

DATE: September 1, 2022

DEPARTMENT OF GENERAL SERVICES  
BUREAU OF CAPITAL PROJECT DESIGN MANAGEMENT  
1800 HERR STREETS  
HARRISBURG, PENNSYLVANIA

**ADDENDUM NO. 5**

**on**

**PROJECT NO. DGS C-1101-0054 PHASE 001**

**PROJECT TITLE - Lincoln University - Renovations to Cresson Hall**

**PROFESSIONAL:**

Voith & Mactavish Architects  
2401 Walnut Street, 6th Floor  
Philadelphia, PA, 19103

**If you submitted a bid through e-Builder prior to this Addendum being issued, your bid has been discarded and you must re-submit your bid(s) through e-Builder prior to the bid opening date and time. Please see Section 4.C. of the Instruction to Bidder**

Refer to attached for Addendum information.

DEPARTMENT OF GENERAL SERVICES  
BUREAU PRE-CONSTRUCTION  
1800 HERR STREET  
HARRISBURG, PENNSYLVANIA

**ADDENDUM NO. 5**

on

**PROJECT NO. DGS C-1101-0054 PHASE 1**

**Cresson Hall Renovations – Lincoln University – Oxford Township, Chester County, Pennsylvania**

**Voith and Mactavish LLC  
2401 Walnut Street 6<sup>th</sup> floor  
Philadelphia, PA 19103**

**ADMINISTRATIVE CHANGES – ALL CONTRACTS**

Item 1 - Bid Due Date Extension: The submission date is extended one week to Tuesday 9/20/22.

**GENERAL CHANGES – ALL CONTRACTS**

No changes.

**RFI RESPONSES - CONTRACT DGS C-1101-0054 ALL PHASES**

Item 1 – Additional Site Visits

**RFI:** Can a contact name and number be provided for a site visit to the building?

**Response:** Joe Slagle can assist with access. His Cell number is: 717-682-0888.

Item 2 – Bid Bond/Bid Guaranty

**RFI:** I was looking over the Notice To Proposers and it states under the Bid guaranty that a Bid Guaranty is not required for this project. I just want to make sure that we do not need a bid bond for this project. Please advise.

**Response:** No Bid Guaranty/Bond is required.

Item 3 – Subcontractor Bonding Requirement

**RFI:** It's understood all primes are required to provide a contract bond, however, language contained in both the SDB and the VBE participation packet references a possible bonding requirement for any subcontractor. Please clarify if subcontractors are required to provide contract bonds or if their work is considered to be covered under the prime contractor's contract bond.

**Response:** Subcontractors are not required to provide contract bonds to the Department of General Services on this project. The Prime Contractor's Contract Bond speaks for itself and covers all work by the Prime Contractor and all subcontractors under the Prime Contractor.

Item 4 – Scoring Matrix for Technical Submission

**RFI:** Do we need to have this filled out for the bid, or is it for the Coordinator and office staff that will be going over our bid to make sure that we have everything correct? Please advise. (It is appendix O)

**Response:** This refers to the scoring matrix that the ad hoc committee will be using as they review the technical proposals. It was provided so that contractors will have an idea what will be evaluated in their submission.

Item 5 – ACH Fee

**RFI:** ACH which addendum #3 says we are required to use for billing, however the addendum does not indicate who will be responsible for the monthly fee to use the system. Please clarify who will be responsible for the ACH monthly fee.

**Response:** If a vendor's bank charges a fee to accept ACH payments from the Commonwealth of Pennsylvania, Pennsylvania Treasury, or the Department of General Services, those fees would be paid by the vendor receiving the ACH payment.

Item 6 – Substitution Request

**RFI:** Substitution Request: How do we go about submitting a substitution request, is that done here? There's no option to upload support docs.

**Response:** Substitution requests are not considered during the bidding phase. Once the project moves into Construction, consideration may be given.

Item 7 – Geotechnical Report

**RFI:** Is there a test boring log for this project?

**Response:** No geotechnical investigation was performed for this project. The report titled "KH Cresson Hall - Initial Subsurface and Related Site Reports" describes the survey of existing geotechnical documentation, is included in Addendum #5.

Item 8 – Hazardous Materials Reports

**RFI:** Can you please provide the Asbestos Report for Cresson Hall?

**Response:** Reports for ACM, Fungal, Lead Paint, and Universal Waste surveys are included in Addendum #5.

Item 9 – Firestopping

**RFI:** Who owns penetration firestopping? There is a spec section dedicated to penetration firestopping in 078413; however, this also seems to be covered in multiple specification sections in the mechanical and plumbing specifications. Please advise.

**Response:** All prime contractors are responsible to provide firestopping for work falling within their respective contracts.

Item 10 – Roof Penetrations, Coordination and Sealing

**RFI:** Specification 010100-1 paragraph 1.5, B, 6 indicates the GC to coordinate roof penetrations with the .2 contractor. Please clarify if the .1 contractor will be responsible for sealing any roof penetrations for the .3 contractor also.

**Response:** (.1) contractor is responsible for sealing any roof penetrations made by other prime contractors.

RFI RESPONSES - CONTRACT DGS C-1101-0054 PHASE 1.1

Item 1 – Plumbing and Sitework Scope Extents

**RFI:** Specifications are unclear where the plumbing contractor (.3) scope of work will stop and the site work (.1) contractor work will start.

**Response:** (.3) contract extends to 5'-0" beyond the exterior of the building wall, with the exception that at the rear porch (.3) contract extends to 5'-0" beyond the extent of the rear porch. Work beyond these 5'-0" limits is within (.1) contract.

Item 2 – Rainwater Piping

**RFI:** There isn't any rainwater piping indicated on the plumbing drawings, please confirm that the plumbing (.3) contractor will not be responsible for any aboveground rainwater or underground storm water piping.

**Response:** There is no rainwater piping under the (.3) contract. All downspouts in (.1) contract.

Item 3 – Roofing – Existing Roof Material

**RFI:** Since the building is currently wrapped the existing roof type is unknown. The type of the existing roof affects the difficulty of removal and the number of dumpsters required for disposal. It is believed to be slate. Please confirm.

**Response:** Existing roof material is slate at cupola only. The balance of the roof is asphalt shingle.

Item 4 – Roofing – Slate Color

**RFI:** Specification section 073126, Part 2.2, A, 5 notes "Color... provide manufacturers full range." The pricing of slate varies greatly from color to color. Can a color be provided for bidding purposes? It appears that the color Grayson slate found at <https://www.vermontstructuralslate.com/stones/> is similar to the slate on adjacent buildings.

**Response:** The design intent is to match the color of the existing original slate. Several photos are included for reference. A mix of unfading green and unfading gray (50-50) is likely to be a closer match than the grayson slate. The following images are included in Addendum #5 for reference:

- LU Cresson Existing Roof Slate 1
- LU Cresson Existing Roof Slate 2
- LU Cresson Existing Roof Slate 3
- LU Cresson Existing Roof Slate 4
- LU Cresson Existing Roof Slate 5

#### Item 5 – Roofing – Roof Slopes

**RFI:** The roof slopes are not shown on the drawing or elevations. Please provide.

**Response:** The slope of the roof is existing to remain. For bidding purposes, assume the roof is 8:12, with small variations, (.1) contractor will be responsible to verify roof slopes during construction. The slope of the mansard, of course, varies significantly.

#### Item 6 – Roofing – Sheathing Material to be Replaced

**RFI:** Roof Plan A1.5 – Arrows point at the main roof area and notes “BB2 ... Assume 30% of existing substrate to be replaced. Please clarify the type and thickness of sheathing to be figured for replacement at this location, as this is not indicated on the structural drawings.

**Response:** The current sheathing is true 1" thickness plank board.

#### Item 7 – Roofing – BB1 Scope

**RFI:** Drawing A1.2 – Please confirm that the roofing at the East Porch, South stair porch, West entry porch, and West elev exit porch are part of the base bid one.

**Response:** Confirmed.

### RFI RESPONSES - CONTRACT DGS C-1101-0054 PHASE 1.2

#### Item 1 – Duct Lining

**RFI:** Spec. 233113-13 G. talks of Liner for SA, RA, and Transfers are we to assume all these systems are lined or only if indicated on plans?

**Response:** Lining is required only as indicated on plans. See revised plans included in Addendum #5.

### RFI RESPONSES - CONTRACT DGS C-1101-0054 PHASE 1.3

#### Item 1 – Plumbing and Sitework Scope Extents

**RFI:** Specifications are unclear where the plumbing contractor (.3) scope of work will stop and the site work (.1) contractor work will start.

**Response:** (.3) contract extends to 5'-0" beyond the exterior of the building wall, with the exception that at the rear porch (.3) contract extends to 5'-0" beyond the extent of the rear porch. Work beyond these 5'-0" limits is within (.1) contract.

#### Item 2 – Rainwater Piping

**RFI:** There isn't any rainwater piping indicated on the plumbing drawings, please confirm that the plumbing (.3) contractor will not be responsible for any aboveground rainwater or underground storm water piping.

**Response:** There is no rainwater piping under the (.3) contract. All downspouts in (.1) contract.

#### Item 3 – Plumbing Insulation Jacketing

**RFI:** Specification page 220719-15 indicates in paragraph 3.13 that all exposed interior insulation will require a pvc jacket, please clarify if this will be required in mechanical rooms and occupied spaces.

**Response:** In section 220719 and 230719 the indoor Field-Applied PVC jacket on the piping insulation is not required on the Basement and Attic levels.

### RFI RESPONSES - CONTRACT DGS C-1101-0053 PHASE 1.4

#### Item 1 - Electrical Bid Package

**RFI:** When I was under PA Emarketplace I noticed that Electrical was not listed in order to get Bid Document (Drawings and Specs). But it states that there is an Electrical Bid. Please advise.

**Response:** Utilize the PA eMarketplace link:

<http://www.emarketplace.state.pa.us/Solicitations.aspx?SID=DGS%20C-1101-0054%20Phase%201>

The Electrical Construction bid package is listed in the advertisement. Once you click on the Electrical Construction link you will be directed to eBuilder to either log in with your username and password or create a username and password. The bidding documents will be under the Invitation Documents tab in the bid package.

SPECIFICATION CHANGES – CONTRACT NO. DGS C-1101-0053 PHASE 1.1

No changes.

SPECIFICATION CHANGES – CONTRACT NO. DGS C-1101-0053 PHASE 1.2

Item 1 – Section 230713 Duct Insulation

- This section has been revised and is included in Addendum #5.

SPECIFICATION CHANGES – CONTRACT NO. DGS C-1101-0053 PHASE 1.3

Item 1 – Section 221123 Hot Water Recirculation Pumps

- This section was previously missing and is included in Addendum #5.

SPECIFICATION CHANGES – CONTRACT NO. DGS C-1101-0053 PHASE 1.4

No changes.

DRAWING CHANGES – CONTRACT NO. DGS C-1101-0053 ALL CONTRACTS

Item 1 – Sheet A2.3 Reflected Ceiling Plan

- This sheet was previously missing and is included in Addendum #5.

DRAWING CHANGES – CONTRACT NO. DGS C-1101-0053 PHASE 1.1

No changes.

DRAWING CHANGES – CONTRACT NO. DGS C-1101-0053 PHASE 1.2

Item 1 – H1-00 Basement HVAC Plan

- Drawing provides duct lining clarification

Item 2 – H1-04 Attic HVAC Plan

- Drawing provides duct lining clarification

DRAWING CHANGES – CONTRACT NO. DGS C-1101-0053 PHASE 1.3

No changes.

DRAWING CHANGES – CONTRACT NO. DGS C-1101-0053 PHASE 1.4

No changes.

## SECTION 221123 - DOMESTIC WATER PUMPS

### PART 1 - GENERAL

#### 1.1 STIPULATIONS

- A. The specifications sections “General Conditions of the Construction Contract”, “Special Conditions”, and “Division 1 – General Requirements” form a part of this Section by this reference thereto and shall have the same force and effect as if printed herewith in full.

#### 1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.3 SUMMARY

- A. Section Includes:
  - 1. In-line, sealless centrifugal pumps.
- B. Related Sections include the following:
  - 1. Section 221123.13 "Domestic-Water Packaged Booster Pumps" for booster systems.

#### 1.4 DEFINITIONS

- A. Low Voltage: As defined in NFPA 70 for circuits and equipment operating at less than 50 V or for remote-control, signaling power-limited circuits.

#### 1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include materials of construction, rated capacities, certified performance curves with operating points plotted on curves, operating characteristics, electrical characteristics, and furnished specialties and accessories.

#### 1.6 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For domestic water pumps to include in operation and maintenance manuals.

1.7 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. UL Compliance: Comply with UL 778 for motor-operated water pumps.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Retain shipping flange protective covers and protective coatings during storage.

PART 2 - PRODUCTS

2.1 IN-LINE, SEALLESS CENTRIFUGAL PUMPS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. Armstrong Pumps, Inc.
  - 2. Bell & Gossett; a Xylem brand.
  - 3. Grundfos Pumps Corp.
  - 4. TACO Incorporated.
- B. Description: Factory-assembled and -tested, in-line, close-coupled, canned-motor, sealless, overhung-impeller centrifugal pumps.
- C. Pump Construction:
  - 1. Pump and Motor Assembly: Hermetically sealed, replaceable-cartridge type with motor and impeller on common shaft and designed for installation with pump and motor shaft horizontal.
  - 2. Casing: Bronze, with threaded or companion-flange connections.
  - 3. Impeller: Plastic.
  - 4. Motor: Single speed, unless otherwise indicated.

2.2 CONTROLS

- A. Timers: Electric, for control of hot-water circulation pump.
  - 1. Type: Programmable, seven-day clock with manual override on-off switch.
  - 2. Enclosure: NEMA 250, Type 1, suitable for wall mounting.
  - 3. Operation of Pump: On or off.
  - 4. Transformer: Provide if required.
  - 5. Power Requirement: 120-V ac.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine roughing-in of domestic-water-piping system to verify actual locations of connections before pump installation.

#### 3.2 PUMP INSTALLATION

- A. Comply with HI 1.4.
- B. Install in-line, sealless centrifugal pumps with shaft horizontal unless otherwise indicated.
- C. Install timers on wall.

#### 3.3 CONNECTIONS

- A. Comply with requirements for piping specified in Section 221116 "Domestic Water Piping." Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Install piping adjacent to pumps to allow service and maintenance.
- C. Connect timers to pumps that they control.

#### 3.4 IDENTIFICATION

- A. Comply with requirements for identification specified in Section 220553 "Identification for Plumbing Piping and Equipment" for identification of pumps.

