical and horizontal pipe chases and have very limited access. The crawlspace contain asbestos pipe covers (insulation and fittings), and non-asbestos materials. Some of the asbestos materials are in poor condition supported by hangers from the crawlspace ceilings and/or the base of the crawlspace. The crawlspace also contain asbestos-containing debris and contaminated soil. All asbestos-containing materials, debris and contaminated soil must be completely abatement by the Contractor. Demolition of concrete floor decking (above the crawlspace), opening of crawlspace concrete walls, and cutting of non-asbestos piping may be required at the discretion of the contractor to access crawlspace areas. All material removed by the contractor to access crawlspace areas shall be properly disposed by the contractor. The Contractor shall include in this bid performing the necessary work to completely access all crawlspace work areas in a safe manner at all confirmed and assumed locations shown on the drawings. Some of the crawlspace extend under structural aspects of the building (i.e., walls, columns, etc.) requiring care by the Contractor when working in these areas. Care must be taken when accessing the crawlspace and working at the crawlspace to eliminate the potential for an asbestos fiber release and/or structural damage to the building. The work must be done in sections to allow for complete control of the work area by the Contractor. Asbestos pipe coverings (insulation and fittings) and all trench debris is friable and shall be properly removed, bagged, transported and disposed by the Contractor. Wrap and cut methods can be used the Contractor where pipe coverings are in tack allowing this method to be effective in eliminating a fiber release. Gross removal must be performed by the Contractor at locations where pipe coverings are in poor condition, and wrap and cut methods will not prevent a fiber release, and areas where debris removal and cleaning is required. **Prior to removal, the Contractor shall verify that all utilities have been shut-off and purged.** The Contractor shall then install a three-stage decontamination unit, with shower, at the entrance to the work area containment. The decontamination unit shall be installed in such a manner as to allow for a combined equipment room/bag-out off to the side. Don personal protective equipment prior to entering the containment area. Personal Protective Equipment shall include as a minimum, full-body coveralls, head and foot covers, and full-faced PAPRs. The Contractor shall use gross removal methods and wrap and cut methods where possible for the complete removal of all pipe coverings. The Contractor shall use gross removal methods of complete removal of all pipe trench debris. All concrete surfaces shall be contact HEPA vacuumed and wiped down to remove potential fibers in and around the pipe trench. For removal or should

the fiber counts reach the Permissible Exposure Limit (PEL) at any time, Type C, Grade D respirators operating in the pressure demand mode will be required. Install and operate HEPA filtered air filtration devices. Pre-clean any areas needing critical barriers, and install critical barriers. The work area shall consist of two (2) layers of 6-mil plastic sheeting as critical barriers and one (1) layer of 6-mil plastic sheeting on ceilings and walls. Establish and maintain at all times a pressure differential of minus 0.02 inches of water measured on a strip chart recorder or other approved method. The pressure differential recorder shall be checked several times daily by the Contractor. The contractor shall supply a calibrated differential pressure manometer capable of monitoring and recording on a strip chart and measuring differential pressure of 0.005 inches of water. The manometer shall be equipped with an automatically activated alarm system which will sound a warning if the pressure rises above the minimum value. All strips charts will be submitted to the Owner's Representative at the completion of the project. The Contractor shall place a fire extinguisher and have a first aid kit at each containment. An additional fire extinguisher shall be provided by the Contractor where containments exceed 1,000 square feet. Temporary ground fault electrical panels shall be installed outside of containment areas and used by the Contractor for all electrical connections. The Contractor shall use water-proof lights inside of all work areas. **Work will not begin or continue until an adequate differential pressure is achieved and maintained.** Once negative air is established, the Contractor shall begin abatement in the crawlspaces. Pipe coverings, debris and soil shall be double bagged in a manner to prevent the contents of the bag from escaping. The pipe coverings, debris and soil shall be properly wetted and labeled for disposal. Care shall be taken by the Contractor considering the right amount of water required not to create leaking conditions or hazards to the work area or surrounding area, including the ceiling of the first floor. The building owner shall provide water for the Contractor's use during the work. The Contractor shall ensure that proper back-flow protection at all sources of water are installed and maintained. The Contractor is responsible for proper disposal of all wastes. A remote three-stage decontamination unit with shower shall be provided and used by the Contractor during the work. As a minimum, all workers shall shower at the end of each shift. The Contractor shall ensure the integrity of all decontamination facilities. All decontamination procedures shall be strictly implemented by the Contractor. Shower wastewater shall be either filtered or jelled. All filters and/or jelled water shall be disposed by the Contractor as contaminated waste. All pipe coverings and fragments shall be thoroughly wetted and double-bagged in 6-mil poly bags and goose-necked for proper disposal. All waste shall be properly handled and labeled by the Contractor for disposal. All asbestos-containing and contaminated materials shall be properly handled, stored, transported and disposed by the Contractor in accordance with all Federal, State, and local laws, regulations, ordinances, guidelines, and the requirements of this Specification. Fiber and/or metal drums may be used. Final inspection shall consist of a visual inspection and air sampling. All daily air sampling will be laboratory analyzed by Phase Contrast Microscopy (PCM) methods unless the Owner or State Agency requires other methods. Final air clearance samples will be by TEM unless work area are less than asbestos NESHAP quantities and then by PCM. See Sections 01529, 02081, 02087 and this specification for more information.

**(v). Ceiling Tile and Chalkboard Glue Dots:**

Prior to the removal of blackboards adhesive (glue dots), the Contractor shall install a three-stage decontamination unit, with shower, at the entrance to the work area containments. The Contractor shall remove blackboards when required to access the glue dots. If glue dots remain on the blackboards, the blackboard must be disposed as asbestos-containing waste. The decontamination units shall be installed in such a manner as to allow for separate equipment room/bag-out off to the side. **In No Instance Will the Personal Decontamination Unit Be Used for Bag-out or Equipment Passage.** Don personal protective equipment prior to entering the containment area. Personal Protective Equipment shall include as a minimum, full-body coveralls, head and foot covers, and full-faced PAPRs. For gross removal or should the fiber counts reach the Permissible Exposure Limit (PEL) at any time, Type C, Grade D respirators operating in the pressure demand mode will be required. Install and operate HEPA filtered air filtration devices. Pre-clean any areas needing critical barriers, and install critical barriers. The work area shall consist of two (2) layers of 6-mil plastic sheeting as critical barriers. Establish and maintain at all times a pressure differential of minus 0.02 inches of water measured on a strip chart recorder or other approved method. The pressure differential recorder shall be checked several times daily by the Contractor. The contractor shall supply a calibrated differential pressure manometer capable of monitoring and recording on a strip chart and measuring differential pressure of 0.005 inches of water. The manometer shall be equipped with an automatically activated alarm system which will sound a warning if the pressure drops below the preset value. All strips charts will be submitted to the Owner's Representative at the completion of the project. The Contractor shall place a fire extinguisher and have a first aid kit at each containment. An additional fire extinguisher shall be provided by the Contractor where containments exceed 1,000 square feet. Temporary ground fault electrical panels shall be installed outside of containment areas and used by the Contractor for all electrical connections. The Contractor shall use water-proof lights inside of all work areas. **Work will not begin or continue until an adequate differential pressure is achieved and maintained.** Once negative air is established, the Contractor may start removing the adhesive located behind the blackboards. All blackboards shall be disposed as contaminated waste. The Contractor is responsible for proper disposal of all wastes. Remove all blackboards following proper removal procedures. The Contractor shall protect, at all times, walls, floors, and moldings. Care shall be taken by the Contractor considering the right amount of water required not to create leaking conditions or hazards to the work area or surrounding area. The Building Owner shall provide limited water service for the Contractor's use during the work. The Contractor shall ensure that proper back-flow protection at all sources of water are installed and maintained. All materials shall be thoroughly wetted and double-bagged in 6-mil poly bags, goose-necked, and properly labeled for disposal. A remote three-stage decontamination unit with shower shall be provided and used by the Contractor during the work. As a minimum, all workers shall shower at the end of each shift. The Contractor shall ensure the integrity of all decontamination facilities. All decontamination procedures shall be strictly implemented by the Contractor. Shower wastewater shall be either filtered or jelled. All filters and/or jelled water shall be disposed by the Contractor as contaminated waste. All asbestos-containing materials shall be properly disposed by the Contractor as contaminated waste in accordance with all Federal, State, and local laws, regulations, ordinances, guidelines, and the requirements of this Specification. Fiber and/or metal drums may be used. Final

inspection shall consist of a visual inspection and air sampling. Daily air samples will be by Phase Contrast Microscopy (PCM) Final air clearance samples will be by TEM unless work area are less than asbestos NESHAP quantities and then by PCM. See Section 02081 and this specification for more information.

(vi). **Sink Undercoatings:**

The sinks shall be removed, bagged, and properly disposed as asbestos-containing waste. **Prior to removal, the Contractor shall verify that water to the sink has been shut-off and purged.** The Contractor shall then install a three-stage decontamination unit, with shower, at the entrance to the work area containment. The decontamination unit shall be installed in such a manner as to allow for a combined equipment room/bag-out off to the side. Don personal protective equipment prior to entering the containment area. Personal Protective Equipment shall include as a minimum, full-body coveralls, head and foot covers, and full-faced PAPRs. For gross removal or should the fiber counts reach the Permissible Exposure Limit (PEL) at any time, Type C, Grade D respirators operating in the pressure demand mode will be required. Install and operate HEPA filtered air filtration devices. Pre-clean any areas needing critical barriers, and install critical barriers. The work area shall consist of two (2) layers of 6-mil plastic sheeting as critical barriers. Establish and maintain at all times a pressure differential of minus 0.02 inches of water measured on a strip chart recorder or other approved method. The pressure differential recorder shall be checked several times daily by the Contractor. The contractor shall supply a calibrated differential pressure manometer capable of monitoring and recording on a strip chart and measuring differential pressure of 0.005 inches of water. The manometer shall be equipped with an automatically activated alarm system which will sound a warning if the pressure drops below the preset value. All strips charts will be submitted to the Owner's Representative at the completion of the project. The Contractor shall place a fire extinguisher and have a first aid kit at each containment. An additional fire extinguisher shall be provided by the Contractor where containments exceed 1,000 square feet. Temporary ground fault electrical panels shall be installed outside of containment areas and used by the Contractor for all electrical connections. The Contractor shall use water-proof lights inside of all work areas. **Work will not begin or continue until an adequate differential pressure is achieved and maintained.** Once negative air is established, the Contractor shall completely remove the sink without damage and wrapping the sink in two (2) layers of polyethylene sheeting in a manner to prevent the contents of the sink from escaping the wrapping. The sink shall be properly wetted and labeled for disposal. Care shall be taken by the Contractor considering the right amount of water required not to create leaking conditions or hazards to the work area or surrounding area, including the ceiling of the first floor. The Building Owner shall provide water for the Contractor's use during the work. The Contractor shall ensure that proper back-flow protection at all sources of water are installed and maintained. The Contractor is responsible for proper disposal of all wastes. A remote three-stage decontamination unit with shower shall be provided and used by the Contractor during the work. As a minimum, all workers shall shower at the end of each shift. The Contractor shall ensure the integrity of all decontamination facilities. All decontamination procedures shall be strictly implemented by the Contractor. Shower wastewater shall be either filtered or jelled. All filters and/or jelled water shall be disposed by the Contractor as contaminated waste. All asbestos-containing materials shall be properly disposed by the Contractor as contaminated waste in accordance with all Federal, State, and

local laws, regulations, ordinances, guidelines, and the requirements of this Specification. Fiber and/or metal drums may be used. Final inspection shall consist of a visual inspection and air sampling. Daily air samples will be by Phase Contrast Microscopy (PCM). Final air clearance samples will be by TEM unless work area are less than asbestos NESHAP quantities and then by PCM. See Section 01529 and 02081 and this specification for more information.