#### 3.5 STARTUP SERVICE

- A. Perform startup service.
  - 1. Complete installation and startup checks according to manufacturer's written instructions.
  - 2. Check piping connections for tightness.
  - 3. Clean strainers on suction piping.
  - 4. Set timers for automatic starting and stopping operation of pumps.
  - 5. Perform the following startup checks for each pump before starting:
    - a. Verify that pump is free to rotate by hand and that pump for handling hot liquid is free to rotate with pump hot and cold. If pump is bound or drags, do not operate until cause of trouble is determined and corrected.
    - b. Verify that pump is rotating in the correct direction.
  - 6. Start motor.
  - 7. Adjust timer settings.

END OF SECTION 221123

## SECTION 230713 - DUCT INSULATION

### PART 1 - GENERAL

#### 1.1 STIPULATIONS

- A. The specifications sections “General Conditions of the Construction Contract”, “Special Conditions”, and “Division 1 – General Requirements” form a part of this Section by this reference thereto and shall have the same force and effect as if printed herewith in full.

#### 1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.3 SUMMARY

- A. Section includes insulating the following duct services:
  - 1. Indoor, concealed supply, **return**, and outdoor air.
  - 2. Indoor, exposed supply, **return**, and outdoor air.
  - ~~3. Indoor, concealed return located in unconditioned space.~~
  - ~~4. Indoor, exposed return located in unconditioned space.~~
- B. Related Sections:
  - 1. Section 233113 "Metal Ducts" for duct liners.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include thermal conductivity, water-vapor permeance thickness, and jackets (both factory- and field-applied if any).

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer.

#### 1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Skilled mechanics who have successfully completed an apprenticeship program or another craft training program certified by the Department of Labor, Bureau of Apprenticeship and Training.

- B. Surface-Burning Characteristics: For insulation and related materials, as determined by testing identical products according to ASTM E 84, by a testing agency acceptable to authorities having jurisdiction. Factory label insulation and jacket materials and adhesive, mastic, tapes, and cement material containers, with appropriate markings of applicable testing agency.
  - 1. Insulation Installed Indoors: Flame-spread index of 25 or less, and smoke-developed index of 50 or less.
  - 2. Insulation Installed Outdoors: Flame-spread index of 75 or less, and smoke-developed index of 150 or less.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Packaging: Insulation material containers shall be marked by manufacturer with appropriate ASTM standard designation, type and grade, and maximum use temperature.

#### 1.8 COORDINATION

- A. Coordinate sizes and locations of supports, hangers, and insulation shields specified in Section 230529 "Hangers and Supports for HVAC Piping and Equipment."
- B. Coordinate clearance requirements with duct Installer for duct insulation application. Before preparing ductwork Shop Drawings, establish and maintain clearance requirements for installation of insulation and field-applied jackets and finishes and for space required for maintenance.

#### 1.9 SCHEDULING

- A. Schedule insulation application after sealing and pressure testing systems. Insulation application may begin on segments that have satisfactory test results.

### PART 2 - PRODUCTS

#### 2.1 INSULATION MATERIALS

- A. Comply with requirements in "Duct Insulation Schedule, General," "Indoor Duct and Plenum Insulation Schedule," and "Aboveground, Outdoor Duct and Plenum Insulation Schedule" articles for where insulating materials shall be applied.
- B. Products shall not contain asbestos, lead, mercury, or mercury compounds.
- C. Products that come in contact with stainless steel shall have a leachable chloride content of less than 50 ppm when tested according to ASTM C 871.
- D. Insulation materials for use on austenitic stainless steel shall be qualified as acceptable according to ASTM C 795.

- E. Mineral-Fiber Blanket Insulation: Mineral or glass fibers bonded with a thermosetting resin. Comply with ASTM C 553, Type II and ASTM C 1290, Type III with factory-applied FSK jacket.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Armstrong
    - b. Johns Manville; a Berkshire Hathaway company
    - c. Owens Corning
    - d. Or equal as approved by Professional
  2. FSK Jacket: Aluminum-foil, fiberglass-reinforced scrim with kraft-paper backing; complying with ASTM C 1136, Type II.
- F. Mineral-Fiber Board Insulation: Mineral or glass fibers bonded with a thermosetting resin. Comply with ASTM C 612, Type IA or Type IB. For duct and plenum applications, provide insulation with factory-applied FSK jacket.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Armstrong
    - b. Johns Manville; a Berkshire Hathaway company
    - c. Owens Corning
    - d. Or equal as approved by Professional
  2. FSK Jacket: Aluminum-foil, fiberglass-reinforced scrim with kraft-paper backing; complying with ASTM C 1136, Type II.

## 2.2 ADHESIVES

- A. Materials shall be compatible with insulation materials, jackets, and substrates and for bonding insulation to itself and to surfaces to be insulated unless otherwise indicated.
- B. Mineral-Fiber and FSK Jacket Adhesive: Comply with MIL-A-3316C, Class 2, Grade A.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Childers Brand; H. B. Fuller Construction Products
    - b. Eagle Bridges - Marathon Industries
    - c. Foster Brand; H. B. Fuller Construction Products
    - d. Mon-Eco Industries, Inc.
    - e. Or equal as approved by Professional
  2. For indoor applications, adhesive shall have a VOC content of 80 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

## 2.3 MASTICS

- A. Materials shall be compatible with insulation materials, jackets, and substrates; comply with MIL-PRF-19565C, Type II.
  - 1. For indoor applications, use mastics that have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- B. Vapor-Barrier Mastic: Water based; suitable for indoor use on below ambient services.
  - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Foster Brand; H. B. Fuller Construction Products
    - b. Knauf Insulation
    - c. Vimasco Corporation
    - d. Or equal as approved by Professional
  - 2. Water-Vapor Permeance: ASTM E 96/E 96M, Procedure B, 0.013 perm at 43-mil dry film thickness.
  - 3. Service Temperature Range: Minus 20 to plus 180 deg F.
  - 4. Solids Content: ASTM D 1644, 58 percent by volume and 70 percent by weight.
  - 5. Color: White.

## 2.4 SEALANTS

- A. FSK Jacket Flashing Sealants:
  - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Childers Brand; H. B. Fuller Construction Products
    - b. Eagle Bridges - Marathon Industries
    - c. Foster Brand; H. B. Fuller Construction Products
    - d. Mon-Eco Industries, Inc.
    - e. Or equal as approved by Professional
  - 2. Materials shall be compatible with insulation materials, jackets, and substrates.
  - 3. Fire- and water-resistant, flexible, elastomeric sealant.
  - 4. Service Temperature Range: Minus 40 to plus 250 deg F.
  - 5. Color: Aluminum.
  - 6. For indoor applications, sealants shall have a VOC content of 420 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

## 2.5 FIELD-APPLIED JACKETS

- A. Field-applied jackets shall comply with ASTM C 921, Type I, unless otherwise indicated.

- B. FSK Jacket: Aluminum-foil-face, fiberglass-reinforced scrim with kraft-paper backing.
- C. Metal Jacket:
  - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Childers Brand; H. B. Fuller Construction Products
    - b. ITW Insulation Systems; Illinois Tool Works, Inc.
    - c. RPR Products, Inc.
    - d. Or equal as approved by Professional
  - 2. Aluminum Jacket: Comply with ASTM B 209, Alloy 3003, 3005, 3105, or 5005, Temper H-14.
    - a. Sheet and roll stock ready for shop or field sizing.
    - b. Finish and thickness are indicated in field-applied jacket schedules.
    - c. Moisture Barrier for Outdoor Applications: 3-mil-thick, heat-bonded polyethylene and kraft paper.

## 2.6 TAPES

- A. FSK Tape: Foil-face, vapor-retarder tape matching factory-applied jacket with acrylic adhesive; complying with ASTM C 1136.
  - 1. Width: 3 inches.
  - 2. Thickness: 6.5 mils.
  - 3. Adhesion: 90 ounces force/inch in width.
  - 4. Elongation: 2 percent.
  - 5. Tensile Strength: 40 lbf/inch in width.
  - 6. FSK Tape Disks and Squares: Precut disks or squares of FSK tape.
- B. Aluminum-Foil Tape: Vapor-retarder tape with acrylic adhesive.
  - 1. Width: 2 inches.
  - 2. Thickness: 3.7 mils.
  - 3. Adhesion: 100 ounces force/inch in width.
  - 4. Elongation: 5 percent.
  - 5. Tensile Strength: 34 lbf/inch in width.

## 2.7 SECUREMENTS

- A. Bands:
  - 1. Aluminum: ASTM B 209, Alloy 3003, 3005, 3105, or 5005; Temper H-14, 0.020 inch thick, 3/4 inch wide with closed seal.
  - 2. Springs: Twin spring set constructed of stainless steel with ends flat and slotted to accept metal bands. Spring size determined by manufacturer for application.

B. Insulation Pins and Hangers:

1. Capacitor-Discharge-Weld Pins: Copper- or zinc-coated steel pin, fully annealed for capacitor-discharge welding, 0.106-inch- diameter shank, length to suit depth of insulation indicated.
2. Metal, Adhesively Attached, Perforated-Base Insulation Hangers: Baseplate welded to projecting spindle that is capable of holding insulation, of thickness indicated, securely in position indicated when self-locking washer is in place. Comply with the following requirements:
  - a. Baseplate: Perforated, galvanized carbon-steel sheet, 0.030 inch thick by 2 inches square.
  - b. Spindle: Zinc-coated, low-carbon steel, fully annealed, 0.106-inch-diameter shank, length to suit depth of insulation indicated.
  - c. Adhesive: Recommended by hanger manufacturer. Product with demonstrated capability to bond insulation hanger securely to substrates indicated without damaging insulation, hangers, and substrates.
3. Self-Sticking-Base Insulation Hangers: Baseplate welded to projecting spindle that is capable of holding insulation, of thickness indicated, securely in position indicated when self-locking washer is in place. Comply with the following requirements:
  - a. Baseplate: Galvanized carbon-steel sheet, 0.030 inch thick by 2 inches square.
  - b. Spindle: Zinc-coated, low-carbon steel, fully annealed, 0.106-inch-diameter shank, length to suit depth of insulation indicated.
  - c. Adhesive-backed base with a peel-off protective cover.
4. Insulation-Retaining Washers: Self-locking washers formed from 0.016-inch-thick, galvanized-steel sheet, with beveled edge sized as required to hold insulation securely in place but not less than 1-1/2 inches in diameter.

C. Staples: Outward-clinching insulation staples, nominal 3/4-inch-wide, stainless steel or Monel.

D. Wire: 0.062-inch soft-annealed, stainless steel.

2.8 CORNER ANGLES

- A. PVC Corner Angles: 30 mils thick, minimum 1 by 1 inch, PVC according to ASTM D 1784, Class 16354-C. White or color-coded to match adjacent surface.
- B. Aluminum Corner Angles: 0.040 inch thick, minimum 1 by 1 inch, aluminum according to ASTM B 209, Alloy 3003, 3005, 3105, or 5005; Temper H-14.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine substrates and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of insulation application.
  - 1. Verify that systems to be insulated have been tested and are free of defects.
  - 2. Verify that surfaces to be insulated are clean and dry.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Surface Preparation: Clean and dry surfaces to receive insulation. Remove materials that will adversely affect insulation application.

#### 3.3 GENERAL INSTALLATION REQUIREMENTS

- A. Install insulation materials, accessories, and finishes with smooth, straight, and even surfaces; free of voids throughout the length of ducts and fittings.
- B. Install insulation materials, vapor barriers or retarders, jackets, and thicknesses required for each item of duct system as specified in insulation system schedules.
- C. Install accessories compatible with insulation materials and suitable for the service. Install accessories that do not corrode, soften, or otherwise attack insulation or jacket in either wet or dry state.
- D. Install insulation with longitudinal seams at top and bottom of horizontal runs.
- E. Keep insulation materials dry during application and finishing.
- F. Install insulation with tight longitudinal seams and end joints. Bond seams and joints with adhesive recommended by insulation material manufacturer.
- G. Install insulation with least number of joints practical.
- H. Where vapor barrier is indicated, seal joints, seams, and penetrations in insulation at hangers, supports, anchors, and other projections with vapor-barrier mastic.
  - 1. Install insulation continuously through hangers and around anchor attachments.
  - 2. For insulation application where vapor barriers are indicated, extend insulation on anchor legs from point of attachment to supported item to point of attachment to structure. Taper and seal ends at attachment to structure with vapor-barrier mastic.
  - 3. Install insert materials and install insulation to tightly join the insert. Seal insulation to insulation inserts with adhesive or sealing compound recommended by insulation material manufacturer.

- I. Apply adhesives, mastics, and sealants at manufacturer's recommended coverage rate and wet and dry film thicknesses.
- J. Install insulation with factory-applied jackets as follows:
  - 1. Draw jacket tight and smooth.
  - 2. Cover circumferential joints with 3-inch-wide strips, of same material as insulation jacket. Secure strips with adhesive and outward clinching staples along both edges of strip, spaced 4 inches o.c.
  - 3. Overlap jacket longitudinal seams at least 1-1/2 inches. Clean and dry surface to receive self-sealing lap. Staple laps with outward clinching staples along edge at 4 inches o.c.
    - a. For below ambient services, apply vapor-barrier mastic over staples.
  - 4. Cover joints and seams with tape, according to insulation material manufacturer's written instructions, to maintain vapor seal.
  - 5. Where vapor barriers are indicated, apply vapor-barrier mastic on seams and joints and at ends adjacent to duct flanges and fittings.
- K. Cut insulation in a manner to avoid compressing insulation more than 75 percent of its nominal thickness.
- L. Finish installation with systems at operating conditions. Repair joint separations and cracking due to thermal movement.
- M. Repair damaged insulation facings by applying same facing material over damaged areas. Extend patches at least 4 inches beyond damaged areas. Adhere, staple, and seal patches similar to butt joints.

### 3.4 PENETRATIONS

- A. Insulation Installation at Roof Penetrations: Install insulation continuously through roof penetrations.
  - 1. Seal penetrations with flashing sealant.
  - 2. For applications requiring only indoor insulation, terminate insulation above roof surface and seal with joint sealant. For applications requiring indoor and outdoor insulation, install insulation for outdoor applications tightly joined to indoor insulation ends. Seal joint with joint sealant.
  - 3. Extend jacket of outdoor insulation outside roof flashing at least 2 inches below top of roof flashing.
  - 4. Seal jacket to roof flashing with flashing sealant.
- B. Insulation Installation at Aboveground Exterior Wall Penetrations: Install insulation continuously through wall penetrations.
  - 1. Seal penetrations with flashing sealant.
  - 2. For applications requiring only indoor insulation, terminate insulation inside wall surface and seal with joint sealant. For applications requiring indoor and outdoor insulation,

- install insulation for outdoor applications tightly joined to indoor insulation ends. Seal joint with joint sealant.
3. Extend jacket of outdoor insulation outside wall flashing and overlap wall flashing at least 2 inches.
  4. Seal jacket to wall flashing with flashing sealant.
- C. Insulation Installation at Interior Wall and Partition Penetrations (That Are Not Fire Rated):  
Install insulation continuously through walls and partitions.
- D. Insulation Installation at Fire-Rated Wall and Partition Penetrations: Terminate insulation at fire damper sleeves for fire-rated wall and partition penetrations. Externally insulate damper sleeves to match adjacent insulation and overlap duct insulation at least 2 inches.
1. Seal penetrations through fire rated assemblies with fire stopping sealant.
- E. Insulation Installation at Floor Penetrations:
1. Duct: For penetrations through fire-rated assemblies, terminate insulation at fire damper sleeves and externally insulate damper sleeve beyond floor to match adjacent duct insulation. Overlap damper sleeve and duct insulation at least 2 inches.
  2. Seal penetrations through fire rated assemblies with fire stopping sealant.

### 3.5 INSTALLATION OF MINERAL-FIBER INSULATION

- A. Blanket Insulation Installation on Ducts and Plenums: Secure with adhesive and insulation pins.
1. Apply adhesives according to manufacturer's recommended coverage rates per unit area, for 50 percent coverage of duct and plenum surfaces.
  2. Apply adhesive to entire circumference of ducts and to all surfaces of fittings and transitions.
  3. Install either capacitor-discharge-weld pins and speed washers on sides and bottom of horizontal ducts and sides of vertical ducts as follows:
    - a. On duct sides with dimensions 18 inches and smaller, place pins along longitudinal centerline of duct. Space 3 inches maximum from insulation end joints, and 16 inches o.c.
    - b. On duct sides with dimensions larger than 18 inches, place pins 16 inches o.c. each way, and 3 inches maximum from insulation joints. Install additional pins to hold insulation tightly against surface at cross bracing.
    - c. Pins may be omitted from top surface of horizontal, rectangular ducts and plenums.
    - d. Do not overcompress insulation during installation.
    - e. Impale insulation over pins and attach speed washers.
    - f. Cut excess portion of pins extending beyond speed washers or bend parallel with insulation surface. Cover exposed pins and washers with tape matching insulation facing.
  4. For ducts and plenums with surface temperatures below ambient, install a continuous unbroken vapor barrier. Create a facing lap for longitudinal seams and end joints with insulation by removing 2 inches from one edge and one end of insulation segment. Secure laps to adjacent insulation section with 1/2-inch outward-clinching staples, 1 inch

- o.c. Install vapor barrier consisting of factory- or field-applied jacket, adhesive, vapor-barrier mastic, and sealant at joints, seams, and protrusions.
    - a. Repair punctures, tears, and penetrations with tape or mastic to maintain vapor-barrier seal.
    - b. Install vapor stops for ductwork and plenums operating below 50 deg F at 18-foot intervals. Vapor stops shall consist of vapor-barrier mastic applied in a Z-shaped pattern over insulation face, along butt end of insulation, and over the surface. Cover insulation face and surface to be insulated a width equal to two times the insulation thickness, but not less than 3 inches.
  - 5. Overlap unfaced blankets a minimum of 2 inches on longitudinal seams and end joints. At end joints, secure with steel bands spaced a maximum of 18 inches o.c.
  - 6. Install insulation on rectangular duct elbows and transitions with a full insulation section for each surface. Install insulation on round and flat-oval duct elbows with individually mitered gores cut to fit the elbow.
  - 7. Insulate duct stiffeners, hangers, and flanges that protrude beyond insulation surface with 6-inch-wide strips of same material used to insulate duct. Secure on alternating sides of stiffener, hanger, and flange with pins spaced 6 inches o.c.
- B. Board Insulation Installation on Ducts and Plenums: Secure with adhesive and insulation pins.
- 1. Apply adhesives according to manufacturer's recommended coverage rates per unit area, for 100 percent coverage of duct and plenum surfaces.
  - 2. Apply adhesive to entire circumference of ducts and to all surfaces of fittings and transitions.
  - 3. Install either capacitor-discharge-weld pins and speed washers on sides and bottom of horizontal ducts and sides of vertical ducts as follows:
    - a. On duct sides with dimensions 18 inches and smaller, place pins along longitudinal centerline of duct. Space 3 inches maximum from insulation end joints, and 16 inches o.c.
    - b. On duct sides with dimensions larger than 18 inches, space pins 16 inches o.c. each way, and 3 inches maximum from insulation joints. Install additional pins to hold insulation tightly against surface at cross bracing.
    - c. Pins may be omitted from top surface of horizontal, rectangular ducts and plenums.
    - d. Do not over-compress insulation during installation.
    - e. Cut excess portion of pins extending beyond speed washers or bend parallel with insulation surface. Cover exposed pins and washers with tape matching insulation facing.
  - 4. For ducts and plenums with surface temperatures below ambient, install a continuous unbroken vapor barrier. Create a facing lap for longitudinal seams and end joints with insulation by removing 2 inches from one edge and one end of insulation segment. Secure laps to adjacent insulation section with 1/2-inch outward-clinching staples, 1 inch o.c. Install vapor barrier consisting of factory- or field-applied jacket, adhesive, vapor-barrier mastic, and sealant at joints, seams, and protrusions.
    - a. Repair punctures, tears, and penetrations with tape or mastic to maintain vapor-barrier seal.

- b. Install vapor stops for ductwork and plenums operating below 50 deg F at 18-foot intervals. Vapor stops shall consist of vapor-barrier mastic applied in a Z-shaped pattern over insulation face, along butt end of insulation, and over the surface. Cover insulation face and surface to be insulated a width equal to two times the insulation thickness, but not less than 3 inches.
5. Install insulation on rectangular duct elbows and transitions with a full insulation section for each surface. Groove and score insulation to fit as closely as possible to outside and inside radius of elbows. Install insulation on round and flat-oval duct elbows with individually mitered gores cut to fit the elbow.
6. Insulate duct stiffeners, hangers, and flanges that protrude beyond insulation surface with 6-inch-wide strips of same material used to insulate duct. Secure on alternating sides of stiffener, hanger, and flange with pins spaced 6 inches o.c.

### 3.6 FIELD-APPLIED JACKET INSTALLATION

- A. Where metal jackets are indicated, install with 2-inch overlap at longitudinal seams and end joints. Overlap longitudinal seams arranged to shed water. Seal end joints with weatherproof sealant recommended by insulation manufacturer. Secure jacket with bands 12 inches o.c. and at end joints.

### 3.7 FINISHES

- A. Do not field paint aluminum jackets.

### 3.8 DUCT INSULATION SCHEDULE, GENERAL

- A. Plenums and Ducts Requiring Insulation:

1. Indoor, concealed supply and outdoor air.
2. Indoor, exposed supply and outdoor air.
3. Indoor, concealed return air.
4. Indoor, exposed return air

- B. Items Not Insulated:

1. Fibrous-glass ducts.
2. Metal ducts with duct liner of sufficient thickness to comply with energy code and ASHRAE/IESNA 90.1.
3. Factory-insulated flexible ducts.
4. Factory-insulated plenums and casings.
5. Flexible connectors.
6. Vibration-control devices.
7. Factory-insulated access panels and doors.

### 3.9 INDOOR DUCT AND PLENUM INSULATION SCHEDULE

- A. Insulation materials and thicknesses are identified below. If more than one material is listed for a duct system, selection from materials listed is Contractor's op/cu. ft. nominal density.
- B. Concealed, round duct insulation shall be the following:
  - 1. Mineral-Fiber Blanket: 1-1/2 inches thick and 1.5-lb/cu. ft. nominal density.
- C. Concealed, rectangular duct insulation shall be the following:
  - 1. Mineral-Fiber Blanket: 1-1/2 inches thick and 1.5-lb/cu. Ft nominal density.
- D. Concealed plenum insulation shall be the following:
  - 1. Mineral-Fiber Board: 1-1/2 inches thick and 3-lb/cu. ft. nominal density.
- E. Exposed, round and flat-oval duct insulation shall be the following:
  - 1. Mineral-Fiber Pipe and Tank: 1-1/2 inches thick.
  - 2. Mineral-Fiber Blanket: 1-1/2 inches thick and 1.5-lb

Exposed, rectangular, supply-air duct insulation shall be the following:

- 1. Mineral-Fiber Board: 1-1/2 inches thick and 3-lb/cu. ft. nominal density.
- F. Exposed plenum insulation shall be the following:
  - 1. Mineral-Fiber Board: 1-1/2 inches thick and 3-lb/cu. ft. nominal density.

### 3.10 INDOOR, FIELD-APPLIED JACKET SCHEDULE

- A. Ducts and Plenums, Concealed or Exposed:
  - 1. None.

END OF SECTION

**LIGHTING LEGEND**

SYMBOL	TYPE
	4" LED RECESSED DOWNLIGHT, IC RATED
	4" LED RECESSED DOWNLIGHT, OUTDOOR CANOPY
	4" LED RECESSED DOWNLIGHT, OUTDOOR CANOPY, ON EMERGENCY POWER
	4" LED RECESSED DOWNLIGHT, IC RATED, ON EMERGENCY POWER
	4" LED RECESSED DOWNLIGHT, IC RATED, MET LOCATION, LUTRON ECOSYSTEM DIM DRIVER
	4" LED RECESSED DOWNLIGHT, IC RATED, MET LOCATION, SHOWER
	4" LED RECESSED DOWNLIGHT, IC RATED, REGRESSED LENS
	4" LED RECESSED DOWNLIGHT, IC RATED, ADJUSTABLE MALL MASHER
	3 HEAD, RECESSED, AIMABLE SPOT LIGHTS, LUTRON ECOSYSTEM DIM DRIVER
	2.4" LED RECESSED 2.5" LINEAR MALL-TO-MALL, IC RATED, MALL MASHER, DRYMALL
	2.4" LED RECESSED LINEAR, IC RATED, MALL MASHER, GRID
	2.4" LED RECESSED LINEAR, IC RATED, MALL MASHER, DRYMALL
	14" LED SURFACE MOUNT
	14" LED SURFACE MOUNT, ON EMERGENCY POWER
	14" LED SURFACE MOUNT
	14" LED SURFACE MOUNT, ON EMERGENCY POWER
	16.5" DECORATIVE LED SURFACE MOUNT
	16.5" DECORATIVE LED SURFACE MOUNT, ON EMERGENCY POWER
	24" LED SURFACE MOUNT
	24" LED SURFACE MOUNT, ON EMERGENCY POWER
	32" LED SURFACE MOUNT

SYMBOL	TYPE
	28" LED BRONZE CHANDELIER, ON EMERGENCY POWER
	DECORATIVE PENDANT 34"
	DECORATIVE PENDANT 23"
	DECORATIVE EXTERIOR LANTERN, ON EMERGENCY POWER
	2" LED SURFACE LINEAR
	2" LED SURFACE LINEAR, ON EMERGENCY POWER
	4" LED SURFACE LINEAR
	4" LED SURFACE LINEAR, ON EMERGENCY POWER
	LED LINEAR PENDANT, DIRECT/INDIRECT, REMOTE DRIVER, POWER OVER CABLE
	RESTROOM MALL SCONGE
	DECORATIVE LINEAR PENDANT
	DECORATIVE LINEAR PENDANT
	LED UNDER-CABINET LIGHTING
	LED UNDER-CABINET LIGHTING

SYMBOL	TYPE
	ADA, MALL MOUNT CYLINDER, 31 DEGREE FLOOD
	LED EXTERIOR RECESSED STEP LIGHT
	4" LED RECESSED DOWNLIGHT, IC RATED W/WIRELESS CONTROLS
	4" LED SURFACE LINEAR W/INTEGRAL MOTION/DAYLIGHT SENSOR, ON EMERGENCY POWER
	4" ENCLOSED & GASKETED FIBERGLASS EXTREME ENVIRONMENT

**HVAC DUCTWORK RUN COORDINATION STRATEGY:**

DESIGN INTENT IS FOR NEW MECHANICAL DUCTWORK TO RUN BETWEEN EXISTING JOISTS WITHIN THE FLOOR/CEILING ASSEMBLY AT LOCATIONS SERVING THE 2ND FLOOR STUDENT ROOMS, KITCHEN 211, LAUNDRY 212, AND GROUP STUDY 204. PRECISE LOCATION OF EXISTING JOISTS WILL NOT BE KNOWN UNTIL DEMOLITION OF EXISTING CEILING HAS BEEN COMPLETED. PROPOSED STUDENT ROOM CHASE WIDTHS AT THE 3RD FLOOR MAY REQUIRE ADJUSTMENT TO ACCOMMODATE INTENDED DUCTWORK RUNS - IF THE REQUIRED ADJUSTMENT EXTENDS ANY CHASE IN NORTH OR SOUTH DIRECTION MORE THAN 12" FROM PROVIDED LAYOUT, NOTIFY THE DESIGN PROFESSIONAL FOR FURTHER REVIEW. DUCTWORK RUNS, CHASES, AND EXISTING JOIST LOCATIONS MUST BE COORDINATED PRIOR TO SHOP DRAWINGS.