(vii). **Fire Doors:**

All fire doors showing on the drawings shall be removed. Fire doors shall be bagged, wetted, labeled and properly disposed. The Contractor shall install a three-stage decontamination unit, with shower, at the entrance to the work area containment. The decontamination unit shall be installed in such a manner as to allow for a combined equipment room/bag-out off to the side. Don personal protective equipment prior to entering the containment area. Personal Protective Equipment shall include as a minimum, full-body coveralls, head and foot covers, and full-faced PAPRs. For gross removal or should the fiber counts reach the Permissible Exposure Limit (PEL) at any time, Type C, Grade D respirators operating in the pressure demand mode will be required. Install and operate HEPA filtered air filtration devices. Pre-clean any areas needing critical barriers, and install critical barriers. The work area shall consist of two (2) layers of 6-mil plastic sheeting as critical barriers. Establish and maintain at all times a pressure differential of minus 0.02 inches of water measured on a strip chart recorder or other approved method. The pressure differential recorder shall be checked several times daily by the Contractor. The contractor shall supply a calibrated differential pressure manometer capable of monitoring and recording on a strip chart and measuring differential pressure of 0.005 inches of water. The manometer shall be equipped with an automatically activated alarm system which will sound a warning if the pressure drops below the preset value. All strips charts will be submitted to the Owner's Representative at the completion of the project. The Contractor shall place a fire extinguisher and have a first aid kit at each containment. An additional fire extinguisher shall be provided by the Contractor where containments exceed 1,000 square feet. Temporary ground fault electrical panels shall be installed outside of containment areas and used by the Contractor for all electrical connections. The Contractor shall use water-proof lights inside of all work areas. **Work will not begin or continue until an adequate differential pressure is achieved and maintained.** Once negative air is established, the Contractor shall completely removal all single and double asbestos-containing doors by removing of the doors from its hinges without damage and wrapping the door in two (2) layers of polyethylene sheeting in a manner to prevent the contents of the door from escaping the wrapping. The door shall be properly wetted and labeled for disposal. Care shall be taken by the Contractor considering the right amount of water required not to create leaking conditions or hazards to the work area or surrounding area, including the ceiling of the first floor. The Building Owner shall provide water for the Contractor's use during the work. The Contractor shall ensure that proper back-flow protection at all sources of water are installed and maintained. The Contractor is responsible for proper disposal of all wastes. A remote three-stage decontamination unit with shower shall be provided and used by the Contractor during the work. As a minimum, all workers shall shower at the end of each shift. The Contractor shall ensure the integrity of all decontamination facilities. All decontamination procedures shall be strictly implemented by the Contractor. Shower wastewater shall be either filtered or jelled. All filters and/or jelled water shall be disposed by the Contractor

as contaminated waste. All asbestos-containing materials shall be properly disposed by the Contractor as contaminated waste in accordance with all Federal, State, and local laws, regulations, ordinances, guidelines, and the requirements of this Specification. Fiber and/or metal drums may be used. Final inspection shall consist of a visual inspection and air sampling. Daily air samples will be by Phase Contrast Microscopy (PCM) Final air clearance samples will be by TEM unless work area are less than asbestos NESHAP quantities and then by PCM. See Section 01529 and 02081 and this specification for more information.

(viii). **Asbestos Heat Shields:**

Wall mounted heating units exist at various locations throughout the school building. The heating units vary in model, size and shape. The heating units may be located at floor elevation or at near ceiling elevation. The Contractor shall open all wall heating units throughout the project for inspection. After opening of wall heating units, if suspected asbestos-containing materials are present the Contractor shall prepare for asbestos abatement activities. Prior to disturbing these materials, the Contractor shall install a three-stage decontamination unit, with shower, at the entrance to the work area containments. The decontamination units shall be installed in such a manner as to allow for separate equipment room/bag-out off to the side. **In No Instance Will the Personal Decontamination Unit Be Used for Bag-out or Equipment Passage.** Don personal protective equipment prior to entering the containment area. Personal Protective Equipment shall include as a minimum, full-body coveralls, head and foot covers, and full-faced PAPRs for glove bag operations. For gross removal or should the fiber counts reach the Permissible Exposure Limit (PEL) at any time, Type C, Grade D respirators operating in the pressure demand mode will be required. Install and operate HEPA filtered air filtration devices. Pre-clean any areas needing critical barriers, and install critical barriers. The work area shall consist of two (2) layers of 6-mil plastic sheeting as critical barriers. Establish and maintain at all times a pressure differential of minus 0.02 inches of water measured on a strip chart recorder or other approved method. The pressure differential recorder shall be checked several times daily by the Contractor. The contractor shall supply a calibrated differential pressure manometer capable of monitoring and recording on a strip chart and measuring differential pressure of 0.005 inches of water. The manometer shall be equipped with an automatically activated alarm system which will sound a warning if the pressure drops below the preset value. All strips charts will be submitted to the Owner's Representative at the completion of the project. The Contractor shall place a fire extinguisher and have a first aid kit at each containment. An additional fire extinguisher shall be provided by the Contractor where containments exceed 1,000 square feet. Temporary ground fault electrical panels shall be installed outside of containment areas and used by the Contractor for all electrical connections. The Contractor shall use water-proof lights inside of all work areas. **Work will not begin or continue until an adequate differential pressure is achieved and maintained.** Once negative air is established, the Contractor may start removal of the heat shield after covering with plastic sheeting. The Contractor is responsible for proper disposal of all wastes. Care shall be taken by the Contractor considering the right amount of water required not to create leaking conditions or hazards to the work area or surrounding area. The Building Owner shall provide limited water service for the Contractor's use during the work. The Contractor shall ensure that proper back-flow protection at all sources of water are installed and maintained. The heat shield shall be thoroughly wetted and

double-bagged in 6-mil poly bags, goose-necked, and properly labeled for disposal. A remote three-stage decontamination unit with shower shall be provided and used by the Contractor during the work. As a minimum, all workers shall shower at the end of each shift. The Contractor shall ensure the integrity of all decontamination facilities. All decontamination procedures shall be strictly implemented by the Contractor. Shower wastewater shall be either filtered or jelled. All filters and/or jelled water shall be disposed by the Contractor as contaminated waste. All asbestos-containing materials shall be properly disposed by the Contractor as contaminated waste in accordance with all Federal, State, and local laws, regulations, ordinances, guidelines, and the requirements of this Specification. Fiber and/or metal drums may be used. Final inspection shall consist of a visual inspection and air sampling. Daily air samples will be by Phase Contrast Microscopy (PCM). Final air clearance samples will be by TEM unless work area are less than asbestos NESHAP quantities and then by PCM. See Section 01529 and 02081 and this specification for more information.

(ix). **Break-In Locations:**

Break in points require opening up floors, walls, and ceilings at each location. Plumbing pipe insulation and/or fittings may be located inside floors and walls. Wall substrate varies throughout building. Each location shown on the drawings may require multiple break in points and may contain multiple insulation and/or fittings. Prior to any break-in, the Contractor shall construct a mini-containment and be prepared to abatement any asbestos-containing pipe coverings (insulation and fittings) found at each location. If asbestos-containing pipe coverings are found, the Contractor shall immediately abate the material. The Contractor shall include in its bid the cost of this work for the number of break-in locations and assumed pipe covings estimate provided in the Bid Documents.

(x). **Valve, Fitting and Equipment Gaskets:**

Asbestos-containing piping valve, fitting and equipment gaskets shall be removed, bagged, and properly dispose, including, but not limited to the Boiler Rooms. **Prior to removal, the Contractor shall verify that all utilities have been shut-off and purged.** The Contractor shall then install a three-stage decontamination unit, with shower, at the entrance to the work area containment. The decontamination unit shall be installed in such a manner as to allow for a combined equipment room/bag-out off to the side. Don personal protective equipment prior to entering the containment area. Personal Protective Equipment shall include as a minimum, full-body coveralls, head and foot covers, and full-faced PAPRs. The Contractor shall use gross removal methods or wrap and cut methods for complete removal of all piping valve and fitting gaskets. For removal or should the fiber counts reach the Permissible Exposure Limit (PEL) at any time, Type C, Grade D respirators operating in the pressure demand mode will be required. Install and operate HEPA filtered air filtration devices. Pre-clean any areas needing critical barriers, and install critical barriers. The work area shall consist of two (2) layers of 6-mil plastic sheeting as critical barriers and one (1) layer of 6-mil plastic sheeting on ceilings and walls. Establish and maintain at all times a pressure differential of minus 0.02 inches of water measured on a strip chart recorder or other approved method. The pressure differential recorder shall be checked several times daily by the Contractor. The contractor shall supply a calibrated differential pressure manometer capable of monitoring and recording on a strip chart and measuring differential pressure of 0.005 inches of water. The

manometer shall be equipped with an automatically activated alarm system which will sound a warning if the pressure drops below the preset value. All strips charts will be submitted to the Owner's Representative at the completion of the project. The Contractor shall place a fire extinguisher and have a first aid kit at each containment. An additional fire extinguisher shall be provided by the Contractor where containments exceed 1,000 square feet. Temporary ground fault electrical panels shall be installed outside of containment areas and used by the Contractor for all electrical connections. The Contractor shall use water-proof lights inside of all work areas. **Work will not begin or continue until an adequate differential pressure is achieved and maintained.** Once negative air is established, the Contractor shall completely remove the gaskets from fittings, valves and equipment. Gaskets shall be double bagged in a manner to prevent the contents of the bag from escaping. The gaskets shall be properly wetted and labeled for disposal. Care shall be taken by the Contractor considering the right amount of water required not to create leaking conditions or hazards to the work area or surrounding area, including the ceiling of the first floor. The Building Owner shall provide water for the Contractor's use during the work. The Contractor shall ensure that proper back-flow protection at all sources of water are installed and maintained. The Contractor is responsible for proper disposal of all wastes. A remote three-stage decontamination unit with shower shall be provided and used by the Contractor during the work. As a minimum, all workers shall shower at the end of each shift. The Contractor shall ensure the integrity of all decontamination facilities. All decontamination procedures shall be strictly implemented by the Contractor. Shower wastewater shall be either filtered or jelled. All filters and/or jelled water shall be disposed by the Contractor as contaminated waste. All asbestos-containing materials shall be properly disposed by the Contractor as contaminated waste in accordance with all Federal, State, and local laws, regulations, ordinances, guidelines, and the requirements of this Specification. Fiber and/or metal drums may be used. Final inspection shall consist of a visual inspection and air sampling. Daily air samples will be by Phase Contrast Microscopy (PCM). Final air clearance samples will be by TEM unless work area are less than asbestos NESHAP quantities and then by PCM. See Section 01529 and 02081 and this specification for more information.

(xi). **Door, Window, Building Caulks and Glazing:**

Window glazing includes glazing materials and caulks. Certain doors and louvers have asbestos-containing caulk. Also, asbestos-containing building caulk requires abatement. All locations shown on the drawings and included in this specification shall be completely removed and disposed by the Contractor. The Contractor may wrap and remove any windows, louvers and/or doors containing asbestos glazing or caulks or use gross removal methods. The Contractor is not required to replace window, louver or door openings with temporary materials. Safety of project workers, general public and property users must be given priority for all activities. The Contractor shall ensure at all times that the condition of work areas and access to work areas do not contain hazards. The Contractor shall comply with all Federal, State and local laws, regulations, ordinances, and guidelines including, but not limited to, EPA, OSHA, and the State of Delaware. It is the Contractor's responsibility to ensure that all appropriate laws, regulations, ordinances, and guidelines are implemented at all times during the work. Prior to beginning the work, the Contractor shall deploy and maintain a suitable drop cloth at ground elevation consisting of a double layer of polyethylene sheeting inside of the building and at least 10 linear feet

outside of the building extending outward along the perimeter at all work areas to collect fallen materials during removal. Additionally, the Contractor shall deploy and maintain barrier tape and signage at the perimeter of all work areas. Barrier tape shall extend at least 10 linear feet outward and be deployed and maintained in a condition sufficient to restrict access. Signs shall state "Caution, Overhead Work" and shall extend at least 15 linear feet outward. All abated material must be properly wetted and bagged in a manner to provide a leak-free condition. The Contractor is responsible for any or all damages caused by him. During the abatement, the Contractor shall protect all building features in and around the work area. Dry removal of asbestos-containing materials are not allowed. Care shall be taken by the Contractor considering the right amount of water required not to create leaking conditions or hazards to the work area or surrounding area. The Building Owner shall provide limited water service for the Contractor's use during the work. The Contractor shall ensure that proper back-flow protection at all sources of water are installed and maintained. The Contractor shall place a fire extinguisher and have a first aid kit at each work area. The minimum respiratory protection shall be full-face PAPRs for all workers. Additionally, as a minimum, all workers shall don double personal protective suits. Respiratory protection and personal protective equipment shall be worn by all workers during all steps of the work including, but not limited to, setup, removal, placing of waste into dumpsters or containers, final cleaning and tear down. A remote three-stage decontamination unit with shower shall be provided and used by the Contractor during the work. As a minimum, all workers shall shower at the end of each shift. The Contractor shall ensure the integrity of all decontamination facilities. All decontamination procedures shall be strictly implemented by the Contractor. Shower wastewater shall be either filtered or jelled. All filters and/or jelled water shall be disposed by the Contractor as contaminated waste. All window glazing and caulks shall be thoroughly wetted and double-bagged in 6-mil poly bags and goose-necked for proper disposal. All waste shall be properly handled and labeled by the Contractor for disposal. All asbestos-containing and contaminated materials shall be properly handled, stored, transported and disposed by the Contractor in accordance with all Federal, State, and local laws, regulations, ordinances, guidelines, and the requirements of this Specification. Final inspection shall consist of a visual inspection. No final air clearance samples will be required in work areas. See Section 02081 and this specification for more information.