**RCP CEILING FINISH KEY:**

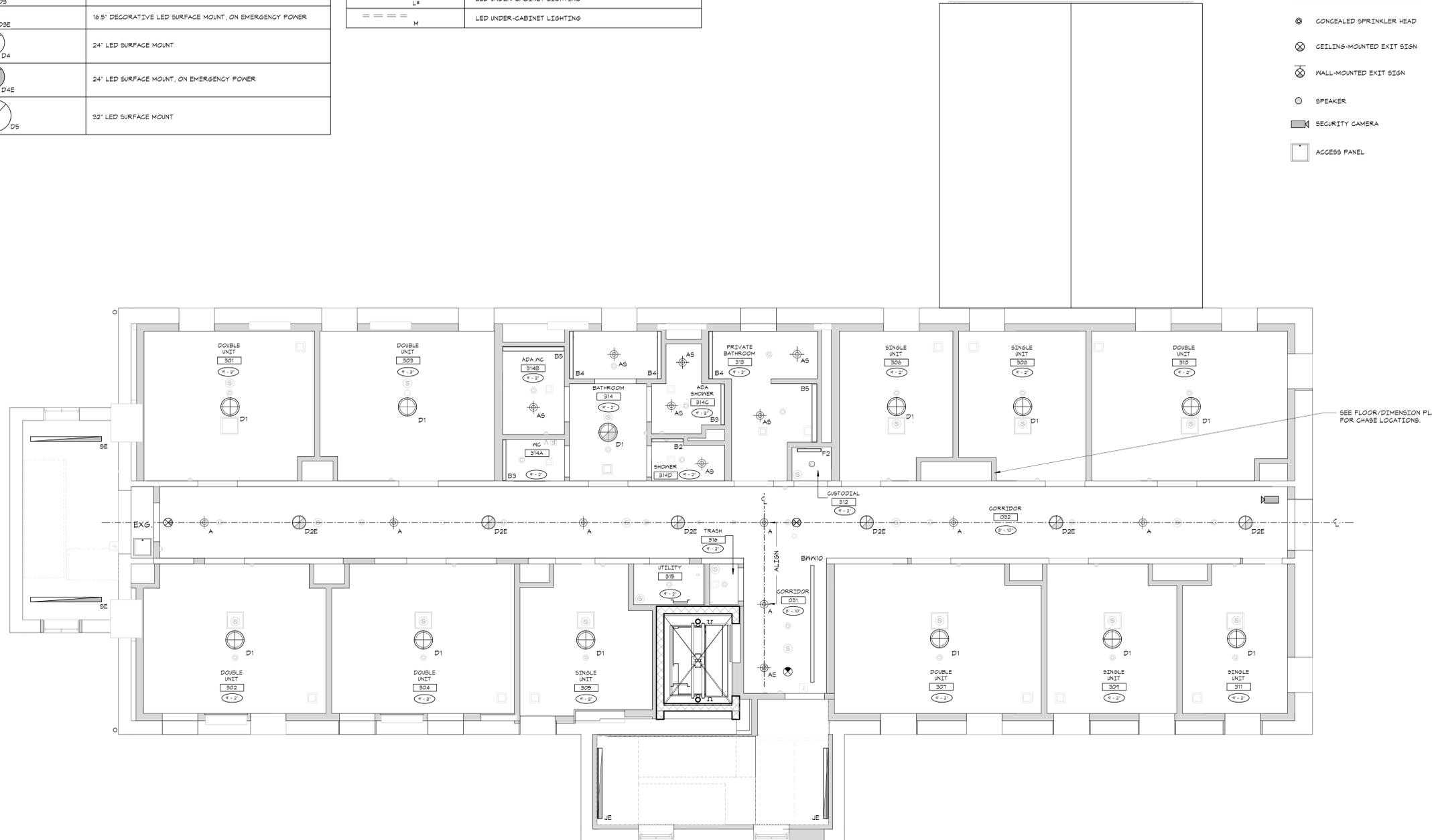
- 2X2 ACT
- PTD 6MB
- BEAD BOARD
- EXPOSED TO STRUCTURE (INSULATION LAYER AT UNDERSIDE OF SUBFLOOR ABOVE)
- PTD OR CLR STAINED CASED OPENING OR CEILING BEAM
- CONCEALED SPRINKLER HEAD
- CEILING-MOUNTED EXIT SIGN
- WALL-MOUNTED EXIT SIGN
- SPEAKER
- SECURITY CAMERA
- ACCESS PANEL

**RCP FIXED CEILING NOTES:**

THE CEILING HEIGHTS PROPOSED IN ROOMS 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114 & 115 ARE FIXED DUE TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, STRUCTURAL OR PLUMBING COMPONENTS. ALL ROOMS NOT INDICATED ON THIS

**GENERAL RCP NOTES:**

1. SEE INTERIOR ELEVATIONS TO CONFIRM CEILING INSTALLATION HEIGHTS. SELECT CEILING TO BE INSTALLED AT, OR SLIGHTLY ABOVE NEW WINDOW TRIM.
2. SEE ELECTRICAL LIGHTING FIXTURE SCHEDULE FOR ALL FIXTURE TYPES, DETAILS & CONTROLS. ARCHITECTURAL RCPs ARE PROVIDED FOR LAYOUT ONLY.
3. REFER TO ELECTRICAL DWGS FOR SWITCH INFORMATION.
4. CONTRACTOR TO COORDINATE LOCATIONS OF ALL CEILING-MOUNTED DEVICES TO ACHIEVE CEILING UNITY:
  - 4.1 PREFERENCE SHOULD BE GIVEN TO ALIGNING, CENTERING, AND/OR EQUALLY SPACING DEVICES AS APPROPRIATE U.N.O.
  - 4.2 IN A.C.T. CEILINGS, DEVICES ARE TO BE CENTERED IN TILE U.N.O.
  - 4.3 CEILING-MOUNTED DEVICES INCLUDE ANY AND ALL ITEMS ON THE CEILING INCLUDING, BUT NOT LIMITED TO, LIGHTING, SPRINKLER HEADS, MOTION DETECTOR, EXIT SIGNS & ACOUSTIC PANEL.
5. CONTRACTOR IS RESPONSIBLE FOR FURNISHING & INSTALLING ACCESS DOORS/PANELS AS REQUIRED FOR ALL EQUIPMENT. CONTRACTOR TO COORDINATE LOCATIONS OF ACCESS DOORS/PANELS WITH ARCHITECT PRIOR TO INSTALLATION.
6. LIGHTING FIXTURE TYPE & QUANTITY AT BASEMENT AND ATTIC SPACES AS PROVIDED BY ELECTRICAL DWGS.



1 THIRD FLOOR - RCP  
A2.3 1/4" = 1'-0"



CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS VARIANCE FROM THE CONTRACT DOCUMENTS NOT PERMITTED WITHOUT PROFESSIONAL & BUREAU OF CONSTRUCTION APPROVAL.	DRAWN BY MMM	DATE 07/21/2022	DRAWING No. A2.3
	CHECKED BY Checker	SCALE As indicated	

**VMA**  
Voith & Mactavish Architects LLP  
2401 Walnut Street, 6th Floor  
Philadelphia, PA 19103  
phone 215-545-4544 fax 215-545-3299  
www.voithandmactavish.com

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF GENERAL SERVICES  
HARRISBURG, PENNSYLVANIA

D.G.S. PROJECT No. DGS C-1101-0054  
CRESSON HALL BUILDING RENOVATIONS  
Lincoln University  
Lower Oxford Township, Chester County, PA

THIRD FLOOR REFLECTED CEILING PLAN

SIGNATURE DATE

08/30/2022 Addendum #5





August 11, 2021

John H. Cluver, AIA, LEED AP  
Partner  
Voith & Mactavish Architects LLP  
2401 Walnut Street, 6th Floor  
Philadelphia, PA 19103

Re: Lincoln University – Cresson Hall Renovations  
DGS Project # C-1101-0054  
Structural Engineering Initial Subsurface and Related Site Reports  
Keast & Hood Co. Project No. 200050A

Dear John:

This letter describes the site and existing conditions for the proposed renovations to Lincoln University's Cresson Hall and supplements our Structural Condition Assessment dated June 4th, 2021.

Cresson Hall, located on the Historic Quad of Lincoln University, plays a vital role in the story of the campus as the nation's first degree granting Historically Black College and University (HBCU). Built in 1870, Cresson Hall encompasses the 1856 two-story, five-bay President's House of the Ashmun Institute – the predecessor institution to the University – thus making it the oldest, and one of the most valuable historic resources on campus. The building has served primarily as a residence hall with remodeling campaigns in the 1960s and 1970s.

The building is currently vacant and in a state of disrepair, having experienced moisture intrusion from the roof for an extended period of time. Given the importance of Cresson Hall, the University, in conjunction with DGS, wishes to renovate and modernize the building to provide an up-to-date and safe living environment, space for exhibits and archives, and collaboration and research areas for students. A new elevator will be constructed within the building's footprint. A complete exterior envelope repair and restoration program will be required, as the exterior brick walls are in poor condition.

Keast & Hood visited the building on April 16th, 2021 for the purpose of visually observing the member sizes and physical conditions of the major structural components to the extent reasonably ascertainable without disturbing the floor, wall, or ceiling finishes. Keast & Hood visited the site again on May 28th, 2021 to perform small probes in the floors to collect more detailed measurements of existing conditions and structural elements. A test pit was also excavated in the basement to verify the depth of the existing west basement wall below grade.

The building's site is relatively flat with a gentle slope to the south. There are no discernable rock outcroppings or other predominate geological features of the site. The existing building does not exhibit signs of foundation settlement, with the exception of the east wall of the President's House portion which has wood bracing to buttress the basement wall. We believe that the bracing was installed to arrest the

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John Cluver, AIA, LEED AP | Voith & Mactavish Architects LLP

Re: Lincoln University – Cresson Hall Renovations

DGS Project # C-1101-0054

Initial Subsurface and Related Site Reports

lateral rotation of the foundation wall. The existing sidewalks and some minor landscaping will be modified as part of the overall project.

The Concept Design Drawings (dated 08/11/2021) document the scope of the structural interventions. The primary structural intervention for the building will be the addition of new steel beams and posts to support existing overstressed wood timber floor elements. The steel framing will be supported by reinforced concrete spread footings in the basement. The estimated loads on the posts will be, at maximum, approximately 60kips. No new building additions are planned for the site, though small exterior porches on the east and west facades will be added.

Some localized underpinning will be required a new stair down to the basement is being added on the west façade.

In order to repair the President's House basement walls and remove the temporary shoring, we have recommended that the soil around the perimeter of the building be excavated to enable the repointing, parging, and waterproofing of the exterior face of the rubble stone foundation walls, and permit the installation of a perimeter foundation drain around the entire extent of the building. A new foundation wall and footing would be cast against the existing bulging foundation wall to bolster and support it laterally.

New concrete slabs on grade over a vapor barrier have also been recommended for the basement areas. These would aide in conditioning these spaces and making them more serviceable.

We have been provided access to and have reviewed three geotechnical studies which were previously conducted for nearby buildings (Figure 1):

1. Azikiwe-Nkrumah Hall Geotechnical Evaluation, KAKS & Company, LLC (2013)
  - a. Six test borings to 30 ft depths
  - b. No water table encountered
  - c. Recommended bearing pressure for shallow foundations: 3000 psf
2. Amos Hall Geotechnical Investigation, Earth Engineering Incorporated (2019)
  - a. Five test borings to 30 ft depths
  - b. No water table encountered
  - c. Recommended bearing pressure for shallow foundations: 3000 psf
3. Vail Memorial Hall Geotechnical Evaluation, Duffield Associates (2020)
  - a. Six test borings to 30 ft depths
  - b. No water table encountered
  - c. Recommended bearing pressure for shallow foundations: 3000 psf

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John Cluver, AIA, LEED AP | Voith & Mactavish Architects LLP

Re: Lincoln University – Cresson Hall Renovations

DGS Project # C-1101-0054

Initial Subsurface and Related Site Reports

Based on the findings of the previous geotechnical reports, we believe it is prudent to assume a 3000 psf allowable bearing pressure for shallow foundations and to assume no water table should be encountered for the approach pit underpinning or elevator pit construction.

We do not believe it is necessary that a geotechnical investigation be performed at the project site, based on the following rationale:

1. The new foundation work described above is limited and almost entirely inside the building footprint.
2. New exterior porch structures will impart small loads on the new foundations, significantly under the presumed bearing capacity of the soils.
3. Three previous geotechnical reports are available for buildings in close proximity to the project site and the results of these reports are uniform.

We have previously discussed these recommendations with the design team and believe there is agreement that a new geotechnical investigation for this project site would be superfluous.

We look forward to continuing our work on this important and historic building. Please contact the undersigned with comments or questions.

KEAST & HOOD



Constantine G. Doukakis, P.E.

Senior Principal

Copy: Alex Stadel, PE, Laura Ryan, PE – Keast & Hood

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John Cluver, AIA, LEED AP | Voith & Mactavish Architects LLP

Re: Lincoln University – Cresson Hall Renovations

DGS Project # C-1101-0054

Initial Subsurface and Related Site Reports



*Photo Credit: Voith & Mactavish Architects*

Photo 1: Cresson Hall (Photo Looking West)

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John Cluver, AIA, LEED AP | Voith & Mactavish Architects LLP

Re: Lincoln University – Cresson Hall Renovations

DGS Project # C-1101-0054

Initial Subsurface and Related Site Reports

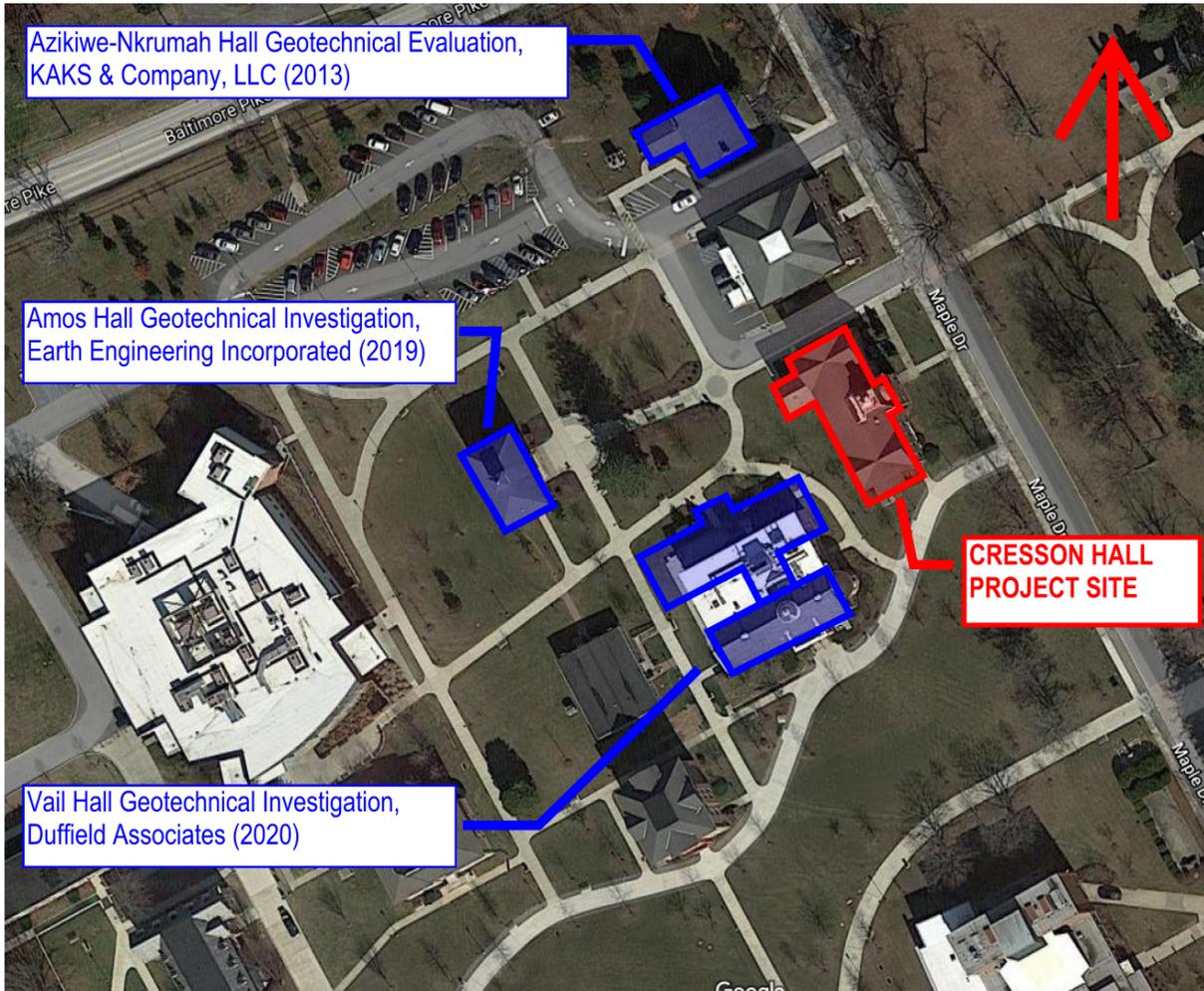


Figure 1: Aerial View of Site with Previous Geotechnical Investigation Locations (Google Maps, 2020)



# *Asbestos-Containing Materials Survey*



*Field  
Services*

**At:**

**Lincoln University  
Lincoln, PA  
Cresson Hall**



*Lab  
Services*

**For:**

**Ms. Elizabeth Nestor  
Voith & Mactavish Architects, LLC  
2401 Walnut Street  
6<sup>th</sup> Floor  
Philadelphia, PA 19103**

**Prepared By:**

**Mr. Eric Wysocki  
Project Manager**

**Report Date:**

**January 12, 2022**

**Project Number:**

**212727**

**Date of Project:**

**December 15-16, 2021**



*Training  
Services*

## **TABLE OF CONTENTS**

### ***Section Number***

- 1.0** Narratives
- 2.0** Asbestos Inventory
- 3.0** Suspect Materials Testing Negative for Asbestos Content
- 4.0** Sampling Methodology
- 5.0** Certifications

### **Attachments**

- ◆ Laboratory Results

## **1.0 NARRATIVE**

## 1.0 NARRATIVES

### 1.1 Purpose:

Criterion Laboratories, Inc. (Criterion) was contracted by Ms. Elizabeth Nestor of Voith & Mactavish Architects, LLC to perform an asbestos survey of Cresson Hall located on the campus of Lincoln University in Lincoln, PA.