**(xii). Roofing, Roof Mastics, Flashing Tar, Coatings and Felt:**

Roof areas contain multiple layers and varying types of roof materials, mastics, flashing tar, coatings and felt. The Contractor shall use proper means, methods and work practices to prevent asbestos fragments and contaminated dusts from falling below work areas into interior spaces. Asbestos-containing materials shall be removed from building materials to the best extent possible. All asbestos-containing materials shall be removed from all roof vents. In lieu of manual scraping roof vents, the Contractor may wrap, cut, remove and dispose of roof vents as asbestos-containing material. Safety of project workers, building occupants, and property users must be given priority for all activities. The Contractor shall ensure at all times that the condition of work areas and access to work areas do not contain hazards. The Contractor shall comply with all Federal, State and local laws, regulations, ordinances, and guidelines including, but not limited to, EPA, OSHA, and the State of Delaware. It is the Contractor's responsibility to ensure that all appropriate laws, regulations, ordinances, and guidelines are implemented at all times during the work.

Prior and during removal of exterior roof materials, the Contractor shall deploy and maintain a suitable drop cloth at ground elevation next to all work areas extending at least 10 linear feet outward to collect fallen materials during removal. Additionally, the Contractor shall deploy and maintain barrier tape and signage at the perimeter of all work areas. Barrier tape shall extend at least 10 linear feet outward and be deployed and maintained in a condition sufficient to restrict access. Signs shall state "Caution, Overhead Work" and shall extend at least 15 linear feet outward. The Contractor shall remove all asbestos-containing roofing materials to a condition whereby the final substrate is smooth and free of any roofing material. The Contractor is responsible for any or all damages caused by him. During the abatement, the Contractor shall protect all building features in and around the work area. Materials shall be adequately wetted with amended water by the Contractor during all removal work to prevent visible emissions. Dry removal of asbestos-containing materials is not allowed. Care shall be taken by the Contractor considering the right amount of water required not to create leaking conditions or hazards to the work area or surrounding area. The Building Owner shall provide limited water service for the Contractor's use during the work. The Contractor shall ensure that proper back-flow protection at all sources of water are installed and maintained. The Contractor shall place a fire extinguisher and have a first aid kit at each work area. The minimum respiratory protection shall be full-face PAPR's for all workers. Additionally, as a minimum, all workers shall don double personal protective suits. Respiratory protection and personal protective equipment shall be worn by all workers during all steps of the work including, but not limited to, setup, removal, placing of waste into dumpsters or containers, final cleaning and tear down. A remote three-stage decontamination unit with shower shall be provided and used by the Contractor during the work. As a minimum, all workers shall shower at the end of each shift. The Contractor shall ensure the integrity of all decontamination facilities. All decontamination procedures shall be strictly implemented by the Contractor. Shower wastewater shall be either filtered or jelled. All filters and/or jelled water shall be disposed by the Contractor as contaminated waste. All roofing materials shall be thoroughly wetted and double-bagged in 6-mil poly bags and goose-necked or thoroughly wetted and wrapped in double-layers of 6-mil poly for proper disposal. All waste shall be properly handled and labeled for disposal by the Contractor. All asbestos-containing and contaminated materials shall be properly handled, stored, transported and disposed by the Contractor in accordance with all Federal, State, and local laws, regulations, ordinances, guidelines, and the requirements of this Specification. Final inspection shall consist of a visual inspection. No final air clearance samples will be required in work areas. See Section 02081 and this specification for more information.

16. **Abatement Activities:** All abatement of asbestos containing materials shall be performed in a proper wetted condition using amended water. Dry removal of asbestos containing materials is not permitted. See Section 01527 and 02081 for more information. The Contractor shall take the necessary precautions to protect all computer, fiber optic and electronic equipment including building sensors from damage during the Contractor's activities and also including, but not limited to, walls, ceilings, floors outside work areas, doors, thresholds, and fixed objects within work area(s). Any damaged painted surfaces shall be repaired at the Contractor's expense.
17. **Decontamination Units:** Three (3) stage decontamination stations (units) will be erected, operated, maintained, and removed by the Contractor. The decontamination stations will be erected in such a manner to allow for a secured entrance during non-working hours. At no time will workers move around outside of the work area without clothing. At no time will equipment be moved out of containment decontamination. The equipment/bag-out room must be used for equipment movements. No "pop-up" portable decontamination units will be allowed unless approved in writing. See Section 01563 for more information.
18. **Bag-Out:** Bag-out activities shall be performed by the Contractor prior to the end of the work day. All waste must be removed from work areas prior to the end of the work day. At no time will the workers be allowed to move around outside of the building in abatement coveralls with exception to bag-out activities, which will occur during approved hours each day. All bags shall be leak-proof and have a "goose-neck" seal and labeling. See Section 01527 for more information.
19. **Air Sampling:** All daily air sampling will be laboratory analyzed by Phase Contrast Microscopy (PCM) methods unless the Owner or State Agency requires other methods. Final air clearance samples will be by visual inspection and/or PCM. See Section 02081 and this specification for more information.
20. **Aggressive Air Sampling:** The Contractor shall provide, at no additional cost to the Owner, the leaf blower(s) and fan(s) required by the Owner's Representative to perform proper aggressive air sampling.
21. **Waste Disposal:** All asbestos-containing materials and contaminated asbestos-containing materials shall be properly handled, stored and disposed by the Contractor at a licensed and permitted landfill. The Contractor shall utilize the landfill written on the bid form for this project. All non-asbestos-containing or non-asbestos-contaminated wastes shall be properly and safely stored by the Contractor inside of the building. Waste shall be stored in a manner which does not block ingress or egress of the building, rooms, closets, doors or windows and does not pose a fire or safety concern as determined by the Owner or the Owner's Representative.
22. **Lock-Down:** All non-visible asbestos residue shall be encapsulated with a coating of penetrating encapsulant applied in strict accordance with the manufacturer's directions. The Contractor shall schedule the application of lock-down with the Owner's Representative prior to application. See Section 01527 for more information.
23. **Use of Drawings:** All drawings provided in the Specification are diagrammatic, not to proportion and are not to scale. Drawings are provided to the Contractor for reference purposes. The Contractor shall develop and verify the actual quantities and locations

required for all of the work and consider these actual quantities when preparing its bid.

24. **Work Areas adjacent to Occupied Areas (if applicable):** When asbestos abatement work areas are adjacent to occupied areas, the Contractor shall install and maintain wooden partitions which extend from floor to ceiling with lockable access doors to prevent occupants from entering into work areas.
25. **Scaffolding, Lifts and Ladders:** If scaffolding is used, the Contractor must erect, use, and disassemble the scaffolding in accordance with OSHA Standards. Additionally, all lifts and ladders shall meet and be used in accordance with OSHA Standards. The Contractor shall insure that floors and all other building components are protected during the use of scaffolding, lifts and ladders. The Contractor shall use only trained personnel when using scaffolding, lifts and ladders.
26. **Exhaust from Negative Air Machines (if applicable):** Windows, doors or other building openings used to exhaust negative air shall be protected by the Contractor by installing plywood and bracing if the opening is located on the first floor or below. The plywood and bracing shall be installed in a manner by the Contractor that prevents damage to the building components and prevents unauthorized access into the building.
27. **Permanent Objects in the Work Area (if applicable):** Where permanently mounted objects are present in the work area, that Contractor shall protect these objects from contamination and damage from their activities. However, window and/or wall mounted HVAC units could contain asbestos-containing materials. The Contractor shall remove covering on HVAC units to inspect, remove and dispose of all asbestos-containing materials included, but not limited to, floor tiles, floor covering, pipe insulation and heat shields.
28. **Electric Power:** All electric power shall be shut down in each work area where possible. The Owner shall provide limited low voltage temporary electric service (single phase, 120-volt, 100 amp circuit source). The Contractor shall provide the Owner with their specifications within five (5) calendar days prior to scheduling the start of work. The Owner shall provide a plug type outlet within 300 feet of work locations. Adequate extension cords shall be provided by the Contractor. Temporary lighting adequate to provide sufficient illumination for safe work and traffic conditions in each work area shall be provided by the Contractor. If required by the Contractor, a licensed electrician shall be provided, at no additional cost, for making electrical connections and disconnections.
29. **Water Service:** The Owner shall provide limited cold water service for small connections (3/4-inch hose maximum). The Contractor shall provide, at no additional cost to the Owner, all necessary connections and ensure proper back-flow protection. Hot water heaters shall be supplied and operated by the Contractor at no additional cost to the Owner. The Contractor shall be responsible for turning on and off valves at their point of connection.
30. **Visitor Personal Protective Equipment:** The Contractor shall provide, at no additional cost to the Owner, respirators, disposable coveralls, head covers, and foot covers all at new condition.
31. **Contractor Project Staffing:** A minimum of three (3) asbestos personnel are required to be present at the project site at all times. The Contractor's on-site supervisor must be able to make timely decisions for this company. **Prior to any site activity, the Contractor shall**

submit the name and address of each supervisor, worker and any other person he intends to use at the project site for informational screening (e.g. registered sex offenders list and other lists) by the Owner. The Contractor shall be notified by the Owner if their personnel will be allowed to work at the project site based upon the results of the screening. The Cape Henlopen School District reserves the right to reject any proposed Contractor personnel for this project. (Section 01043)

32. **Project Supervisor:** During all asbestos abatement work, a State of Delaware licensed Supervisor, employed by the Contractor, shall be on site at all times. The licensed Supervisor shall maintain all daily records as required.
  33. **Project Monitor Must Be On-Site:** The Contractor shall not begin or continue work for any asbestos abatement related activities until a certified Project Monitor is resident on site. The Project Monitor must be on site at all times during asbestos abatement related activities. The Contractor shall provide adequate notice to the Professional Service Firm providing the Project Monitor. Adequate notice is the period of time agreed to by the Contractor and Professional Service Firm.
  34. **Damage Repair:** The Contractor shall repair or replace, at his own expense, any damage occurring from his activities for items the Owner desires to save prior to demolition or any building component. Any damaged items will be replaced or paid for by the Contractor prior to receipt of final contract payment.
  35. **Stop Work:** If the Owner, or the Owner's Representative presents a written stop work order to the Contractor, the Contractor shall immediately stop all work in a fashion not to create an asbestos exposure hazard to workers, building occupants, or others. See this Section for more information.
  36. **Building and Property Usage:** The contractor shall not unreasonably encumber the site with materials or equipment and may be required to share the project site with others. Stockpile of materials at locations after approved by the Owner's Representative. If additional off-site storage is need by the Contractor, the off-site storage will be provided by the Contractor at no additional cost to the Owner. Smoking or open fires will not be permitted within the building. Alcoholic beverages and non-prescription drugs use is prohibited within buildings or on the property. No permanent modifications shall be made to any building component, sidewalk, parking area, signage, or any other appurtenances without expressed written permission from the Owner. See this Section for more information.
- D. **Single Prime Contract:** The Work will be constructed under a single prime contract. The Contractor shall not sublet this contract without expressed written permission from the Owner.
- E. **Pre-abatement assessment:** A comprehensive pre-abatement assessment will be completed by the Contractor, Owner's Representative, and any other individual authorized by the Owner. An agreed list of damage to structures, surfaces, equipment shall be developed and agreed upon prior to the commencement of work by the Contractor.

- F. Contaminated Areas:** Any areas found to be contaminated in the opinion of the Owner's Representative or Owner after the removal of asbestos containing material shall be decontaminated using a combination of HEPA vacuum and wet cleaning techniques by the Contractor at no additional expense to the Owner.
- G. Plan of Action:** The Contractor shall submit a detailed plan of action which details proposed procedures used for complying with all of the requirements of this specification. Included in the plan shall be the location and layout of decontamination areas, the sequence of asbestos work, the interface of all trades, methods used to ensure safety of the workers, building occupants, and visitors to the site, and a detailed description of methods that will be used to control pollution.
- H. Potential Asbestos Hazard:** The disturbance of asbestos-containing materials may cause asbestos fibers to be released into the building and/or exterior atmosphere thereby creating a potential health hazard to workers, building occupants, and others. The Contractor shall inform all workers, supervisors, subcontractors, and Owner's Representatives who will be at the project site of the seriousness of the hazard and of proper work procedures which must be followed. The Contractor shall, continuously and at all times, take the measures necessary including, but not limited to, procedures, work practices, and methods, to ensure complete compliance with federal, state, and local regulations and eliminate the potential for asbestos exposure.
- I. Site Safety:** The Contractor shall at all times comply with all applicable federal, state and local, laws and regulations, including environmental, health and safety laws and regulations, pertaining to its services. The Contractor represents it is familiar with all aspects of the job site (including but not limited to site conditions and site access limitations) and hazards associated with asbestos removal and abatement. The Contractor shall be solely responsible for the safety of its personnel, subcontractors or any third party in its work areas or common areas and Contractor hereby releases and indemnifies Client and Owner's Representative from any and all claims brought by, or on behalf of itself, its employees or its subcontractors arising out of or in connection with its Contractor's services or presence at the job site. Prior to the start of daily work, and at the conclusion of each day, the Contractor shall visually inspect his work areas and all areas required to access his work areas. Any unsafe conditions found during any inspection shall be reported to the Owner's Representative immediately in writing subsequent to each inspection. The report provided by the Contractor to the Owner's Representative shall adequately describe the unsafe condition and the procedures the Contractor has immediately taken to correct the unsafe condition. The Contractor shall promptly report any and all accidents to the Owner's Representative in writing, and shall include sufficient details regarding the accident and procedures implemented by the Contractor to prevent similar accidents. The Contractor shall be responsible for reporting accidents to the appropriate regulating agency as may be required by applicable law or regulation.
- J. Specification Sections:** The work includes the removal of asbestos-containing materials according to the requirements provided in the following specification sections:
1. General and Administrative Requirements:
    - 01013: Summary of the Work–Asbestos Abatement
    - 01043: Project Coordination–Asbestos Abatement
    - 01097: Reference Standards and Definitions–Asbestos Abatement
    - 01098: Codes, Regulations and Standards–Asbestos Abatement
    - 01301: Submittals–Asbestos Abatement
    - 01601: Materials and Equipment–Asbestos Abatement
    - 01632: Product Substitutions–Asbestos Abatement

01701: Contract Closeout–Asbestos Abatement

2. Abatement Work:

01503: Construction Facilities and Temporary Controls–Asbestos Abatement

01513: Temporary Pressure Differential & Air Circulation System

01526: Temporary Enclosures

01527: Regulated Areas

01529: Mini Enclosures and Glovebags

01560: Worker Protection–Asbestos Abatement

01562: Respiratory Protection

01563: Decontamination Units

3. Asbestos Removal Work Procedures:

02081: Removal of Asbestos-Containing Materials

02084: Disposal of Regulated Asbestos Containing Material

02085: Resilient Flooring Removal-Resilient Floor Covering Manufacturers

02087: Resilient Flooring Removal-Aggressive Asbestos Abatement

4. Decontamination of Work Areas:

01711: Project Decontamination

01712: Cleaning and Decontamination Procedures

### 1.3 WORK SEQUENCE

A. **The Work** will be conducted in distinct phases at each abatement location.

1. Each work phase shall consist of pre-cleaning, establishing of work areas, installation of engineering controls, abatement, post abatement inspection and sampling.
2. The following inspections will be performed by the Contractor and Owner's Representative simultaneously for project activities:
  - a. Pre-Cleaning: A visual inspection of all pre-cleaned surface areas. This inspection will occur prior to the installation of polyethylene sheeting on walls, floors, and other surfaces. Decontamination units must be operable and critical barriers installed prior to pre-cleaning activities.
  - b. Work Area: Work areas will be visually inspected each day prior to the start of work activities and upon work completion each day to insure that the integrity of the containment is in compliance with these specifications. This inspection does not relieve the Contractor of their responsibilities of performing the work in accordance with these specifications.
  - c. Post Abatement: A visual inspection of each work area will be performed following successful clearance air sampling and prior to commencing containment tear-down.
  - d. Substantial Completion: After completion of all applicable demolition, reinstallation, cleaning, and all other asbestos abatement activities, a final inspection will be performed after final cleaning of all work areas prior to re-occupancy of said areas by the Owner.

**COMPLIANCE ENVIRONMENTAL, INC.****1.4 ASBESTOS-CONTAINING MATERIALS:**

- A. The Work** of this contract involves activities that will disturb asbestos-containing materials (ACM). The location and type of ACM known to be present at the worksite is set forth in the “Schedule of Asbestos-Containing Materials” at the end of this section. If any other ACM or PACM is found, notify the Owner’s Representative, other employers and employees about the location and quantity of the ACM or PACM immediately upon discovery.
- B.** Asbestos containing building materials are known to be present at the project site. If the Contractor finds any other material which are suspected of containing asbestos, the Contractor shall immediately notify the Owner’s Representative. See the attached Table 1. for a summary of confirmed asbestos-containing materials at the site.

**1.5 ASBESTOS HEALTH RISK:**

- A.** The disturbance or dislocation of ACM may cause asbestos fibers to be released into the building’s atmosphere, thereby creating a potential health risk to workers and building occupants. The Contractor shall inform all workers, supervisory personnel, subcontractors and Owner’s Representatives who will be at the job site of the seriousness of the risk and of proper work procedures which must and will be followed.
- B.** Where in the performance of the work, workers, supervisory personnel, subcontractors, or Owner’s Representatives may encounter, disturb, or otherwise function in the immediate vicinity of any identified ACM, take appropriate continuous measures as necessary to protect all building occupants from the risk of exposure to airborne asbestos. Such measures shall include the procedures and methods described herein, and compliance with regulations of applicable federal, state and local agencies.

**1.6 CONTRACTOR USE OF PREMISES**

- A. Use of the Site:** Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.
  - 1. Owner Occupancy:** Allow for Owner occupancy and use by the public.
  - 2. Driveways and Entrances:** Keep driveways and entrances serving the premises clear and available to the Owner, the Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- B. Use of the Existing Building:** Maintain the existing building in a weather tight condition throughout the construction period. Repair damage caused by construction operations. Take all precautions necessary to protect the building and its occupants during the construction period.
  - 1. Use of Existing Elevators (if applicable):** Except for the Freight Elevator, use of elevators by the Contractor will not be permitted. The Contractor will be permitted to use the freight elevator for temporary freight service and the transportation of construction personnel during the construction period. This elevator must also be available to the Owner at all times; coordinate freight elevator usage with the Owner or Owner’s Representative. Provide protective pads for the elevator car and other appropriate protective measures for the car and

entrance doors and frames. During asbestos abatement activities the car is to be protected as set forth in the Division 1 Section on Temporary Enclosures.

2. **Smoking:** Smoking or open fires will not be permitted within the building enclosure or on the premises.
3. **Toilet Rooms (if applicable):** Except for toilet rooms designated for use by the Contractor's personnel, use of existing toilets within the building, by the Contractor's personnel, will not be permitted.

### 1.7 OCCUPANCY REQUIREMENTS

- A. **Partial Owner Occupancy:** The Owner reserves the right to occupy and to place and install equipment in completed areas of the building prior to Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placing of equipment and partial occupancy shall not constitute acceptance of the total Work.
  1. The Owner or Owner's Representative will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied prior to Owner occupancy.

### 1.8 AIR MONITORING BY THE OWNER

- A. **The Owner has contracted for air monitoring.** Air monitoring may be conducted both outside and inside of the work area during the work, and for clearance sampling at the end of the project
  1. **Outside of the Work Area:** The Owner's air monitoring firm may sample air outside of the work area to detect faults in the work area isolation such as:
    - a. Contamination of the building outside of the work area with airborne asbestos fibers,
    - b. Failure of filtration or rupture in the differential pressure system,
    - c. Contamination of air outside the building envelop with airborne asbestos fibers.
  2. **Inside the Work Area:** The Owner's air monitoring firm may monitor airborne fiber counts in the Work Area. The purpose of this air monitoring is to detect airborne asbestos concentrations which may challenge the ability of the Work Area isolation procedures to protect the balance of the building or outside of the building from contamination by airborne fibers.
- B. **Work area clearance:** Clearance air sampling by the Owner's air monitor at the completion of asbestos abatement work is described in Section 01711 Project Decontamination.
- C. **Air monitoring** required by OSHA is work of the Contractor and is not covered in this section

### 1.9 SCHEDULE OF AIR SAMPLES BY OWNER

- A. **Sample cassettes:** Samples will be collected on 25 mm. cassettes as follows:
  1. **PCM:** 0.8 micrometer mixed cellulose ester.
  2. **TEM (if required):** 0.45 micrometer mixed cellulose ester or 0.40 micrometer polycarbonate, with 5.0 micron mixed cellulose ester backing filter.

**B. Number and Volume of Samples:** The number and volume of air samples given in the schedules is approximate. The exact number and volume of samples collected by the Owner may vary depending upon job conditions and the analytical method used.

**C. Sample Volume and Sensitivity:**

**1. PCM:** The sample volumes collected by the Owner’s air monitor will be determined by the following formula:

$$\text{Volume} = \frac{\left( \frac{\text{Number of Fibers}}{\text{Area of 100 fields}} \right) \times \text{Total Filter Area}}{\left( \frac{\text{Limit Value}}{4} \right)}$$

Where:

- Number of fibers = 5 fibers/100 fields, based on a limit of detection (LOD) of 7 fibers/mm<sup>2</sup> on the filter
- Area of 100 fields = 0.785mm<sup>2</sup>
- Total Filter Area = 385mm<sup>2</sup>
- Limit Value = as specified in the schedules of samples below

- a. For purposes of this specification, the sample volume calculated above will be considered to be of sufficient size so that there is a 95% level of confidence that the value measured by each individual sample at the limit of detection (LOD) is less than or equal to the limit values specified below.
- b. For purposes of this specification, the Limit of Detection (LOD) is defined as 7 fibers/mm<sup>2</sup> on the filter or 5 fibers/100 fields.
- c. For purposes of this specification overloaded samples will be considered as exceeding the applicable limit value.

**2. TEM:** Analytical Sensitivity of 0.05 structures/cc as set forth in the AHERA regulation.

**D. Baseline:**

1. **Before Start of Work:** The Owner will secure air samples to establish a baseline.

2. **PCM Samples**

Location Sampled	Number of Samples	Limit Value (Fibers/cc)	Approx. Volume (Liters)	Rate (Liters/Minute)
Each Work Area	5	0.01	1,000	1-10
Outside Each Work Area	5	0.01	1,000	1-10
Outside Building	5	0.01	1,000	1-10

3. **TEM Samples:**

Location Sampled	Number of Samples	Analytical Sensitivity (Struct./cc.)	Approx. Volume (Liters)	Rate (Liters/Minute)
Each Work Area	1	0.005	1,300	1-10
Outside Each Work Area	1	0.005	1,300	1-10
Outside Building	1	0.005	1,300	1-10

4. **Baseline:** a level expressed in fibers per cubic centimeter which is twenty-five percent greater than the largest of the following:

- a. Average of the PCM samples collected outside each Work Area.
- b. Average of the PCM samples collected outside the building.
- c. 0.01 fibers per cubic centimeter.

- 5. **Samples collected for TEM analysis** will be held without analysis. These samples will be analyzed under the conditions and terms set forth in "Fibers Counted" and "Affect On Contract Sum".

**E. Daily:**

- 1. **From start of work** of Section 01526 Temporary Enclosures through the work of Section 01711 Project Decontamination, the Owner may take samples.
- 2. **Sample volume and sensitivity:** inside the work area may vary depending upon conditions in the work area. If samples are overloaded at the sample volume required for a limit value equal to the "Stop Action Levels" or "Immediate Stop Action Levels" given later in this section, the level is considered to have been exceeded.

3. **PCM Samples:**

Location Sampled	Number of Samples	Limit Value (Fibers/cc)	Approx. Volume (Liters)	Rate (LPM)
Each Work Area	2	0.01	1,000	1-10
Outside Each Work Area at Critical Barrier	1	0.01	1,000	1-10
Clean Room	1	0.01	1,000	1-10
Equipment Decon	1	0.01	1,000	1-10
Outside Building	1	0.01	1,000	1-10
Output of Pressure Differential System	1	0.01	1,000	1-10

- F. **Additional samples** may be taken at Owner or Owner's Representative's discretion. If airborne fiber counts exceed allowed limits additional samples may be taken as necessary to monitor fiber levels.

**1.10 ANALYTICAL METHODS USED BY THE OWNER**

- A. The following methods will be used by The Owner in analyzing filters used to collect air samples. Sampling rates may be varied from printed standards to allow for high volume sampling.
  - 1. Phase Contrast Microscopy (PCM) will be performed using the NIOSH 7400 method.
  - 2. Transmission Electron Microscopy(TEM) will be performed using the analysis method set forth in the AHERA regulation 40 CFR Part 763 Appendix A.

**1.11 LABORATORY TESTING BY OWNER**

- A. The services of a testing laboratory** may be employed by the Owner or Owner's Representative to perform laboratory analyses of the air samples. Samples available for analysis will be sent daily by 5:00 pm from Dover via a carrier for next day delivery to the laboratory, so that verbal reports on air samples can be obtained within 24 hours after receipt by the laboratory.
- B. A complete record** of all air monitoring and results will be furnished to the Owner's Representative, the Owner, and the Contractor.
- C. The Contractor will have access** to all air monitoring tests and results upon request.
- D. Written Reports** of all air monitoring tests will be posted at the job site on a daily basis.
- E. Additional laboratory samples and professional services time required for re-sampling** of areas for clearance due to failed samples because of the Contractor's activities will be paid for by the Contractor.