The purpose of the survey was to identify and document asbestos-containing materials (ACM) for removal prior to renovations. The EPA's National Emission Standard for Hazardous Air Pollutants (NESHAP) regulation requires that buildings scheduled for renovations/demolition have an inspection identifying asbestos materials. OSHA's Construction Standard for Asbestos (29 CFR 1926.1101) requires that building materials installed prior to 1981 be inspected for asbestos or they must be classified as presumed asbestos-containing materials (PACM).

### 1.2 Personnel:

Mr. Michael Barth and Mr. Jonathan McKinnon of Criterion performed the building inspection on December 15-16, 2021. Mr. Barth and Mr. McKinnon are both EPA-accredited building inspectors licensed by the State of Pennsylvania.

### 1.3 Discussion and Survey Results:

A total of forty-six (46) samples were collected from the building. All samples were analyzed by Polarized Light Microscopy (PLM), which classifies a material as asbestos-containing if it contains greater than one percent (>1%).

Asbestos was identified in the following materials:

- Gray Light Fixture Paper Insulation
- 9" x 9" Tan Floor Tile/Black Mastic
- Pipe Insulation Debris
- Black Sink Mastic

The locations and quantities of asbestos-containing materials identified can be found in Section 2.0 of this report.

Those materials that were observed, sampled, submitted for analysis and found not to be asbestos-containing materials are identified in Section 3.0 of this report.

### 1.4 Disclaimer:

Information contained herein was obtained by means of onsite observations, a detailed materials survey, and analytical data. Conclusions will be based upon the data obtained. This is not to imply that the data gathered is all the information that exists which may be

pertinent to the site. Any areas inaccessible to the survey team due to reasons beyond the control of Criterion (i.e., hidden pipe chases, behind hard walls, above hard ceilings, secured spaces, etc.) will not be included in this survey.

## 1.5 Conclusions and Recommendations:

The asbestos-containing materials should be removed by a Pennsylvania-licensed asbestos abatement contractor prior to renovations.

Section 2.0, Asbestos Inventory, lists specific locations and quantities of asbestos-containing materials.

Section 5.0, Certifications, lists asbestos accreditation for all Criterion employees who worked on this project.

**Criterion has estimated a total cost of \$14,000.00 for the removal of all identified asbestos containing materials and associated air monitoring at Cresson Hall.**

Laboratory Results are included in the Attachments Section of this report.

This report is intended to strictly comply with EPA, OSHA and State of Pennsylvania regulations governing asbestos. This report should be referenced prior to disturbing any materials that may contain asbestos.

Criterion appreciates the opportunity to provide you with an asbestos-containing materials survey. Should you have any questions, please do not hesitate to call me at (215) 244-1300, extension 1030.



---

Eric Wysocki  
Project Manager

## **2.0 ASBESTOS INVENTORY**

## Asbestos Inventory

Lincoln University  
Cresson Hall  
Lincoln, PA

<u>Location</u>	<u>Material</u>	<u>Quantity</u>
1 <sup>st</sup> Floor Rest Rooms, Custodial Closet & Suite Kitchen	Grey Light Fixture Insulation	6 Square Feet (SF)
1 <sup>st</sup> Floor Staff Area	Tan 9" x 9" Floor Tile	600 SF
1 <sup>st</sup> Floor Under Carpet	Tan 9" x 9" Floor Tile	1,400 SF
Basement Laundry Room	Tan 9" x 9" Floor Tile	40 SF
Basement Crawl Space	Pipe Insulation Debris	60 SF
1 <sup>st</sup> , 2 <sup>nd</sup> & 3 <sup>rd</sup> Floor Bathrooms	Black Sink Mastic	6 SF
4 <sup>th</sup> Floor Hallway	Tan 9" x 9" Floor Tile/Black Mastic	400 SF

- Quantities are approximated and must be verified by abatement contractor.

- Additional asbestos containing materials may be located behind walls or above hard ceilings.

### **3.0 SUSPECT MATERIALS TESTING NEGATIVE FOR ASBESTOS CONTENT**

### **3.0 Suspect Materials Testing Negative for Asbestos Content**

The following materials were observed, sampled, submitted for analysis and found not to be asbestos-containing materials. For more specific information concerning the location of these materials, see the Attachments Section of this report.

- Gray Linoleum Flooring/Paper Backing
- White Pipe Insulation
- White Pipe Insulation (<6" Orange Pipe)
- White Textured Ceiling
- 12" x 12" Tan Floor Tile/Yellow Mastic
- Plaster Walls & Ceiling
- Drywall/Joint Compound
- 2' x 4' Lay-in Ceiling Tile
- Black Roofing Material

## **4.0 SAMPLING METHODOLOGY**

## 4.0 Sample Methodology

Bulk samples of suspected asbestos-containing material (ACM) were collected in accordance with guidelines set forth by the Environmental Protection Agency (EPA) and the National Institute for Occupational Safety and Health (NIOSH). The procedures for obtaining a bulk sample of suspected ACM are:

1. "Functional Spaces" in the Property were identified. A Functional Space is a spatially distinct unit within a building, which contains identifiable populations of building occupants (i.e. corridor, office space, mechanical area, etc.).
2. The total amount and location of each type of suspected ACM was tabulated.
3. The types of suspected ACM were then grouped as homogeneous materials. Each homogeneous material is defined as being uniform in texture and appearance. Based on these parameters, each homogeneous material was assigned a specific identification number as listed below.

### **Homogeneous Material I.D. #Reference List**

#### **Surfacing**

0100 to 0199 - Sprayed-On  
0200 to 0299 - Troweled-On  
0300 to 0399 - Blown-In  
0400 to 0499 - Other Surfacing  
1900 to 1999 - Plaster Walls and Ceilings

#### **Thermal**

0500 to 0599 - Lagging  
0600 to 0699 - Breeching  
0700 to 0799 - Duct Insulation  
0800 to 0899 - Tank Insulation  
0900 to 0999 - Block Pipe Insulation  
1000 to 1099 - Joints associated with Block Pipe Insulation  
1100 to 1199 - Corrugated/Air Cell Pipe Insulation  
1200 to 1299 - Joints associated with Corrugated Pipe Insulation  
1300 to 1399 - Compressed Pipe Insulation  
1400 to 1499 - Joints associated with Compressed Pipe Insulation  
1500 to 1599 - Joints associated with Fibrous Glass Pipe Insulation  
1600 to 1699 - Other Thermal

## 4.0 Sampling Methodology (Continued)

### Miscellaneous

- 1700 to 1799 - Lay-In Ceiling Tiles
  - 1800 to 1899 - Spline Ceiling Tiles
  - 2000 to 2099 - Floor Tiles
  - 2100 to 2199 - Drywall
  - 2200 to 2299 - Linoleum
  - 2300 to 2399 - Transite
  - 2400 to 2499 - Expansion Joints
  - 2500 to 2599 - Mastic Floor Tiles
  - 2600 to 2699 - Other Miscellaneous
  - 2700 to 2799 - Mastic Linoleum
4. A sampling scheme was devised based upon the amounts and locations of the different homogeneous materials in order to obtain representative samples.
  5. Trained personnel using an appropriate sampling tool and a leak-tight, labeled sample container took the actual bulk samples. The sampling was conducted in areas of the building that are not readily visible to the building occupants. These areas included above lay-in ceiling tiles and beneath cabinets and desks, etc.
  6. The personnel employed proper decontamination procedures to prevent contamination of the building environment and possible exposure to themselves and others.
  7. Each location of suspicious asbestos-containing material (ACM) was documented on the Asbestos Bulk Sample Log. This documentation included the location of suspicious materials, type of material located, square footage of suspicious ACM, as well as the square footage of damaged suspicious ACM. All bulk samples taken were documented on the Sample Log form and a Chain of Custody form. Each was completed for all samples taken by the inspector and handler.
  8. The samples were then taken to the laboratory for analysis. The Certificates of Analysis and Chain of Custody relative to each sample are included in this report.
  9. The inspector assessed the condition of the suspicious ACM using the eight EPA factors.
  10. On the Asbestos Bulk Sample Log, "NS" in the Sample # box means "not sampled". This homogeneous material was sampled elsewhere or assumed to contain asbestos. The purpose of the "NS" listing is to quantify the material for its inclusion in the Asbestos Inventory should similar material sampled elsewhere test positive for asbestos.

## **5.0 CERTIFICATIONS**

Number 753199

Expiration Date:  
11/02/2022

# *Certificate of Training*

**CRITERION LABORATORIES, INC.**

**HEREBY CERTIFIES THAT**

**Jonathan McKinnon**

**HAS SUCCESSFULLY COMPLETED A 4 HOUR TELECONFERENCE COURSE ENTITLED**

**Asbestos Building Inspector Refresher**

**INCLUDING CLASSROOM INSTRUCTION**

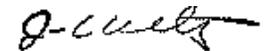
**on this 2nd day of November 2021**

**Approved for AHERA Accreditation Under TSCA Title II**

400 Street Road  
Bensalem, PA 19020  
(215) 244-1300 - Phone  
(215) 244-4349 - Fax  
www.criterionlabs.com

Rev. 20170501  
Course is conducted in English

**DIRECTOR:**



*James A. Weltz, CIH, President*

**PENNSYLVANIA ASBESTOS CERTIFICATION**

**059566**

Sex	Height	Eyes	Birth Date
M	6'00"	BLU	04/03/1993

Expires 02/02/2022      Issue Date 03/04/2021

Class  
INSPECTOR

MICHAEL R BARTH  
C/O CRITERION LABS INC  
400 STREET ROAD  
BENSALEM PA 19020



21 0250050949021082



**If found, please contact:**  
**Department of Labor & Industry**  
**Certification, Accreditation & Licensing Division**  
**651 Boas Street, Room 1606**  
**Harrisburg, PA 17121.**  
**(717) 772-3396**

## **ATTACHMENTS**



# Results of Polarized Light Microscopy

Client	<u>Voith &amp; Mactavish Architects, LLC</u>	Site Address	<u>Lincoln University, Lincoln, PA Cresson Hall</u>	Sample Date	<u>12/16/2021</u>
Project #	<u>212727</u>			Sample Received Date	<u>12/17/2021</u>
Collected By	<u>Criterion Laboratories, Inc.</u>	Analyzed By	<u>Schwab, Andrew</u>	Sample Analysis Date(s)	<u>1/3/2022</u>

Sample Number Material Description Location	Appearance	Layer	Non-Asbestos		Asbestos	
			Fibrous - %	Non-Fibrous %	Asbestos Type	Percent
<b>212727-02-002-01-01</b> Aluminized Light Fixture Paper Insulation 1st Floor-Restrooms, Custodial Closet, and Suite Kitchen	Gray Light Fixture Paper Insulation	1	Cellulose - 25%	10%	Chrysotile	65%
<b>212727-02-002-01-02</b> Aluminized Light Fixture Paper Insulation 1st Floor-Restrooms, Custodial Closet, and Suite Kitchen	Gray Light Fixture Paper Insulation	1	Cellulose - 20%	15%	Chrysotile	65%

Sample Count   2  

James A. Weltz, CIH, Technical Director

Criterion Laboratories, Inc. bears no responsibility for sample collection activities of non-Criterion personnel. Results apply to sample(s) as received. This report relates only to the samples reported above, and when reproduced, must be in its entirety. Estimated accuracy, precision and uncertainty data available on request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting Limit is 1%. QC data associated with this sample set is within acceptable limits. Samples were received in good condition, unless otherwise noted.

Note: If your project number ends with an "R", it is a revised report and replaces the original document in full. The above results represent the analysis of bulk sample(s) by Criterion Laboratories, Inc. according to EPA 40 CFR Part 763 Appendix E to Subpart E - Polarized Light Microscopy. The concentration of asbestos is determined by visual estimation.



Criterion Laboratories, Inc. (ID 100424) is accredited by the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC in the IHLAP; EMLAP and ELLAP accreditation programs for Polarized Light Microscopy (PLM), Phase Contrast Microscopy (PCM); Air-Direct Examination; and Airborne Dust, Paint, Settled Dust by Wipe and Soil for Fields of Testing as documented by the Scope of Accreditation Certificate and associated Scope. Additionally, Criterion Laboratories, Inc. is certified by the Center for Disease Control (CDC) Environmental Legionella Isolation Techniques Evaluation (ELITE) Program for the determination of Legionella in water by culture and holds accreditation from the National Voluntary Laboratory Accreditation Program (NVLAP ID 102046-0) for the determination of asbestos in bulk samples by Polarized Light Microscopy (PLM). This test report must not be used to claim product endorsement by NVLAP, NIST, AIHA or any agency of the US Government. Unless specifically listed as above, these test results are not covered under AIHA-LAP, LLC, 100424 accreditation.