**1.12 FIBERS AND STRUCTURES**

- A. Fibers Counted:** The following procedure will be used to resolve any disputes regarding fiber types when a project has been stopped due to excessive airborne fiber counts.
  - 1. Large Fibers:** "Airborne Fibers" referred to above include all fibers regardless of composition as counted by phase contrast microscopy (PCM), unless additional analysis by transmission or scanning electron microscopy demonstrates to the satisfaction of the Owner or Owner's Representative that non-asbestos fibers are being counted. "Airborne Fibers" counted in samples analyzed by transmission electron microscopy shall be asbestos fibers, greater than 5 microns in length. For purposes of stop action levels, subsequent to analysis by electron microscopy, the number of "Airborne Fibers" shall be determined by multiplying the number of fibers, regardless of composition, counted by PCM by the proportion of fibers that are asbestos as determined by TEM (a number equal to, asbestos fibers counted, divided by all fibers counted in the electron microscopy analysis).
  - 2. Small Structures:** "Airborne Fibers" referred to above include asbestos structures (fibers, bundles, clusters or matrices) of any diameter and any length greater than 0.5 microns.

**1.13 ADDITIONAL TESTING**

- A. The Contractor may conduct** air monitoring and laboratory testing. If he elects to do this the cost of such air monitoring and laboratory testing shall be at no additional cost to the Owner. A NIOSH-582 certified microscopist will be on-site during the afternoon hours to provide analysis of available PCM samples by NIOSH Method 7400. Verbal report on air samples will be provided that day.

**1.14 PERSONAL MONITORING**

- A. **Owner will not perform** air monitoring for the Contractor to meet Contractor's OSHA requirements for personal sampling or any other purpose.

**PART 2 - PRODUCTS (Not Applicable)****PART 3 - EXECUTION****3.1 SITE WORKERS**

- A. All workers and supervisors shall be currently certified by the State of Delaware and have their State of Delaware issue badge with them at all times while at the project site.
- B. All workers and supervisors shall have a copy of their current medical and respirator fit test documentation at all times while at the project site.
- C. The Contractor shall provide, at all times during any site activities, at least three (3) site workers which includes at least one (1) certified Supervisor and two (2) certified workers. The certified Supervisor shall remain on the outside of the work area as required.
- D. Prior to the start of work, the Contractor shall submit the level of respiratory protection intended for each operation of the project on the Initial Exposure Assessment form (See Section 01562).
- E. A signed copy of the Certificate of Workers Acknowledgement must be obtained from each site worker including supervisors prior to the start of work. (See Section 01530).

**3.2 MINIMUM PERSONAL PROTECTION EQUIPMENT**

- A. **All site workers engaged in asbestos abatement activities shall use, at all times and as a minimum, PAPR respiratory protection equipment.**

**3.3 STOP ACTION LEVELS**

- A. **Inside Work Area:** Maintain an average airborne count in the work area of less than the Stop Action Level given below for the type of respiratory protection in use. If the fiber counts rise above this figure for any sample taken, revise work procedures to lower fiber counts. If the Time Weighted Average (TWA) fiber count for any work shift or 8 hour period exceeds the Stop Action Level, stop all work except corrective action, leave pressure differential and air circulation system in operation and notify the Owner or Owner's Representative. After correcting cause of high fiber levels, do not recommence work for 24 hours unless otherwise authorized, in writing, by the Owner or Owner's Representative.

**Table 1. Action Level and Stop Action Fiber Concentrations.**

<b>ACTION LEVEL (Max Exposure) (f/cc)</b>	<b>STOP LEVEL (f/cc)</b>	<b>RESPIRATOR</b>	<b>RESPIRATOR ASSIGNED PROTECTION FACTOR</b>
1	0.5	Half Face	10
100	50	PAPR	1000
100	50	Supplied Air, Pressure Demand	1000

1. If airborne fiber counts inside contained work areas exceed the stop level for any period of time cease all work except corrective action until fiber counts fall below the stop level and notify Owner's Representative. After correcting cause of high fiber levels, do not recommence work for 24 hours unless otherwise authorized, in writing, by the Owner or Owner's Representative.
  2. The Contractor shall stop work immediately if any visual emissions are observed.
- B. Outside Work Area:** If any air sample taken outside of the Work Area exceeds the baseline established in Part 1 of this section, immediately and automatically stop all work except corrective action. The Owner or Owner's Representative will determine the source of the high reading and so notify the Contractor in writing.
1. If the high reading was the result of a failure of Work Area isolation measures initiate the following actions:
    - a. Immediately erect new critical barriers as set forth in Section 01526 Temporary Enclosures to isolate the affected area from the balance of the building. Erect Critical Barriers at the next existing structural isolation of the involved space (e.g. wall, ceiling, floor).
    - b. Decontaminate the affected area in accordance with Section 01712 Cleaning & Decontamination Procedures.
    - c. Require that respiratory protection as set forth in Section 01562 Respiratory Protection be worn in affected area until area is cleared for re-occupancy in accordance with Section 01711 Project Decontamination.
    - d. Leave Critical Barriers in place until completion of work and insure that the operation of the pressure differential system in the Work Area results in a flow of air from the balance of the building into the affected area.
    - e. If the exit from the clean room of the personnel decontamination unit enters the affected area, establish a decontamination facility consisting of a Shower Room and Changing Room as set forth in Section 01563 Decontamination Units at entry point to affected area.
    - f. After Certification of Visual Inspection in the Work Area remove critical barriers separating the work area from the affected area. Final air samples will be taken within the entire area as set forth in Section 01711 Project Decontamination.
  2. If the high reading was the result of other causes initiate corrective action as determined by

the Owner or Owner's Representative.

3. The Contractor shall stop work immediately if any visual emissions are observed.
- C. **Effect on Contract Sum:** Complete corrective work with no change in the Contract Sum if high airborne fiber counts were caused by Contractor's activities. The Contract Sum and schedule will be adjusted for additional work caused by high airborne fiber counts beyond the Contractor's control.

### 3.4 STOP WORK

- A. **If the Owner, Owner or Owner's Representative, or Project Administrator** presents a written stop work order, immediately and automatically conform to that stop work order, while maintaining temporary enclosures and pressure differential. Do not recommence abatement work until authorized in writing by Owner, Owner, or Owner's Representative or Project Administrator.
- B. **Immediately initiate the following actions:** After being presented with a stop work order immediately:
1. Cease all asbestos removal activities, or any other activities that disturbs ACM.
  2. Repair any fallen, ripped or otherwise failed work area isolation measures.
  3. Maintain in operation all work area isolation measures including those required by Sections 01526 "Temporary Enclosures," 01513 "Temporary Pressure Differential & Air Circulation System," 01563 "Decontamination Units."
  4. Maintain all worker protections including those required by Sections 01560 "Worker Protection - Asbestos Abatement," and 01562 "Respiratory Protection."
  5. Fog the air in the work area with a mist of amended water to reduce airborne fiber levels.
- C. **Do not recommence work** until authorized in writing by the Owner or Owner's Representative.

### 3.5 SCHEDULE OF ASBESTOS-CONTAINING MATERIALS

See the attached Table 1. and Table 2. for approximate quantities and locations for positive asbestos-containing materials and assumed asbestos-containing materials on the project. All quantities were estimated. The Contractor shall field verify said quantities without delay and immediately inform the Owner's Representative of any discrepancies.

**3.5 LIST OF DRAWINGS**

The exterior work is shown on one drawing for all locations. The interior work is included on the following drawings:

<b>Drawing</b>	<b>Basement</b>	<b>First Floor</b>	<b>Second Floor</b>	<b>Facility Building</b>
<b>A - Floor Coverings</b>	A-1	A-2 A-3	A-4	None
<b>B - Pipe Coverings</b>	B-1	B-2 B-3	B-4	G-1
<b>C - Plumbing</b>	C-1	C-2 C-3	C-4	G-2
<b>D - Heating</b>	D-1	D-2 D-3	D-4	G-3
<b>E - Miscellaneous</b>	E-1	E-2 E-3	E-4	G-4
<b>F - Crawlspace</b>	F-1 F-2	None	None	None

# INFORMATION ONLY

**Table 1 .  
Summary of Positive Asbestos-Containing Materials at The Lewes School.**

Building Material	Location and Description	Sample ID:	Color	Laboratory Result	Approximate Quantity
<b>INTERIOR</b>					
<b>9" x 9" Floor Tile</b>	<u>First Floor, Little Vikings Wing - Asbestos 9" x 9" Floor Tile (Mastic not Asbestos) over Concrete.</u>  <u>NOTE: Demolition of stationary cabinets required to access and completely remove all asbestos-containing materials.</u>	LVLC-FT-1, LVLC-FT-2, FT-4-A, FT-4-B, FT-43-A, FT-43-B, FT-43-C, FT-86	Tan, Brown, Gray, Red	3 to 10 % Chrysotile	15,000 SF Total
	<u>First Floor, Second Floor, Little Vikings Wing - Carpet over Asbestos 9" x 9" Floor Tile (Mastic not Asbestos) over Concrete.</u>				1,850 SF Total
	<u>Little Vikings Wing - First Floor - Break Room - (2) Layers of Carpet over Asbestos 9" x 9" Floor Tile (Mastic not Asbestos) over Concrete.</u>				300 SF
	<u>Main Building - Second Floor - Built-In Cabinets: Stationary Cabinets over Asbestos 9" x 9" Floor Tile (Mastic not Asbestos) over Concrete.</u>  <u>NOTE: Demolition of stationary cabinets required to access and completely remove all asbestos-containing materials.</u>				4,350 SF Total
<b>Carpet Glue and Fiberboard</b>	<u>Main Building- First Floor - Mail Room - Carpet over Asbestos Carpet Glue over Asbestos Fiberboard over Concrete.</u>  <u>NOTE: Demolition of stationary cabinets required to access and completely remove all asbestos-containing materials.</u>	CG-27-A, CG-27-B FB-28-A, FB-28-B	Brown, Gray/ Yellow	8 to 40 % Chrysotile	250 SF

**Table 1 .  
Summary of Positive Asbestos-Containing Materials at The Lewes School.**

Building Material	Location and Description	Sample ID:	Color	Laboratory Result	Approximate Quantity
<b>Heat Shields</b>	<u>First Floor, Second Floor, Consortium Wing and Little Vikings Wing:</u> <b>Asbestos Heat Shield</b> located within ceiling mounted light fixtures. Each location will have multiple heat shields.	HS-74-A, HS-74-B, HS-74-C, HS-70	Tan, White	70 to 95 % Chrysotile	10 Locations
<b>Pipe Insulation</b>	<u>First Floor, Second Floor, Consortium Wing and Little Vikings Wing, Janitors Closets and Pipe Chases:</u> <b>Asbestos Pipe Insulation</b> exposed and hidden in walls, floors and above ceilings. Removal of multiple ceilings need to access pipe.	INS-71	White	15 % Chrysotile 8 % Amosite	3,500 LF
<b>Pipe Fittings</b>	<u>First Floor, Second Floor, Consortium Wing and Little Vikings Wing, Janitors Closets and Pipe Chases:</u> Some <b>Asbestos Pipe Fittings</b> are located above ceilings. Removal of multiple ceilings need to access pipe.	PF-68-A, PF-68-B, PF-68-C, PF-77-C, PF-101	Gray, White	2 to 30 % Chrysotile	500 EA
<b>Pipe Coverings (Insulation and Fittings)</b>	<u>Former Facilities Building - Computer Lab, Lan Room, Boiler Room, Boys Bath, and Girls Bath:</u> <b>Asbestos Pipe Coverings (Insulation and Fittings)</b> located above (2) layers of Drop Ceiling.  <u>NOTE: Demolition of Plaster Ceilings required to access and completely remove all Asbestos Pipe Coverings (Lan Room, Boiler Room, Boys Bath, and Girls Bath).</u>	PINS-6, PINS-7 PF-8, PF-10	Gray, White	10 to 15 % Amosite 10 to 60 % Chrysotile	300 LF 40 EA

**Table 1 .  
Summary of Positive Asbestos-Containing Materials at The Lewes School.**

Building Material	Location and Description	Sample ID:	Color	Laboratory Result	Approximate Quantity
<b>Crawlspace Pipe Insulation Mastic (Wrinkle Wrap) and Pipe Coverings (Insulation &amp; Fittings)</b>	<p><u>Main Building - Basement - Crawlspace No. 3 (near former shooting range):</u> Fiberglass Insulation with <b>Asbestos Pipe Insulation Exterior Mastic and Asbestos Pipe Coverings.</b></p> <p><b><u>NOTE: Demolition of floor decking and/or trench walls may be necessary to completely access asbestos pipe coverings. Some pipework will need to be cut in crawlspace to allow access to work locations. Access restricted in crawlspace.</u></b></p>	WW-58-A, WW-58-B	Black	2 to 3 % Chrysotile	800 LF
<b>Sink Undercoating</b>	<p><u>First Floor, Second Floor, Consortium Wing and Little Vikings Wing:</u> Metal Sink with <b>Asbestos Sink Undercoating.</b></p>	SU-1-A, SU-1-B, SU-1-C, SU-42	Black	2 to 5 % Chrysotile	9 EA
<b>1' x 1' Ceiling Tiles Glue Dots</b>	<p><u>Former Facilities Building - Computer Lab:</u> 1' x 1' Ceiling Tiles with <b>Asbestos Glue Dots</b> located above 2' x 4' Ceiling Tiles.</p>	GD-9	Black	5 % Chrysotile	800 SF
<b>Crawlspace Pipe Insulation &amp; Fittings</b>	<p><u>Main Building - Basement (Boiler Room Crawlspace No. 1) and Sussex Consortium Wing (Crawlspace No. 2)</u></p> <p><b>Remove all Asbestos Pipe Insulation, Fittings, Trash and Debris</b> located on soil and on walls and ceilings throughout the crawlspace (floor to ceiling).</p> <p><b><u>NOTE: Demolition of floor decking and/or trench walls may be necessary to completely access asbestos pipe coverings. Some pipework will need to be cut in crawlspace to allow access to work locations. Access restricted in crawlspaces.</u></b></p>	INS-1, INS-2, INS-3	Gray Brown	5 % Chrysotile 30 % Amosite	4,000 LF

**Table 1 .  
Summary of Positive Asbestos-Containing Materials at The Lewes School.**

Building Material	Location and Description	Sample ID:	Color	Laboratory Result	Approximate Quantity
<b>Crawlspace Soil &amp; Debris</b>	<u>All Crawlspaces:</u> Remove all <b>Asbestos Debris</b> and loose <b>Contaminated Soil</b> throughout the crawlspaces above hard pan (compacted) soil.	Soil-1, Soil-2, Soil-3	Brown	1.50 to 3.25 % Chrysotile	18,500 SF (1,500 CF)
<b>EXTERIOR</b>					
<b>Window Caulk</b>	<u>Main Building, Facility Building and Little Vikings Wing:</u> Windows with <b>Asbestos Window Caulk</b> located on Masonry, Brick and Metal.	WC-109-A, WC-118	Gray, White	3 to 6% Chrysotile	350 LF
<b>Building Caulk</b>	<u>Main Building - East Exit Door, Main Building and West Wing Interface, North side Window at Boiler Room Door and Block and Cement Interface at Boiler Room:</u> <b>Asbestos Building Caulk</b> located on Masonry, Brick and Metal.	BC-125, BC-127, BC-131, BC-132	Tan, Gray, White	3 to 5% Chrysotile	450 LF
<b>Flashing Caulk</b>	<u>Main Building - Roof #11 - Chimney (North and East Side):</u> <b>Asbestos Flashing Caulk</b> located on Masonry, Brick and Metal.	LS-11-FLC-16, LS-11-FLC-17, LS-11-FLC-18	Gray, Black	10 to 15% Chrysotile	150 LF
<b>Window Glazing</b>	<u>Little Vikings Wing - Main Entrance Windows:</u> <b>Asbestos Window Glazing</b> located on Metal.	WG-123	Tan	2% Chrysotile	200 LF
<b>Roof Mechanical: Rubber Roof Mastic and Tar Coating</b>	<u>Little Vikings Wing - Roof #12 - Mechanicals (2 Locations):</u> <b>Asbestos Rubber Roof Mastic over Asbestos Tar Coat</b> located on Metal and Wood.	LS-12-RM-11, LS-12-TC-12	Black, Silver	3 to 5 % Chrysotile	50 SF
<b>Roof Edge: Rubber Roof Mastic and Flashing Felt Paper</b>	<u>Little Vikings Wing - Roof #12 - Roof Edges:</u> <b>Asbestos Rubber Roof Mastic over Asbestos Flashing Felt Paper over Asbestos Flashing Caulk</b> located on Metal and Wood.	LS-12-RM-5, LS-12-RM-8, LS-12-FLF-6, LS-12-FLC-7, LS-12-FLF-9	Black, Yellow, Silver, Tan	2 to 20 % Chrysotile	400 LF

**Table 1 .  
Summary of Positive Asbestos-Containing Materials at The Lewes School.**

Building Material	Location and Description	Sample ID:	Color	Laboratory Result	Approximate Quantity
<b>Roof Edge: Tar Coating</b>	<u>Little Vikings Wing - Roof #12 - Roof Edges - West Wall:</u> <b>Asbestos Tar Coating</b> located on Masonry, Brick, and Metal.	LS-12-TC-13	Black	6 % Chrysotile	100 LF
<b>Roof Mechanical: Flashing Felt Paper and Tar Coating</b>	<u>Little Vikings Wing - Roof #13 and #14 - Mechanicals (6 Locations Total):</u> Rubber Roof over <b>Asbestos Flashing Felt Paper</b> over <b>Asbestos Tar Coating</b> located on Metal and Wood.	LS-13-TC-13, LS-13-FLF-12, LS-14-FLF-14, LS-14-FLF-16	Black, Silver	5 to 20% Chrysotile	150 SF
<b>Roof Edge Tar Coating</b>	<u>Main Building, Roof #9 and Roof #3 - Roof Edges:</u> Rolled Roof over <b>Asbestos Tar Coating</b> located along the roof edges.	LS-9-TC-7, LS-3-TC-6, LS-3-TC-8,	Black	4 to 8 % Chrysotile	350 SF
<b>Roof Edge Rolled Roof</b>	<u>Main Building, Roof #5 - Roof Edges:</u> <b>Asbestos Rolled Roof</b> over Tar Coat located along the roof edges.	LS-5-RR-7, LS-5-RR-9,	Gray, Black	8 % Chrysotile	300 LF
<b>Roof Mechanical: Rolled Roof and Tar Coating</b>	<u>Main Building - Roof #2 - Mechanicals (3 Locations Total):</u> <b>Asbestos Rolled Roof</b> over <b>Asbestos Tar Coating</b> located on Metal and Wood.	LS-2-RR-5, LS-2-TC-6, LS-2-RR-7, LS-2-TC-8	Gray, Black	3 to 8 % Chrysotile	150 SF
<b>Main Roof: Roof Coating (Silver Coating) and Tar Coating</b>	<u>Facility Building - Roof #15 - Main Roof and Front Door Overhang:</u> Rubber roof over Fiberboard over <b>Asbestos Roof Coating</b> over <b>Asbestos Tar Coating</b> over Wood.  <u>NOTE: Asbestos Roof Coating and Asbestos Tar Coating are located throughout the entire roof section including Mechanical and Roof Edges.</u>	LS-15-SC-2, LS-15-TC-3, LS-15-SC-5, LS-15-SC-8, LS-15-TC-9, LS-15-SC-11, LS-15-TC-12, LS-15-SC-14, LS-15-TC-15, LS-15-SC-17, LS-15-TC-18	Black, Silver	7 to 20 % Chrysotile	4,500 SF
<b>Door Caulk</b>	<u>Facility Building - Front and Rear Entrance Doors:</u> <b>Asbestos Building Caulk</b> located on Masonry, Brick and Metal.	DC-110-A, DC-110-B	Gray, White	2% Chrysotile	80 LF

**Table 1 .  
Summary of Positive Asbestos-Containing Materials at The Lewes School.**

Note: SF = Square-Feet, CF = Cubic-Feet, LF = Linear-feet, EA = Each

**Table 2.**  
**Summary of Assumed Asbestos-Containing Materials at The Lewes School.**

Building Material	Location and Description	Category	Approximate Quantity
<b>Chalkboard Glue Dots</b>	Assumed throughout building located behind chalkboards in classrooms and in hallways. Remove chalkboards to gain access to glue dots for complete abatement.	Category II Non-Friable	48 Locations 4,000 SF Total
<b>Pipe Coverings (Insulation and Fittings)</b>	Assumed throughout building, all wings and also the Former Facilities Building at inaccessible locations within walls, floors, and ceilings including locations at all heat and water sources. Remove ceilings, track, insulation and other obstructions to inspect and remove all ACBM at these locations including hallways, classrooms, offices, storage closets, pipe chases in the basement, the first and second floors.	Friable	3,500 LF
<b>Crawlspace Pipe Insulation Mastic (Wrinkle Wrap) and Pipe Coverings (Insulation and Fittings)</b>	Assumed in areas of all crawlspaces with restricted access. Remove all asbestos pipe insulation, fittings, trash and debris located on soil and on walls and ceilings throughout the crawlspaces (floor to ceiling). Demolition of floor decking and/or trench walls may be necessary to completely access asbestos pipe coverings. Some pipework will need to be cut in crawlspace to allow access to work locations.	Friable	2,000 LF
<b>Fire Doors</b>	Metal fire doors containing ACBM are located throughout the buildings (including Former Facilities Building). Locations shown on drawing have single, double and multiple double doors.	Non-Friable	36 Locations 75 EA
<b>Floor Tile</b>	Assumed asbestos floor tile and mastic underneath built-in shelving at several locations. Remove built-in cabinets and shelving to access ACBM for complete abatement.	Non-Friable	3,800 SF
<b>Asbestos Heat Shields</b>	Heat sources are assumed throughout building, all wings and also the Former Facilities Building. Units may have internal cement panels that vary in size and quantity and may be mounted on floors, walls, or ceilings at locations. All heating units required to be opened for inspection and all identified ACBM abated if found.	Category II Non-Friable	124 Locations
<b>Break-In Locations Pipe Covering (Insulation and Fittings)</b>	Assumed throughout building, all floors and wings and including the former Facilities Building at inaccessible locations within walls, floors, and ceilings which includes all locations at heat and water sources.	Friable	143 Locations
<b>Valve and Flange Gaskets</b>	School building and Facilities Building boiler room valves and gaskets. Remove all valves and flange gaskets identified as containing ACBM. Pipework may need to be disassembled to access gaskets.	Category I Non-Friable	116 EA

**Note:** SF = Square-Feet, CF = Cubic-Feet, LF = Linear-feet, EA = Each

**Table 3.**  
**Suspected Asbestos-Containing Material Sampling Areas at The Lewes School.**

Building Material	Material Location	Color	Laboratory Sample ID
<b>INTERIOR</b>			
12" x 12" Floor Tile	<u>Little Vikings Wing:</u> Gym and Stage Area	Blue	FT-2A, FT-2B, FT-2C
	<u>Main Building Basement:</u> Cafeteria, Teachers Cafeteria, Cafeteria Office, Cafeteria Storage Room, Stairwell Landing by Cafeteria, Hallway by Elevator <u>Main Building First Floor:</u> Classrooms: 113, 110, 106, 104, 103, and 102, Hallways: by Boys Bathroom, by Main Office, by Rooms 105, 106, 102, and Gym Hallway, Stairwells: by Gym, and Outside Gym Door, Offices: Main Office,, Storage Room in Main Office,, Mail Room, and Gym Locker Room <u>Main Building Second Floor:</u> Classrooms 201, 202, 204, 206, 210, 213, 209, 222, 224,and 225, Hallway by 209	Gray, White, Blue, Light Gray, Dark Gray, Pink, Black	FT-1A, FT-1B, FT-3A, FT-3B, FT-3C, FT-3D, FT-5A, FT-5B, FT-5C, FT-5D, FT-7A, FT-7B, FT-7C, FT-9A, FT-9B, FT-9C, FT-11A, FT-11B, FT-11C, FT-14A, FT-14B, FT-14C, FT-16A, FT-16B, FT-16C, FT-21A, FT-21B, FT-21C, FT-23A, FT-23B, FT-25, FT-34A, FT-34B, FT-40A, FT-40B, FT-40C, FT-56A, FT-56B, FT-60A, FT-60B, FT-81A, FT-81B, FT-81C, FT-84, FT-92A, FT-92B, FT-92C, FT-94A, FT-94B, FT-94C
12" x 12" Floor Tile Mastic	<u>Little Vikings Wing:</u> Gym, Stage Area	Black	FTM-3A, FTM-3B, FTM-3C
	<u>Main Building Basement:</u> Stairwell Basement Landing by Cafeteria, Cafeteria, Teachers Cafeteria, Cafeteria Office, and Cafeteria Storage Room <u>Main Building First Floor:</u> Classrooms: 102, 103, 104, 106, 110, and 113, Offices: Main, Mail room, Storage Room in Main Office, and Gym Locker Room, Hallways: by Boys Bathroom, by Main Office, by Gym, and by Rooms 105, 106, 102, Stairwells: by Gym, Outside Gym Door <u>Main Building Second Floor:</u> Classrooms: 202, 201, 204, 206, 213, 222. 224, 225, 210, and Hallway by Classroom 209	Black	FTM-2A, FTM-2B, FTM-4A, FTM-4B, FTM-4C, FTM-4D,FTM-8A, FTM-8B, FTM-8C,FTM-10A, FTM-10B, FTM-10C, FTM-12A, FTM-12B, FTM-12C, FTM-15A, FTM-15B,FTM-15C,FTM-17A, FTM-17B, FTM-17C, FTM-22A, FTM-22B,FTM-22C, FTM-24A,FTM-24B, FTM-26, FTM-35A, FTM-35B, FTM-41A, FTM-41B,FTM-41C, FTM-57A, FTM-57B,FTM-61A, FTM-61B, FTM-82A, FTM-82B, FTM-82C,FTM-85,FTM-93A, FTM-93B, FTM-93C
9" x 9" Floor Tile	<u>Little Vikings Wing:</u> Office Area Behind Stage	Gray	FT-4A, FT-4B
	<u>Main Building Second Floor:</u> Classrooms 222, 223, 208, and the room between Classrooms 222 and 224	Red	FT-43A, FT-43B, FT-43C, FT-86
9" x 9" Floor Tile Mastic	<u>Little Vikings Wing:</u> Office Area Behind Stage	Black	FTM-5A, FTM-5B
	<u>Main Building Second Floor:</u> Classrooms 222, 223, 208, and the Room between Classrooms 222 and 224	Black	FTM-44A, FTM-44B, FTM-44C, FTM-86