THIS IS THE LAST PAGE OF THE REPORT



# Chain of Custody

**Matrix** Bulk/Building Material  
**Analyte** Asbestos  
**Analysis Type** PLM  
**Container** Bag  
**Project** 212727  
**Client** Voith & Mactavish Architects, LLC  
**Site Address** Lincoln University, Lincoln, PA  
 Cresson Hall  
**Location**  
**Turnaround** 3 - 5 Days  
**Field Tech** Jonathan McKinnon  
**Sample Notes**  
**Chain of Custody Notes**

## Additional Analytes

Sample Number	Location	Material Description	Received Condition	Date	Notes
212727-02-002-01-01	1st Floor- Restrooms, Custodial Closet, and Suite Kitchen	Aluminized Light Fixture Paper Insulation	Good	12/17/2021	
212727-02-002-01-02	1st Floor- Restrooms, Custodial Closet, and Suite Kitchen	Aluminized Light Fixture Paper Insulation	Good	12/17/2021	

**Sample Count**   2  

Handling Chain Type	Handled By	Date	Time	Notes
Report Results To	Eric Wysocki	12/16/2021		
Send Reports To	Voith & Mactavish Architects, LLC	12/16/2021		
Samples Taken By	Jonathan McKinnon	12/16/2021	12:00	
Transported By	Jonathan McKinnon	12/16/2021	15:30	
Relinquished By	Jonathan McKinnon	12/17/2021	13:00	
Received By	Hazel Karaturk	12/17/2021	13:39	
Analyzed By	Andrew Schwab	1/3/2022	10:59	
Reviewed By	Collin Marrs	1/3/2022	11:04	



# Samples

**Sample Date** 12/16/2021  
**Sample Day** Thursday  
**Sample Number** 212727-02-002-01  
**Matrix** Bulk/Building Material  
**Analyte** Asbestos  
**Analysis Type** PLM  
**Container** Bag  
**Project** 212727  
**Client** Voith & Mactavish Architects, LLC  
**Site Address** Lincoln University, Lincoln, PA  
Cresson Hall  
**Location**  
**Field Tech** Jonathan McKinnon  
**Notes**  
**Status** Complete  
**Created** 12/17/2021  
**Created By** jmckinnon

## Additional Analytes

## Chain Of Custody

12/16/2021 12:00:00 am EST Complete

<b>Sample Number</b>	<b>Hid Number</b>	<b>Material Description</b>	<b>Location</b>	<b>Quantity</b>	<b>Units</b>	<b>Friable</b>	<b>Damaged</b>	<b>No Sample</b>
212727-02-002-01-01	1600	Aluminized Light Fixture Paper Insulation	1st Floor-Restrooms, Custodial Closet, and Suite Kitchen	6	SF	<input checked="" type="checkbox"/>	Damaged	<input type="checkbox"/>



# Samples

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212727-02-002-01-02	1600	Aluminized Light Fixture Paper Insulation	1st Floor-Restrooms, Custodial Closet, and Suite Kitchen	---	<input type="checkbox"/>	<input type="checkbox"/>
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Sample Count   2



## Results of Polarized Light Microscopy

Client	<u>Voith &amp; Mactavish Architects, LLC</u>	Site Address	<u>Lincoln University, Lincoln, PA Cresson Hall</u>	Sample Date	<u>12/15/2021</u>
Project #	<u>212727</u>			Sample Received Date	<u>12/21/2021</u>
Collected By	<u>Criterion Laboratories, Inc.</u>	Analyzed By	<u>Mitchell, Lauren Schwab, Andrew</u>	Sample Analysis Date(s)	<u>1/4/2022 1/5/2022</u>

Sample Number Material Description Location	Appearance	Layer	Non-Asbestos		Asbestos	
			Fibrous - %	Non-Fibrous %	Asbestos Type	Percent
<b>212727-02-002-02-01</b> 9"x9" Floor Tile and Black Mastic 1st Floor Staff Area	Tan Floor Tile	1	None Detected	94%	Chrysotile	6%
<b>212727-02-002-02-01</b> 9"x9" Floor Tile and Black Mastic 1st Floor Staff Area	Black Mastic <sup>1</sup>	2	Cellulose - 2%	98%	Chrysotile	<1%
<b>212727-02-002-02-02</b> 9"x9" Floor Tile and Black Mastic 1st Floor Under Carpet	Tan Floor Tile	1	Cellulose - 1%	99%	None Detected	---
<b>212727-02-002-02-02</b> 9"x9" Floor Tile and Black Mastic 1st Floor Under Carpet	Black/Yellow Mastic <sup>2</sup>	2	Cellulose - 3%	97%	None Detected	---
<b>212727-02-002-02-03</b> Linoleum Floor Covering Main Entrance Landing	Gray Linoleum	1	Cellulose - 3%	97%	None Detected	---
<b>212727-02-002-02-03</b> Linoleum Floor Covering Main Entrance Landing	Gray Paper Backing	2	Cellulose - 95%	5%	None Detected	---
<b>212727-02-002-02-04</b> Linoleum Floor Covering Main Entrance Landing	Gray Linoleum	1	Cellulose - 5%	95%	None Detected	---
<b>212727-02-002-02-04</b> Linoleum Floor Covering Main Entrance Landing	Gray Paper Backing	2	Cellulose - 95%	5%	None Detected	---
<b>212727-02-002-02-05</b> 9"x9" Floor Tile and Black Mastic Basement Laundry Room	Tan Floor Tile	1	Cellulose - 1%	93%	Chrysotile	6%
<b>212727-02-002-02-05</b> 9"x9" Floor Tile and Black Mastic Basement Laundry Room	Black Mastic	2	Cellulose - 1%	99%	None Detected	---



## Results of Polarized Light Microscopy

Client	<u>Voith &amp; Mactavish Architects, LLC</u>	Site Address	<u>Lincoln University, Lincoln, PA Cresson Hall</u>	Sample Date	<u>12/15/2021</u>
Project #	<u>212727</u>			Sample Received Date	<u>12/21/2021</u>
Collected By	<u>Criterion Laboratories, Inc.</u>	Analyzed By	<u>Mitchell, Lauren Schwab, Andrew</u>	Sample Analysis Date(s)	<u>1/4/2022 1/5/2022</u>

Sample Number Material Description Location	Appearance	Layer	Non-Asbestos		Asbestos	
			Fibrous - %	Non-Fibrous %	Asbestos Type	Percent
<b>212727-02-002-02-06</b> 9"x9" Floor Tile and Black Mastic Basement Laundry Room	Tan Floor Tile	1	Cellulose - 2%	92%	Chrysotile	6%
<b>212727-02-002-02-06</b> 9"x9" Floor Tile and Black Mastic Basement Laundry Room	Black Mastic <sup>3</sup>	2	None Detected	100%	Chrysotile	<1%
<b>212727-02-002-02-07</b> Exposed Thermal Pipe Insulation Basement Level	White Pipe Insulation	1	Cellulose - 3% Synthetic - 85%	12%	None Detected	---
<b>212727-02-002-02-08</b> Exposed Thermal Pipe Insulation Basement Level	White Pipe Insulation	1	Cellulose - 2% Synthetic - 85%	13%	None Detected	---
<b>212727-02-002-02-09</b> Exposed Thermal Pipe Insulation Basement Level	White Pipe Insulation	1	Cellulose - 3% Synthetic - 85%	12%	None Detected	---
<b>212727-02-002-02-10</b> Pipe Insulation Debris Basement Crawlspace	Brown & Gray Insulation Debris	1	Cellulose - 45%	10%	Chrysotile	45%
<b>212727-02-002-02-11</b> Pipe Insulation Debris Basement Crawlspace	Brown & Gray Insulation Debris	1	Cellulose - 55%	10%	Chrysotile	35%
<b>212727-02-002-02-12</b> Pipe Insulation Debris Basement Crawlspace	Brown & Gray Pipe Insulation Debris	1	Cellulose - 55%	10%	Chrysotile	35%
<b>212727-02-002-02-13</b> Pipe Insulation <6" Orange Pipe Basement Outside Crawlspace	White Pipe Insulation	1	Cellulose - 1% Fiber Glass - 1%	98%	Chrysotile	<1%
<b>212727-02-002-02-14</b> Pipe Insulation <6" Orange Pipe Basement Outside Crawlspace	White Pipe Insulation	1	Cellulose - 2%	98%	None Detected	---



## Results of Polarized Light Microscopy

Client	<u>Voith &amp; Mactavish Architects, LLC</u>	Site Address	<u>Lincoln University, Lincoln, PA Cresson Hall</u>	Sample Date	<u>12/15/2021</u>
Project #	<u>212727</u>			Sample Received Date	<u>12/21/2021</u>
Collected By	<u>Criterion Laboratories, Inc.</u>	Analyzed By	<u>Mitchell, Lauren Schwab, Andrew</u>	Sample Analysis Date(s)	<u>1/4/2022 1/5/2022</u>

Sample Number Material Description Location	Appearance	Layer	Non-Asbestos		Asbestos	
			Fibrous - %	Non-Fibrous %	Asbestos Type	Percent
<b>212727-02-002-02-15</b> Pipe Insulation <6" Orange Pipe Basement Outside Crawlspace	White Pipe Insulation	1	Cellulose - 2%	98%	None Detected	---
<b>212727-02-002-02-16</b> Textured Ceiling 1st Floor Student Kitchen	White Textured Ceiling	1	Cellulose - 2%	98%	None Detected	---
<b>212727-02-002-02-17</b> Textured Ceiling 1st Floor Student Kitchen	White Textured Ceiling	1	Cellulose - 4%	96%	None Detected	---
<b>212727-02-002-02-18</b> Textured Ceiling 1st Floor Student Kitchen	White Textured Ceiling	1	Cellulose - 2%	98%	None Detected	---
<b>212727-02-002-02-19</b> Black Sink Mastic 1st Floor Bathroom	Black Mastic	1	None Detected	88%	Chrysotile	12%
<b>212727-02-002-02-20</b> Black Sink Mastic 2nd Floor Bathroom	Black Mastic	1	Cellulose - 1%	84%	Chrysotile	15%
<b>212727-02-002-02-21</b> 9"x9" Floor Tile and Black Mastic 4th Floor Hallway	Tan Floor Tile	1	None Detected	97%	Chrysotile	3%
<b>212727-02-002-02-21</b> 9"x9" Floor Tile and Black Mastic 4th Floor Hallway	Black Mastic <sup>4</sup>	2	Cellulose - 2%	96%	Chrysotile	2%
<b>212727-02-002-02-22</b> 9"x9" Floor Tile and Black Mastic 4th Floor Hallway	Tan Floor Tile	1	None Detected	95%	Chrysotile	5%
<b>212727-02-002-02-22</b> 9"x9" Floor Tile and Black Mastic 4th Floor Hallway	Black Mastic <sup>5</sup>	2	Cellulose - 2%	96%	Chrysotile	2%



## Results of Polarized Light Microscopy

Client	<u>Voith &amp; Mactavish Architects, LLC</u>	Site Address	<u>Lincoln University, Lincoln, PA Cresson Hall</u>	Sample Date	<u>12/15/2021</u>
Project #	<u>212727</u>			Sample Received Date	<u>12/21/2021</u>
Collected By	<u>Criterion Laboratories, Inc.</u>	Analyzed By	<u>Mitchell, Lauren Schwab, Andrew</u>	Sample Analysis Date(s)	<u>1/4/2022 1/5/2022</u>

Sample Number Material Description Location	Appearance	Layer	Non-Asbestos		Asbestos	
			Fibrous - %	Non-Fibrous %	Asbestos Type	Percent
<b>212727-02-002-02-23</b> 12"x12" Tan Floor Tile and Yellow Mastic 1st Floor Throughout	Tan Floor Tile	1	Cellulose - 1%	99%	None Detected	---
<b>212727-02-002-02-23</b> 12"x12" Tan Floor Tile and Yellow Mastic 1st Floor Throughout	Yellow Mastic	2	Cellulose - 2%	98%	None Detected	---
<b>212727-02-002-02-24</b> 12"x12" Tan Floor Tile and Yellow Mastic 2nd Floor Throughout	Tan Floor Tile	1	Cellulose - 1%	99%	None Detected	---
<b>212727-02-002-02-24</b> 12"x12" Tan Floor Tile and Yellow Mastic 2nd Floor Throughout	Yellow Mastic	2	Cellulose - 3%	97%	None Detected	---
<b>212727-02-002-02-25</b> 12"x12" Tan Floor Tile and Yellow Mastic 3rd Floor Throughout	Yellow Floor Tile	1	Cellulose - 1%	99%	None Detected	---
<b>212727-02-002-02-25</b> 12"x12" Tan Floor Tile and Yellow Mastic 3rd Floor Throughout	Yellow Mastic	2	Cellulose - 2%	98%	None Detected	---
<b>212727-02-002-02-26</b> 12"x12" Tan Floor Tile and Yellow Mastic 4th Floor Throughout	Tan Floor Tile	1	Cellulose - 1%	99%	None Detected	---
<b>212727-02-002-02-26</b> 12"x12" Tan Floor Tile and Yellow Mastic 4th Floor Throughout	Yellow Mastic	2	Cellulose - 3%	97%	None Detected	---
<b>212727-02-002-02-27</b> Plaster Ceiling Basement	White Plaster Ceiling	1	Cellulose - 2%	98%	Chrysotile	<1%
<b>212727-02-002-02-28</b> Plaster Ceiling Basement	White Plaster	1	Cellulose - 1%	99%	None Detected	---



## Results of Polarized Light Microscopy

Client	<u>Voith &amp; Mactavish Architects, LLC</u>	Site Address	<u>Lincoln University, Lincoln, PA Cresson Hall</u>	Sample Date	<u>12/15/2021</u>
Project #	<u>212727</u>			Sample Received Date	<u>12/21/2021</u>
Collected By	<u>Criterion Laboratories, Inc.</u>	Analyzed By	<u>Mitchell, Lauren Schwab, Andrew</u>	Sample Analysis Date(s)	<u>1/4/2022 1/5/2022</u>

Sample Number Material Description Location	Appearance	Layer	Non-Asbestos		Asbestos	
			Fibrous - %	Non-Fibrous %	Asbestos Type	Percent
<b>212727-02-002-02-29</b> Plaster Ceiling Basement	White Plaster	1	Cellulose - 1%	99%	None Detected	---
<b>212727-02-002-02-30</b> Plaster Walls and Ceiling 1st Floor	White Plaster	1	Cellulose - 1%	99%	None Detected	---
<b>212727-02-002-02-30</b> Plaster Walls and Ceiling 1st Floor	Gray Plaster	2	Cellulose - 1%	99%	None Detected	---
<b>212727-02-002-02-31</b> Plaster Walls and Ceiling 1st Floor	White Plaster	1	Cellulose - 1%	99%	None Detected	---
<b>212727-02-002-02-31</b> Plaster Walls and Ceiling 1st Floor	Gray Plaster	2	Cellulose - 1%	99%	None Detected	---
<b>212727-02-002-02-32</b> Plaster Walls and Ceiling 2nd Floor	White Plaster	1	Cellulose - 1%	99%	None Detected	---
<b>212727-02-002-02-32</b> Plaster Walls and Ceiling 2nd Floor	Gray Plaster	2	Cellulose - 1%	99%	None Detected	---
<b>212727-02-002-02-33</b> Plaster Walls and Ceiling 3rd Floor	Gray Plaster	1	Cellulose - 1%	99%	None Detected	---
<b>212727-02-002-02-33</b> Plaster Walls and Ceiling 3rd Floor	White Plaster	2	Cellulose - 1%	99%	None Detected	---
<b>212727-02-002-02-34</b> Plaster Walls and Ceiling 4th Floor	White Plaster	1	Cellulose - 2%	98%	None Detected	---



## Results of Polarized Light Microscopy

Client	<u>Voith &amp; Mactavish Architects, LLC</u>	Site Address	<u>Lincoln University, Lincoln, PA</u>	Sample Date	<u>12/15/2021</u>
Project #	<u>212727</u>		<u>Cresson Hall</u>	Sample Received Date	<u>12/21/2021</u>
Collected By	<u>Criterion Laboratories, Inc.</u>	Analyzed By	<u>Mitchell, Lauren</u>	Sample Analysis Date(s)	<u>1/4/2022</u>
			<u>Schwab, Andrew</u>		<u>1/5/2022</u>

Sample Number Material Description Location	Appearance	Layer	Non-Asbestos		Asbestos	
			Fibrous - %	Non-Fibrous %	Asbestos Type	Percent
<b>212727-02-002-02-34</b> Plaster Walls and Ceiling 4th Floor	Gray Plaster	2	Cellulose - 1%	99%	None Detected	---
<b>212727-02-002-02-35</b> Drywall and Joint Compound 1st Floor	Gray Drywall <sup>6</sup>	1	Cellulose - 3%	97%	None Detected	---
<b>212727-02-002-02-36</b> Drywall and Joint Compound 2nd Floor	Gray Drywall	1	Cellulose - 2%	98%	None Detected	---
<b>212727-02-002-02-36</b> Drywall and Joint Compound 2nd Floor	Gray Plaster	2	Cellulose - 1%	99%	None Detected	---
<b>212727-02-002-02-36</b> Drywall and Joint Compound 2nd Floor	White Plaster	3	Cellulose - 1%	99%	None Detected	---
<b>212727-02-002-02-37</b> Drywall and Joint Compound 3rd Floor	Gray Drywall <sup>7</sup>	1	Cellulose - 2%	98%	None Detected	---
<b>212727-02-002-02-38</b> Drywall and Joint Compound 4th Floor	Gray Drywall <sup>8</sup>	1	Cellulose - 2%	98%	None Detected	---
<b>212727-02-002-02-39</b> 2'x4' Lay In Ceiling Tiles 2nd Floor Bathroom	White Drywall	1	Cellulose - 1% Fiber Glass - 1%	98%	None Detected	---
<b>212727-02-002-02-40</b> 2'x4' Lay In Ceiling Tiles 2nd Floor Bathroom	White Drywall	1	Cellulose - 1% Fiber Glass - 2%	97%	None Detected	---
<b>212727-02-002-02-41</b> 2'x4' Lay In Ceiling Tiles 3rd Floor Bathroom	White Floor Tile	1	Fiber Glass - 85%	15%	None Detected	---



# Results of Polarized Light Microscopy

Client	<u>Voith &amp; Mactavish Architects, LLC</u>	Site Address	<u>Lincoln University, Lincoln, PA</u>	Sample Date	<u>12/15/2021</u>
Project #	<u>212727</u>		<u>Cresson Hall</u>	Sample Received Date	<u>12/21/2021</u>
Collected By	<u>Criterion Laboratories, Inc.</u>	Analyzed By	<u>Mitchell, Lauren</u>	Sample Analysis Date(s)	<u>1/4/2022</u>
			<u>Schwab, Andrew</u>		<u>1/5/2022</u>

Sample Number Material Description Location	Appearance	Layer	Non-Asbestos		Asbestos	
			Fibrous - %	Non-Fibrous %	Asbestos Type	Percent
<b>212727-02-002-02-42</b> 2'x4' Lay In Ceiling Tiles 4th Floor Bathroom	White Ceiling Tiles	1	Cellulose - 65% Fiber Glass - 10%	25%	None Detected	---
<b>212727-02-002-02-43</b> Roof Field Layers Roof	Black Shingle	1	Fiber Glass - 15%	85%	None Detected	---
<b>212727-02-002-02-44</b> Roof Field Layers Roof	Black Shingle	1	Cellulose - 2% Fiber Glass - 10%	88%	None Detected	---
<b>212727-02-002-02-44</b> Roof Field Layers Roof	Black Roofing	2	Cellulose - 65%	35%	None Detected	---

Sample Count 44

- 1 - Possible contamination from floor tile
- 2 - Inseparable
- 3 - Possible contamination from floor tile
- 4 - Possible Sample Contamination
- 5 - Possible Sample Contamination
- 6 - No Joint Compound
- 7 - No Joint Compound
- 8 - No Joint Compound

James A. Weltz, CH, Technical Director

Criterion Laboratories, Inc. bears no responsibility for sample collection activities of non-Criterion personnel. Results apply to sample(s) as received. This report relates only to the samples reported above, and when reproduced, must be in its entirety. Estimated accuracy, precision and uncertainty data available on request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting Limit is 1%. QC data associated with this sample set is within acceptable limits. Samples were received in good condition, unless otherwise noted.

Note: If your project number ends with an "R", it is a revised report and replaces the original document in full. The above results represent the analysis of bulk sample(s) by Criterion Laboratories, Inc. according to EPA 40 CFR Part 763 Appendix E to Subpart E - Polarized Light Microscopy. The concentration of asbestos is determined by visual estimation.



# Results of Polarized Light Microscopy

Client	<u>Voith &amp; Mactavish Architects, LLC</u>	Site Address	<u>Lincoln University, Lincoln, PA Cresson Hall</u>	Sample Date	<u>12/15/2021</u>
Project #	<u>212727</u>			Sample Received Date	<u>12/21/2021</u>
Collected By	<u>Criterion Laboratories, Inc.</u>	Analyzed By	<u>Mitchell, Lauren Schwab, Andrew</u>	Sample Analysis Date(s)	<u>1/4/2022 1/5/2022</u>



Criterion Laboratories, Inc. (ID 100424) is accredited by the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC in the IHLAP; EMLAP and ELLAP accreditation programs for Polarized Light Microscopy (PLM), Phase Contrast Microscopy (PCM); Air-Direct Examination; and Airborne Dust, Paint, Settled Dust by Wipe and Soil for Fields of Testing as documented by the Scope of Accreditation Certificate and associated Scope. Additionally, Criterion Laboratories, Inc. is certified by the Center for Disease Control (CDC) Environmental Legionella Isolation Techniques Evaluation (ELITE) Program for the determination of Legionella in water by culture and holds accreditation from the National Voluntary Laboratory Accreditation Program (NVLAP ID 102046-0) for the determination of asbestos in bulk samples by Polarized Light Microscopy (PLM). This test report must not be used to claim product endorsement by NVLAP, NIST, AIHA or any agency of the US Government. Unless specifically listed as above, these test results are not covered under AIHA-LAP, LLC, 100424 accreditation.

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# Chain of Custody

**Matrix** Bulk/Building Material  
**Analyte** Asbestos  
**Analysis Type** PLM  
**Container** Bag  
**Project** 212727  
**Client** Voith & Mactavish Architects, LLC  
**Site Address** Lincoln University, Lincoln, PA  
 Cresson Hall  
**Location**  
**Turnaround** 3 - 5 Days  
**Field Tech** Michael Barth  
**Sample Notes**  
**Chain of Custody Notes**

## Additional Analytes

Sample Number	Location	Material Description	Received Condition	Date	Notes
212727-02-002-02-01	1st Floor Staff Area	9"x9" Floor Tile and Black Mastic	Good	12/21/2021	
212727-02-002-02-02	1st Floor Under Carpet	9"x9" Floor Tile and Black Mastic	Good	12/21/2021	
212727-02-002-02-03	Main Entrance Landing	Linoleum Floor Covering	Good	12/21/2021	
212727-02-002-02-04	Main Entrance Landing	Linoleum Floor Covering	Good	12/21/2021	
212727-02-002-02-05	Basement Laundry Room	9"x9" Floor Tile and Black Mastic	Good	12/21/2021	
212727-02-002-02-06	Basement Laundry Room	9"x9" Floor Tile and Black Mastic	Good	12/21/2021	
212727-02-002-02-07	Basement Level	Exposed Thermal Pipe Insulation	Good	12/21/2021	
212727-02-002-02-08	Basement Level	Exposed Thermal Pipe Insulation	Good	12/21/2021	
212727-02-002-02-09	Basement Level	Exposed Thermal Pipe Insulation	Good	12/21/2021	
212727-02-002-02-10	Basement Crawlspace	Pipe Insulation Debris	Good	12/21/2021	
212727-02-002-02-11	Basement Crawlspace	Pipe Insulation Debris	Good	12/21/2021	
212727-02-002-02-12	Basement Crawlspace	Pipe Insulation Debris	Good	12/21/2021	
212727-02-002-02-13	Basement Outside Crawlspace	Pipe Insulation <6" Orange Pipe	Good	12/21/2021	
212727-02-002-02-14	Basement Outside Crawlspace	Pipe Insulation <6" Orange Pipe	Good	12/21/2021	
212727-02-002-02-15	Basement Outside Crawlspace	Pipe Insulation <6" Orange Pipe	Good	12/21/2021	



# Chain of Custody

212727-02-002-02-16	1st Floor Student Kitchen	Textured Ceiling	Good	12/21/2021
212727-02-002-02-17	1st Floor Student Kitchen	Textured Ceiling	Good	12/21/2021
212727-02-002-02-18	1st Floor Student Kitchen	Textured Ceiling	Good	12/21/2021
212727-02-002-02-19	1st Floor Bathroom	Black Sink Mastic	Good	12/21/2021
212727-02-002-02-20	2nd Floor Bathroom	Black Sink Mastic	Good	12/21/2021
212727-02-002-02-21	4th Floor Hallway	9"x9" Floor Tile and Black Mastic	Good	12/21/2021
212727-02-002-02-22	4th Floor Hallway	9"x9" Floor Tile and Black Mastic	Good	12/21/2021
212727-02-002-02-23	1st Floor Throughout	12"x12" Tan Floor Tile and Yellow Mastic	Good	12/21/2021
212727-02-002-02-24	2nd Floor Throughout	12"x12" Tan Floor Tile and Yellow Mastic	Good	12/21/2021
212727-02-002-02-25	3rd Floor Throughout	12"x12" Tan Floor Tile and Yellow Mastic	Good	12/21/2021
212727-02-002-02-26	4th Floor Throughout	12"x12" Tan Floor Tile and Yellow Mastic	Good	12/21/2021
212727-02-002-02-27	Basement	Plaster Ceiling	Good	12/21/2021
212727-02-002-02-28	Basement	Plaster Ceiling	Good	12/21/2021
212727-02-002-02-29	Basement	Plaster Ceiling	Good	12/21/2021
212727-02-002-02-30	1st Floor	Plaster Walls and Ceiling	Good	12/21/2021
212727-02-002-02-31	1st Floor	Plaster Walls and Ceiling	Good	12/21/2021
212727-02-002-02-32	2nd Floor	Plaster Walls and Ceiling	Good	12/21/2021
212727-02-002-02-33	3rd Floor	Plaster Walls and Ceiling	Good	12/21/2021
212727-02-002-02-34	4th Floor	Plaster Walls and Ceiling	Good	12/21/2021
212727-02-002-02-35	1st Floor	Drywall and Joint Compound	Good	12/21/2021
212727-02-002-02-36	2nd Floor	Drywall and Joint Compound	Good	12/21/2021
212727-02-002-02-37	3rd Floor	Drywall and Joint Compound	Good	12/21/2021
212727-02-002-02-38	4th Floor	Drywall and Joint Compound	Good	12/21/2021
212727-02-002-02-39	2nd Floor Bathroom	2'x4' Lay In Ceiling Tiles	Good	12/21/2021
212727-02-002-02-40	2nd Floor Bathroom	2'x4' Lay In Ceiling Tiles	Good	12/21/2021
212727-02-002-02-41	3rd Floor Bathroom	2'x4' Lay In Ceiling Tiles	Good	12/21/2021
212727-02-002-02-42	4th Floor Bathroom	2'x4' Lay In Ceiling Tiles	Good	12/21/2021
212727-02-002-02-43	Roof	Roof Field Layers	Good	12/21/2021
212727-02-002-02-44	Roof	Roof Field Layers	Good	12/21/2021

**Sample Count** 44



# Chain of Custody

<b>Handling Chain Type</b>	<b>Handled By</b>	<b>Date</b>	<b>Time</b>	<b>Notes</b>
Report Results To	Eric Wysocki	12/15/2021		
Send Reports To	Voith & Mactavish Architects, LLC	12/15/2021		
Samples Taken By	Michael Barth	12/15/2021	15:30	
Transported By	Michael Barth	12/19/2021	22:00	
Relinquished By	Michael Barth	12/19/2021	22:00	
Received By	Michael Hess	12/21/2021	08:35	
Analyzed By	Andrew Schwab	1/5/2022	13:00	
Reviewed By	Collin Marrs	1/5/2022	13:33	



# Samples

**Sample Date** 12/15/2021  
**Sample Day** Wednesday  
**Sample Number** 212727-02-002-02  
**Matrix** Bulk/Building Material  
**Analyte** Asbestos  
**Analysis Type** PLM  
**Container** Bag  
**Project** 212727  
**Client** Voith & Mactavish Architects, LLC  
**Site Address** Lincoln University, Lincoln, PA  
 Cresson Hall  
**Location**  
**Field Tech** Michael Barth  
**Notes**  
**Status** Complete  
**Created** 12/21/2021  
**Created By** mbarth

## Additional Analytes

### Chain Of Custody

12/15/2021 12:00:00 am EST Complete

Sample Number	Hid Number	Material Description	Location	Quantity	Units	Friable	Damaged	No Sample
	2600	Black Sink Mastic	3rd Floor Bathroom		---	<input type="checkbox"/>	Not Damaged	<input checked="" type="checkbox"/>
	2100	Drywall and Joint Compound	Basement	400	SF	<input type="checkbox"/>	Not Damaged	<input checked="" type="checkbox"/>