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Building Material	Material Location	Color	Laboratory Sample ID
Floor Mastic	<u>Main Building First Floor</u> : Stage Floor-East Side at Stairs-2nd Layer, and Stage Floor-West Side at Stairs-2nd Layer	Black	FM-99A, FM99B
	<u>Former Facilities Building</u> : Computer Lab North, Computer Lab South, Lan Room,	Black	FTM-103A, FTM-103B, FTM-103C
2' x 2' Ceiling Tile	<u>Main Building Basement</u> : Girls Bathroom in Cafeteria	Gray	CT-53
2' x 4' Ceiling Tile	<u>Main Building Basement</u> : Cafeteria <u>Main Building Second Floor</u> : Classrooms 203, 219, and the Hallway by Classroom 202 <u>Former Facility Building</u> : Computer Lab-North, Computer Lab - South	Tan, Gray, White	CT-54A, CT-54B, CT-54C, CT-79A, CT-79B, CT-79C, CT-107A, CT-107B
12" x 12" Ceiling Tile	<u>Little Vikings Building</u> : Lobby, Janitor Closet, and Classroom 8	Gray, White	CT-73A, CT-73B, CT-73C
	<u>Main Building Basement</u> : Cafeteria Hallway, Elevator Hallway, Cafeteria, East Cafeteria Stairwell, West Cafeteria Stairwell <u>Main Building First Floor</u> : Classrooms: 114, 110, and 108 <u>Main Building Second Floor</u> : Coaches Room <u>Former Facilities Building</u> : Computer Lab-North, Computer Lab -South	White, Gray, Brown	CT-50A, CT-50B, CT-55A, CT-55B, CT-55C, CT-64A, CT-64B, CT-69A, CT-69B, CT-69C, CT-78, CT-108A, CT-108B
Glue Dot	<u>Main Building Basement</u> : Cafeteria Hallway, East Cafeteria Stairwell, West Cafeteria Stairwell <u>Former Facilities Building</u> : Computer Lab	Brown, Black	GD-49A, GD-49B, GD-63A, GD-63B, GD-1, GD-9
Cove Base Mastic	<u>Little Vikings Wing</u> : Main Office, Back of Main Office	Tan	CBM-6A, CBM-6B
	<u>Main Building Basement</u> : Hallways by West side Cafeteria and by Cafeteria Bathrooms, Hallway by Elevator, Rooms: Cafeteria, Teacher Cafeteria <u>Main Building First Floor</u> : Hallways: By Room 105, By Girls Bathroom, By Room 100 <u>Main Building Auditorium</u> : East Storage Room, and West Storage Room <u>Main Building Second Floor</u> : Hallways: By room 206, By Room 211 Classrooms: 208, 222, 223, Art room, Computer Lab <u>Former Facilities Building</u> : Rooms: Big Storage Room, Main Room-Top Layer,-Main Room-Bottom Layer,-Server Room-North, Server Room-South	Tan, Yellow, Brown, Black	CBM-6A, CBM-6B, CBM-6C, CBM-19A, CBM-19B, CBM-19C, CBM-20A, CBM-20B, CBM-20C, CBM-45A, CBM-45B, CBM-45C, CBM-90, CBM-91-A, CBM-91-B, CBM-91-C, CBM-98A, CBM-98B, CBM-104, CBM-105, CBM-106A, CBM-106B, CBM-106C
Carpet Glue	<u>Little Vikings Wing</u> : Main Office, Back Main Office	Yellow	CG-7A, CG-7B
	<u>Main Building First Floor</u> : Mail Room, Principal Office, Assistant Principal Office, Library	Yellow, Green	CG-27A, CG-27B, CG-30A, CG-30B, CG-31A, CG-31B, CG-33A, CG-33B, CG-72
Sink Undercoating	<u>Little Vikings Wing</u> : Classrooms #2, #5, #8	Black	SU-1A, SU-1B, SU-1C
	<u>Main Building First Floor</u> : Nurse Office <u>Main Building Second Floor</u> : Classrooms 225, 202, 203, and 204	White, Black	SU-13, SU-42, SU-83A, SU-83B, SU-83C

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Building Material	Material Location	Color	Laboratory Sample ID
Pipe Insulation	<u>Main Building Basement:</u> Boiler Room Office, Boiler Room Storage Hallway <u>Main Building First Floor:</u> 1 <sup>st</sup> Floor Hallway by Elevator <u>Main Building Crawlspace:</u> 4" Steam Line, Debris on the ground <u>Former Facilities Building:</u> Computer Lab	Yellow, Brown, White	INS-46A, INS-46B, INS-48A, INS-48B, INS-71, INS-1, INS-2, INS-3, PINS-6, PINS-7
Pipe Fitting	<u>Little Vikings Wing:</u> Main Office, Main Hallway <u>Former Facilities Building:</u> Computer Lab	Gray	PF-77A, PF-77B, PF-77C, PF-8, PF-10
	<u>Main Building Basement:</u> Boiler Room Office, Shooting Range Crawlspace <u>Main Building First Floor:</u> Room 114, Room 111, 100 Hallway, Gym Scoreboard Platform <u>Main Building Crawlspace:</u> 4" Steam Line, Debris on the ground	Gray, Brown, White	PF-47A, PF-47B, PF-59A, PF-59B, PF-68A, PF-68B, PF-68C, PF-101, PF-4, PF-5, PF-6
Wrinkle Wrap	<u>Little Vikings Wing:</u> Main Office, Main Hallway	Black	WW-75A, WW-75B, WW-75C
	<u>Main Building Basement:</u> Shooting Range Crawlspace <u>Main Building First Floor:</u> Room 114, Room 111, 100 Hallway	Black, Silver, Brown	WW-58A, WW-58B, WW-67A, WW-67B, WW-67C
Boiler Insulation	<u>Main Building Basement:</u> Boiler Room (Rib Plate)	White	INS-37A, INS-37B, RPI-1, RPI-2
	<u>Main Building Basement:</u> Boiler Room (Outer Skin)	Yellow	INS-38A, INS-38B
	<u>Main Building Basement:</u> Boiler Room (Rope)	White	INS-39A, INS-39B
	<u>Main Building Basement:</u> Boiler Room (Rib Insulation)	White	RI-3, RI-4
	<u>Main Building Basement:</u> Boiler Room (Boiler Panel Insulation)	Tan	BPI-5, BPI-6
	<u>Main Building Basement:</u> Boiler Room (Blower Insulation) <u>Former Facilities Building:</u> Boiler Room (Blower Insulation)	White	BI-7, BI-8, BI-10
Valve Gasket	<u>Former Facilities Building:</u> Boiler Room	Black	VG-9
Floor Underlayment (Fiber Board)	<u>Main Building First Floor:</u> Mail Room, Principal Office, Assistant Principal Office, Storage Room in Main Office	Brown	FB-28A, FB-28B, FB-29A, FB-29B, FB-32A, FB-32B, FB-36A, FB-36B
Plaster Skim Coat	<u>Main Building Basement:</u> East Cafeteria Stairwell <u>Building First Floor:</u> West Hallway Gym Level <u>Main</u>	White	SC-62A, SC-62B
Plaster	<u>Little Vikings Wing:</u> Classroom 8-6-5 Boys Bathroom Ceiling	Gray, White	PL-76A, PL-76B, PL-76C
	<u>Main Building Second Floor:</u> Hallway at Classroom 205, Classroom 217, Classroom 223	Gray, White	PL-80A, PL-80B, PL-80C
	<u>Former Facilities Building:</u> Boys Bathroom, LAN Room (Skim Coat and Base Coat)	Gray, White	SC-2, PL-3, SC-4, PL-5

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Building Material	Material Location	Color	Laboratory Sample ID
Tar Coat (Interior)	<u>Main Building First Floor</u> : Auditorium- East Storage, Auditorium-West Storage, Stage East Side at Stairs-Bottom Layer, Stage West side at Stairs -Bottom layer, Gym Floor-Northeast-Bottom Layer, Gym Floor-Southwest-Bottom Layer	Black	TC-96A, TC-96B, TC-96C, TC-96D, TC-100A, TC-100B
Joint Compound	<u>Main Building Basement</u> : Cafeteria Girls Bathroom, Elevator Hallway, <u>Main Building First Floor</u> : Gym Hallway West, Gym Girls Bathroom <u>Main Building Second Floor</u> : Room 208	White	JC-51A, JC-51B, JC-65A, JC-65B, JC-88
Drywall	<u>Main Building Basement</u> : Cafeteria Girls Bathroom, Elevator Hallway <u>Main Building First Floor</u> : Gym Hallway West, Gym Girls Bathroom, <u>Main Building Second Floor</u> : Room 208	White, Gray, Brown	DW-52A, DW-52B, DW-66A, DW-66B, DW-89
Vibration Damper	<u>Main Building Basement</u> : Cafeteria <u>Former Facilities Building</u> : Girls Bathroom	Brown, Tan	VD-18A, VD-18B, VD-11
Heat Shield	<u>Little Vikings Wing</u> : Janitor Closet, Classroom 8, Girls Bathroom, Classroom 5 Girls Bathroom	Tan	HS-74A, HS-74B, HS-74C
	<u>Main Building First Floor</u> : Janitor Closet 100 Hallway	White	HS-70
Stage Curtain	<u>Little Viking Wing</u> : Stage Gym Area	Blue	SGC-95
	<u>Main Building First Floor</u> : Stage	Blue	SGC-97
Wood Fire Door	<u>Little Vikings Wing</u> : Classroom 1, Classroom 7, Classroom 4	Brown	FD-133A, FD-133B, FD-133C
	<u>Main Building First Floor</u> : Classroom 103, Main Office, Classroom 111 <u>Main Building Second Floor</u> : Classroom 223, Classroom 211, Classroom 202		FD-134A, FD-134B, FD-134C, FD-135A, FD-135B, FD-135C
Soil	<u>Main Building Crawlspace</u> : Front Right, Front Left, Back Middle	Brown	Soil-1, Soil-2, Soil-3
<b>EXTERIOR</b>			
Door Caulk	<u>Former Facility Building</u> : Front Door, Rear Door	Gray, White	DC-110A, DC-110B
	<u>Little Vikings Wing</u> : North Exit Door, Gym-East Exit Door, Main Entrance	White	DC-117, DC-121, DC-122
Building Caulk	<u>Main Building</u> : South Window, East Window, West Window, East Exit Door, Main Building and West Wing Interface, South Window Header, East Window Header, West Window Header, North side Window at Boiler Room Door, Block and Cement Interface at Boiler Room	Gray, Tan, White	BC-124A, BC-124B, BC-124C, BC-125, BC-127, BC-128A, BC-128B, BC128-C, BC-131, BC-132
Vent Caulk	<u>Little Vikings Wing</u> : Gym-East side	White	VC-120
Flashing Caulk	<u>Main Building</u> : Roof 11- Chimney, Roof 11- East Wall, Roof 11- North Wall, Roof 12-Roof Edge 1, Roof 12-Roof Edge 2, Roof 14- Roof Edge 1, Roof 13- Roof Edge 1, Roof 13-Roof Edge 1, Roof 13-Roof Edge 2, Roof 14-Roof Edge 2, Roof 14-Roof Edge 3	Gray, Black	LS-11-FLC-16, LS-11-FLC-17, LS-11-FLC-18, LS-12-FLC-7, LS-12-FLC-10, LS-14-FLC-8, LS-13-FLC-8, LS-13-FLC-10, LS-14-FLC-10, LS-14-FLC-12

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Building Material	Material Location	Color	Laboratory Sample ID
Window Caulk	<u>Main Building Second Floor</u> : Coach's Room By Gym-2nd Floor- Room 218-Interior Window <u>Former Facility Building</u> : North Exterior, South Exterior, West Exterior	White, Gray	WC-102A, WC-102B, WC109A, WC-109B, WC-109C
	<u>Little Vikings Wing</u> : Office West Window	Gray	WC-118
Window Glazing	<u>Little Vikings Wing</u> : Office West Window, Main Entrance	White, Tan	WG -119, WG-123
	<u>Main Building</u> : West Exit Door, New Wing-West Window, New Wing- South Window, New Wing- West Window, East Gym Exit Door	White, Tan	WG-126,WG-129A, WG-129B, WG-129C, WG-130
Asphalt Shingle	<u>Main Building Exterior</u> : Concession Stand <u>Little Vikings Wing</u> : Shed at Little Vikings	Black, White	AS-111, AS-114
Asphalt Shingle Mastic	<u>Main Building</u> : Concession Stand <u>Little Vikings Wing</u> : Shed at Little Vikings	Black	ASM-112, ASM-115
Asphalt Roof	<u>Little Vikings Wing</u> : Roof 12-Core 2-Black, Roof 14-Core 1-Black, Roof 14-Core 2-Black, Roof 14-Core 3-Black, Roof 13-Core1-Black, Roof 13-Core 2-Black, Roof 13-Core 3-Black, Roof 12-Core 1-Black	Black	LS-12-AR-4, LS-14-AR-2, LS-14-AR-4, LS-14-AR-6, LS-13-AR-2, LS-13-AR-4, LS-13-AR-6, LS-12-AR-2
Tar Coating	<u>Main Building</u> : Roof 7- Mech 1, Roof 11-Mech 2, Roof 12-Mech 1, Roof 12-Roof Edge 1, Roof 13-Mech 1, Roof 1-Core 1-Bottom Layer, Roof 1-Core 2-Bottom layer, Roof 1-Core 3-Bottom layer, Roof 1-Mech 1, Roof 1-Mech 2, Roof 1-Roof Edge 1, Roof 1-Roof Edge 2Roof 1-Roof Edge 3, Roof 2-Mech 1, Roof 2-Mech 2, Roof 3-Roof Edge 1, Roof 3-Roof Edge 2, Roof 10-Mech 1, Roof 10-Roof Edge 1 <u>Former Facilities Building</u> : Roof 15-Core 1, Roof 15-Core2, Roof 15-Mech 1, Roof 15-Mech 2, Roof 15-Roof Edge 1, Roof 15-Roof Edge 2, Roof 8-Mech 1, Roof 8-Roof Edge 1, Roof 8-Roof Edge 2, Roof 9-Mech 1, Roof 9-Roof Edge 1, Roof 5-Mech 1, Roof 5-Roof Edge 1, Roof 5-Roof Edge 2, Roof 6-Mech 1	Black	LS-7-TC-12, LS-11-TC-14,LS-12-TC-12, LS-12-TC-13, LS-13-TC-13, LS-1-TC-3, LS-1-TC-6, LS-1-TC-9, LS-1-TC-11, LS-1-TC-13, LS-1-TC-16, LS-1-TC-17, LS-1-TC-19, LS-2-TC-6, LS-2-TC-8, LS-3-TC-6, LS-3-TC-8, LS-10-TC-4, LS-10-TC-6, LS-15-TC-3, LS-15-TC-6, LS-15-TC-9, LS-15-TC-12, LS-15-TC-15, LS-15-TC-18, LS-8-TC-8, LS-8-TC-10, LS-8-TC-12, LS-9-TC-5, LS-9-TC-7, LS-5-TC-6, LS-5-TC-8, LS-5-TC-10, LS-6-TC-4
Flashing Felt	<u>Little Vikings Wing</u> : Roof 12-Roof Edge 1-Black, Roof 12-Roof Edge 2-Black, Roof 13-Mech 1-Black, Roof 14-Mech 1-Black, Roof 14-Mech 2-Black	Black	LS-12-FLF-6,LS-12-FLF-9, LS-13-FLF-12, LS-14-FLF-14, LS-14-FLF-16
Roof Felt Paper	<u>Main Building</u> : Concession Stand <u>Little Vikings Wing</u> : Shed at Little Vikings	Black	RFT-113, RFT-116

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Building Material	Material Location	Color	Laboratory Sample ID
Rolled Roof	<p><u>Main Building:</u> Roof 7- Core 1, Roof 7- Core 2, Roof 7- Core 3, Roof 7- Mech 1, Roof 7- Roof Edge 1, Roof 7- Roof Edge 2, Roof 7 Roof Edge 3, Roof 11- Core 1, Roof 11- Core 2, Roof 11- Core 3, Roof 11- Mech 1, Roof 11- Mech 2, Roof 11- Roof Edge 1, Roof 11- Roof Edge 2, Roof 11- Roof Edge 3, Roof 4- Core 1, Roof 4- Core 2, Roof 4- Core 3, Roof 4- Core 4, Roof 4- Mech 1, Roof 4- Mech 2, Roof 4- Mech 3, Roof 4- Roof Edge 1, Roof 4- Roof Edge 2, Roof 4- Roof Edge 3, Roof 1- Core 1, Roof 1- Core 2, Roof 1- Core 3, Roof 1- Mech 1, Roof 1- Mech 2, Roof 1- Roof Edge 1, Roof 1- Roof Edge 2, Roof 1- Roof Edge 4, Roof 2- Core 1, Roof 2- Core 2, Roof 2- Mech 1, Roof 2- Mech 2, Roof 2- Roof Edge 1, Roof 3- Core 1, Roof 3- Mech 1, Roof 3- Roof Edge 1, Roof 3- Roof Edge 2, Roof 10- Core 1, Roof 10- Mech 1, Roof 10- Roof Edge 1, Roof 8- Core 1, Roof 8- Core 2, Roof 8- Mech 1, Roof 8- Roof Edge 1, Roof 8 Roof Edge 2, Roof 9- Core 1, Roof 9- Mech 1, Roof 9- Roof Edge 1, Roof 5- Core 2, Roof 5- Mech 1, Roof 5 Roof Edge 1, Roof 5- Roof Edge 2, Roof 6- Core 1, Roof 6- Mech 1, Roof 6- Roof Edge 1</p>	Black, White, Gray	<p>LS-7-RR-1, LS-7-RR-4, LS-7-RR-7, LS-7-RR-10, LS-7-RR-13, LS-7-RR-15, LS-7-RR-17, LS-11-RR-1, LS-11-RR-4, LS-11-RR-7, LS-11-RR-10, LS-11-RR-13, LS-11-RR-19, LS-11-RR-22, LS-11-RR-25, LS-4-RR-1, LS-4-RR-4, LS-4-RR-7, LS-4-RR-10, LS-4-RR-13, LS-4-RR-15, LS-4-RR-17, LS-4-RR-19, LS-4-RR-21, LS-4-RR-23, LS-1-RR-1, LS-1-RR-4, LS-1-RR-7, LS-1-RR-10, LS-1-RR-12, LS-1-RR-14, LS-1-RR-16, LS-1-RR-18, LS-2-RR-1, LS-2-RR-3, LS-2-RR-5, LS-2-RR-7, LS-2-RR-9, LS-3-RR-1, LS-3-RR-3, LS-3-RR-5, LS-3-RR-7, LS-10-RR-1, LS-10-RR-3, LS-10-RR-5, LS-8RR-1, LS-8-RR-4, LS-8-RR-7, LS-8-RR-9, LS-8-RR-11, LS-9-RR-1, LS-9-RR-4, LS-9-RR-6, LS-5-RR-1, LS-5-RR-3, LS-5-RR-5, LS-5-RR-7, LS-5-RR-9, LS-6-RR-1, LS-6-RR-3, LS-6-RR-5</p>
Tar Paper	<p><u>Main Building:</u> Roof 7- Core 1- Top Layer, Roof 7- Core 1- Bottom Layer, Roof 7- Core 2- Top Layer, Roof 7- Core 2- Bottom Layer, Roof 7- Core 3- Top Layer, Roof 7- Core 3- Bottom Layer, Roof 7- Mech 1, Roof 7- Roof Edge 1, Roof 7- Roof Edge 2, Roof 7- Roof Edge 3, Roof 11 -Core 1- Top Layer, Roof 11- Core 1- Bottom Layer, Roof 11- Core 2- Top Layer, Roof 11- Core 2- Bottom Layer, Roof 11- Core 3- Top Layer, Roof 11- Core 3- Bottom Layer, Roof 11- Mech 1- Top Layer, Roof 11- Mech 1- Bottom Layer, Roof 11- Mech 2, Roof 11- Roof Edge 1- Top Layer, Roof 11- Roof Edge 1- Bottom Layer, Roof 11- Roof Edge 2- Top Layer, Roof 11- Roof Edge 2 Bottom Layer, Roof 11- Roof Edge 3- Top Layer, Roof 11- Roof Edge 3- Bottom Layer, Roof 4- Core 1- Top Layer, Roof 4- Core 1- Bottom Layer, Roof 4- Core 2- Top Layer, Roof 4- Core 2- Bottom Layer, Roof 4- Core 3- Top Layer, Roof 4- Core 3- Bottom Layer, Roof 4- Core 4- Top Layer, Roof 4- Core 4- Bottom Layer, Roof 4- Mech 1, Roof 4- Mech 2, Roof 4- Mech 3, Roof 4- Roof Edge 1, Roof 4- Roof Edge 2, Roof 4- Roof Edge 3, Roof 1- Core 1- Top Layer, Roof 1- Core 2- Top Layer, Roof 1- Core 3- Top Layer, Roof 2- Core 1, Roof 2- Core 2, Roof 2- Roof Edge 1, Roof 3- Core 1, Roof 3- Mech 1, Roof 10- Core 1, Roof 8- Core 1- Top Layer, Roof 8- Core 1- Bottom Layer, Roof 8- Core 2- Top Layer, Roof 8- Core 2- Bottom Layer, Roof 9- Core 1- Top Layer, Roof 9- Core 1- Bottom Layer, Roof 5- Core 1, Roof 5- Core 2, Roof 6- Core 1, Roof 6- Roof Edge 1</p>	Black, Gray	<p>LS-7-TP-2, LS-7-TP-3, LS-7-TP-5, LS-7-TP-6, LS-7-TP-8, LS-7-TP-9, LS-7-TP-11, LS-7-TP-12, LS-7-TP-14, LS-7-TP-16, LS-7-TP-18, LS-11-TP-2, LS-11-TP-3, LS-11-TP-5, LS-11-TP-6, LS-11-TP-8, LS-11-TP-9, LS-11-TP-11, LS-11-TP-12, LS-11-TP-15, LS-11-TP-20, LS-11-TP-21, LS-11-TP-23, LS-11-TP-24, LS-11-TP-26, LS-11-TP-27, LS-4-TP-2, LS-4-TP-3, LS-4-TP-5, LS-4-TP-6, LS-4-TP-8, LS-4-TP-9, LS-4-TP-11, LS-4-TP-12, LS-4-TP-14, LS-4-TP-16, LS-4-TP-18, LS-4-TP-20, LS-4-TP-22, LS-4-TP-24, LS-1-TP-2, LS-1-TP-5, LS-1-TP-8, LS-2-TP-2, LS-2-TP-4, LS-2-TP-10, LS-3-TP-2, LS-3-TP-4, LS-10-TP-2, LS-8-TP-2, LS-8-TP-3, LS-8-TP-5, LS-8-TP-6, LS-9-TP-2, LS-9-TP-3, LS-5-TP-2, LS-5-TP-4, LS-6-TP-2, LS-6-TP-6</p>
Silver Coating	<p><u>Former Facilities Building:</u> Roof 15- Core 1, Roof 15- Core 2, Roof 15- Mech 1, Roof 15- Mech 2, Roof 15- Roof Edge 1, Roof 15- Roof Edge 2</p>	Black/Silver	<p>LS-15-SC-2, LS-15-SC-5, LS-15-SC-8, LS-15-SC-11, LS-15-SC-14, LS-15-SC-17</p>
Rubber Mastic	<p><u>Little Vikings Wing:</u> Roof 13- Core 1- Black, Roof 13- Core 2- Black, Roof 13- Core 3- Black, Roof 13- Roof Edge 1- Black, Roof 13- Roof Edge 2- Black, Roof 13- Mech 1- Black, Roof 12- Core 1- Black, Roof 12- Core 2- Black, Roof 12- Roof Edge 1- Black, Roof 12- Roof Edge 2- Black, Roof 12- Mech 1- Black, Roof 14- Core- Black, Roof 14- Core 2- Black, Roof 14- Core 3- Black, Roof 14- Roof Edge 1- Black, Roof 14- Roof Edge 2- Black, Roof 14- Roof Edge 3- Black, Roof 14- Mech 1- Yellow, Roof 14- Mech 2- Yellow</p> <p><u>Former Facilities Building:</u> Roof 16- Core 1- Black, Roof 16- Core 2- Black, Roof 15- Core 1, Roof 15- Core 2, Roof 15- Mech 1, Roof 15- Mech 2, Roof 15- Roof Edge 1, Roof 15- Roof Edge 2</p>	Black	<p>LS-13-RM-1, LS-13-RM-3, LS-13-RM-5, LS-13-RM-7, LS-13-RM-9, LS-13-RM-11, LS-12-RM-1, LS-12-RM-3, LS-12-RM-5, LS-12-RM-8, LS-12-RM-11, LS-14-RM-1, LS-14-RM-3, LS-14-RM-5, LS-14-RM-7, LS-14-RM-9, LS-14-RM-11, LS-14-RM-13, LS-14-RM-15, LS-16-RM-1, LS-16-RM-2, LS-15-RM-1, LS-15-RM-4, LS-15-RM-7, LS-15-RM-10, LS-15-RM-13, LS-15-RM-16</p>