# Samples

212727-02-002-02-01	2000/2500 9"x9" Floor Tile and Black Mastic	1st Floor Staff Area	600	SF	<input type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-02	2000/250 9"x9" Floor Tile and Black Mastic	1st Floor Under Carpet	1400	SF	<input type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-03	2200 Linoleum Floor Covering	Main Entrance Landing	20	SF	<input type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-04	2200 Linoleum Floor Covering	Main Entrance Landing	---		<input type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-05	2001/2501 9"x9" Floor Tile and Black Mastic	Basement Laundry Room	40	SF	<input type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-06	2001/250 9"x9" Floor Tile and Black Mastic	Basement Laundry Room	---		<input type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-07	1600 Exposed Thermal Pipe Insulation	Basement Level	80	LF	<input checked="" type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-08	1600 Exposed Thermal Pipe Insulation	Basement Level	---		<input checked="" type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-09	1600 Exposed Thermal Pipe Insulation	Basement Level	---		<input checked="" type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-10	1601 Pipe Insulation Debris	Basement Crawlspace	60	SF	<input checked="" type="checkbox"/>	Damaged	<input type="checkbox"/>
212727-02-002-02-11	1601 Pipe Insulation Debris	Basement Crawlspace	---		<input checked="" type="checkbox"/>	Damaged	<input type="checkbox"/>
212727-02-002-02-12	1601 Pipe Insulation Debris	Basement Crawlspace	---		<input checked="" type="checkbox"/>	Damaged	<input type="checkbox"/>
212727-02-002-02-13	1602 Pipe Insulation <6" Orange Pipe	Basement Outside Crawlspace	20	LF	<input checked="" type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-14	1602 Pipe Insulation <6" Orange Pipe	Basement Outside Crawlspace	---		<input checked="" type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-15	1602 Pipe Insulation <6" Orange Pipe	Basement Outside Crawlspace	---		<input checked="" type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-16	1900 Textured Ceiling	1st Floor Student Kitchen	120	SF	<input type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-17	1900 Textured Ceiling	1st Floor Student Kitchen	---		<input type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-18	1900 Textured Ceiling	1st Floor Student Kitchen	---		<input checked="" type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-19	2600 Black Sink Mastic	1st Floor Bathroom	6	SF	<input type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-20	2600 Black Sink Mastic	2nd Floor Bathroom	---		<input type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-21	2002/2502 9"x9" Floor Tile and Black Mastic	4th Floor Hallway	400	SF	<input type="checkbox"/>	Damaged	<input type="checkbox"/>
212727-02-002-02-22	2002/250 9"x9" Floor Tile and Black Mastic	4th Floor Hallway	---		<input type="checkbox"/>	Damaged	<input type="checkbox"/>
212727-02-002-02-23	2003/2503 12"x12" Tan Floor Tile and Yellow Mastic	1st Floor Throughout	1500	SF	<input type="checkbox"/>	Not Damaged	<input type="checkbox"/>

# Samples

212727-02-002-02-24	2003/250	12"x12" Tan Floor Tile and Yellow Mastic	2nd Floor Throughout	3000	SF	<input type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-25	2003/2503	12"x12" Tan Floor Tile and Yellow Mastic	3rd Floor Throughout	3000	SF	<input type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-26	2003/250	12"x12" Tan Floor Tile and Yellow Mastic	4th Floor Throughout	2500	SF	<input type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-27	1901	Plaster Ceiling	Basement	800	SF	<input type="checkbox"/>	Damaged	<input type="checkbox"/>
212727-02-002-02-28	1901	Plaster Ceiling	Basement		---	<input type="checkbox"/>	Damaged	<input type="checkbox"/>
212727-02-002-02-29	1901	Plaster Ceiling	Basement		---	<input type="checkbox"/>	Damaged	<input type="checkbox"/>
212727-02-002-02-30	1902	Plaster Walls and Ceiling	1st Floor	1000	SF	<input type="checkbox"/>	Damaged	<input type="checkbox"/>
212727-02-002-02-31	1902	Plaster Walls and Ceiling	1st Floor		---	<input type="checkbox"/>		<input type="checkbox"/>
212727-02-002-02-32	1902	Plaster Walls and Ceiling	2nd Floor	1000	SF	<input type="checkbox"/>	Damaged	<input type="checkbox"/>
212727-02-002-02-33	1902	Plaster Walls and Ceiling	3rd Floor	1000	SF	<input type="checkbox"/>	Damaged	<input type="checkbox"/>
212727-02-002-02-34	1902	Plaster Walls and Ceiling	4th Floor	1000	SF	<input type="checkbox"/>	Damaged	<input type="checkbox"/>
212727-02-002-02-35	2100	Drywall and Joint Compound	1st Floor	1200	SF	<input type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-36	2100	Drywall and Joint Compound	2nd Floor	1200	SF	<input type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-37	2100	Drywall and Joint Compound	3rd Floor	1200	SF	<input type="checkbox"/>	Damaged	<input type="checkbox"/>
212727-02-002-02-38	2100	Drywall and Joint Compound	4th Floor	800	SF	<input type="checkbox"/>	Not Damaged	<input type="checkbox"/>
212727-02-002-02-39	1700	2'x4' Lay In Ceiling Tiles	2nd Floor Bathroom	80	SF	<input checked="" type="checkbox"/>	Damaged	<input type="checkbox"/>
212727-02-002-02-40	1700	2'x4' Lay In Ceiling Tiles	2nd Floor Bathroom		---	<input checked="" type="checkbox"/>	Damaged	<input type="checkbox"/>
212727-02-002-02-41	1701	2'x4' Lay In Ceiling Tiles	3rd Floor Bathroom	120	SF	<input checked="" type="checkbox"/>	Damaged	<input type="checkbox"/>
212727-02-002-02-42	1701	2'x4' Lay In Ceiling Tiles	4th Floor Bathroom	80	SF	<input checked="" type="checkbox"/>	Damaged	<input type="checkbox"/>
212727-02-002-02-43	2601	Roof Field Layers	Roof	3200	SF	<input type="checkbox"/>	Damaged	<input type="checkbox"/>
212727-02-002-02-44	2601	Roof Field Layers	Roof		---	<input type="checkbox"/>	Damaged	<input type="checkbox"/>

Sample Count 46













# ***FUNGAL INVESTIGATION***



***Field  
Services***

**At:**

**Lincoln University  
Lincoln, PA  
Cresson Hall**



***Lab  
Services***

**For:**

**Ms. Elizabeth Nestor  
Voith & Mactavish Architects, LLC  
2401 Walnut Street, 6<sup>th</sup> Floor  
Philadelphia, PA 19103**

**Prepared By:**

**Mr. Eric Wysocki  
Project Manager**



***Training  
Services***

**Report Date:**

**January 12, 2022**

**Project Number:**

**212727**

**Date of Project:**

**December 15, 2021**

## PURPOSE

Criterion Laboratories, Inc. (Criterion) was requested by Ms. Elizabeth Nestor of Voith & Mactavish Architects, LLC to perform a fungal investigation within Cresson Hall at Lincoln University in Lincoln, PA.

## PERSONNEL

The investigation was performed on December 15, 2021, by Mr. Michael Barth, Industrial Hygienist of Criterion. The report was written by Mr. Eric Wysocki, Project Manager and reviewed by Mr. Michael Panepresso, Vice President of Operations, both of Criterion.

## CONCLUSIONS

No visible evidence of fungal growth was observed in Cresson Hall at the time of the survey.

Analysis of the total indoor airborne fungal spore samples collected from within Cresson Hall revealed elevated concentrations of *Penicillium/Aspergillus sp.* type spores and a few counts of *Stachybotrys sp.* type spores. These results suggest a water intrusion event has occurred in Cresson Hall.

## RECOMMENDATIONS

Criterion recommends conducting a comprehensive fungal investigation of Cresson Hall to determine the source of airborne fungal spores.

Please do not hesitate to contact me at (215) 244-1300, extension 1030 if you should have any questions or concerns.

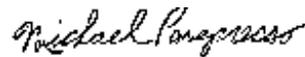
Written By:



---

Eric Wysocki  
Project Manager

Reviewed By:



---

Michael Panepresso  
Vice President of Operations

## PROCEDURES

A thorough visual inspection of the areas of concern, for visible fungal growth and water damage, was conducted prior to sampling for fungal spores.

Airborne fungal spore samples were collected for five-minute intervals using Air-O-Cell® spore cassettes attached to a high-volume sampling pump calibrated at approximately 15 liters per minute (lpm).

All samples were quantitatively analyzed for fungal spores at our in-house AIHA-accredited laboratory in Bensalem, PA.

## RESULTS

Analysis of the airborne fungal spore sample collected from the 1<sup>st</sup> Floor Hallway revealed concentrations of 3,534 spores/m<sup>3</sup>.

Analysis of the airborne fungal spore sample collected from the 2<sup>nd</sup> Floor Hallway revealed concentrations of 1,929 spores/m<sup>3</sup>.

Analysis of the airborne fungal spore sample collected from the 3<sup>rd</sup> Floor Hallway revealed concentrations of 25,139 spores/m<sup>3</sup>.

Analysis of the airborne fungal spore sample collected from the 4<sup>th</sup> Floor Hallway revealed concentrations of 6,834 spores/m<sup>3</sup>.

Analysis of the airborne fungal spore sample collected from the Basement revealed concentrations of 2,564 spores/m<sup>3</sup>.

## DISCUSSION

Although no visible fungal growth was observed in Cresson Hall, air sample results indicate a water intrusion event has occurred. The presence of airborne *Stachybotrys sp.* type spores and elevated concentrations of *Penicillium/Aspergillus sp.* spores suggest building materials have been water damaged. The source of water intrusion should be identified and corrected to prevent fungal growth within the building.



**CRITERION LABORATORIES, INC.**  
400 Street Road, Suite 100, Bensalem, PA 19020

**Total Spore Count / ID Test Results (Method CLI 345)**

Client: <u>Voith &amp; Mactavish Architects, LLC</u> <u>Lincoln University, Lincoln, PA</u> <u>Cresson Hall</u>	Project #: <u>212727</u>  Analyst: <u>L. Mitchell</u>	Date Sampled: <u>December 15, 2021</u>  Date Received: <u>December 21, 2021</u>  Date Analyzed: <u>December 29, 2021</u>
--	---	--

Sample Type:	25mm Cassette			25mm Cassette			25mm Cassette		
Sample Number:	212727-01-192-01-01			212727-01-192-01-02			212727-01-192-01-03		
Sample Location:	1st Floor Hallway			2nd Floor Hallway			3rd Floor Hallway		
Volume (L):	89.7			89.7			89.7		
Total Spores/m <sup>3</sup> :#	3534			1929			25139		
	Raw Ct.**	Spores/m <sup>3</sup>	%	Raw Ct.**	Spores/m <sup>3</sup>	%	Raw Ct.**	Spores/m <sup>3</sup>	%
<b>Common Dominant Spores:</b>									
Ascospores	2	22	0.6	13	145	7.5	50	557	2.2
Basidiospores	7	78	2.2	27	301	15.6	7	78	0.3
<i>Cladosporium</i> sp.				10	111	5.8	9	100	0.4
<i>Penicillium/Aspergillus</i> Types <sup>9</sup>	308	3434	97.2	120	1338	69.4	2032	22653	90.1
<b>Indoor Hydrophilic Fungi:***</b>									
<i>Chaetomium</i> sp.							145	1616	6.4
<i>Memnoniella</i> sp.									
<i>Scopulariopsis</i> sp.									
<i>Stachybotrys</i> sp.				2	22	1.2	2	22	0.1
<i>Trichoderma</i> sp.									
<i>Ulocladium</i> sp.									
<b>Others:</b>									
<i>Alternaria</i> sp.									
<i>Bipolaris/Drechslera</i> Group									
<i>Botrytis</i> sp.									
<i>Cercospora</i> sp.									
<i>Curvularia</i> sp.									
<i>Epicoccum</i> sp.									
<i>Fusarium</i> sp.									
<i>Ganoderma</i> sp.									
Myxomycetes, Smuts, <i>Periconia</i> sp.				1	11	0.6	3	33	0.1
Non-specified									
<i>Pestotia</i> sp.									
<i>Pithomyces</i> sp.									
<i>Polythrincium</i> sp.									
<i>Nigrospora</i> sp.									
<i>Oldium</i> sp.									
Rusts									
<i>Speggazinia</i> sp.									
<i>Stemphylium</i> sp.									
<i>Torula</i> sp.									
<i>Arthrinium</i> sp.							7	78	0.3
Hyphal Fragments		-	-	2	-	-		-	-
Background Debris:#		2			2			2	
Comments:									

Detection Limit = 7 Spores/m<sup>3</sup> (Based on ~ 150 L)

100% of trace analyzed by 400X Phase Contrast using Lactophenol Cotton Blue

**Guidelines for Interpretation:**

# From the amount of particulate matter present a debris rating on a scale from 0 to 5 is assigned. A rating of 0 indicates no particulate matter detected in impaction area. High levels of background particulate can obscure spores and other particulates leading to underestimation. A rating of 5 indicates an overloading of background particulates, prohibiting the accurate detection and quantification of spores that may be present. A rating of 1-4 indicates low to extremely high. Due to method stopping rules, raw counts in excess of 500 are extrapolated based on the percentage analyzed. Criterion maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by Criterion. Criterion bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. Samples analyzed by Criterion Laboratories, Inc. AHA-LAP, LLC-EMLAP Lab 100424

Reviewed By:  Date: 12/30/21  
 Andrew Schwab  
 EMLAP Quality Manager

**CRITERION LABORATORIES, INC.**  
400 Street Road, Suite 100, Bensalem, PA 19020

**Total Spore Count / ID Test Results (Method CLI 345)**

Client: <u>Voith &amp; Mactavish Architects, LLC</u> <u>Lincoln University - Cresson Hall</u> <u>Lincoln, PA</u>	Project #: <u>212727</u>  Analyst: <u>L. Mitchell</u>	Date Sampled: <u>December 15, 2021</u>  Date Received: <u>December 21, 2021</u>  Date Analyzed: <u>December 29, 2021</u>
---	---	--

Sample Type:	25mm Cassette			25mm Cassette			25mm Cassette		
Sample Number:	212727-01-192-01-04			212727-01-192-01-05			212727-01-192-01-06		
Sample Location:	4th Floor Hallway			Basement Level			Ambient		
Volume (L):	89.7			89.7			89.7		
Total Spores/m <sup>3</sup> .*	6834			2564			< 11		
	Raw Ct.**	Spores/m <sup>3</sup>	%	Raw Ct.**	Spores/m <sup>3</sup>	%	Raw Ct.**	Spores/m <sup>3</sup>	%
<b>Common Dominant Spores:</b>									
Ascospores	4	45	0.7	3	33	1.3			
Basidiospores	9	100	1.5	38	424	16.5			
Cladosporium sp.	1	11	0.2	8	89	3.5			
Penicillium/Aspergillus Types <sup>#</sup>	576	6421	94.0	159	1773	69.1			
<b>Indoor Hydrophilic Fungi:***</b>									
Chaetomium sp.	17	190	2.8	21	234	9.1			
Memnoniella sp.									
Scopulariopsis sp.									
Stachybotrys sp.	6	67	1.0	1	11	0.4			
Trichoderma sp.									
Ulocladium sp.									
<b>Others:</b>									
Alternaria sp.									
Bipolaris/Drechslera Group									
Botrytis sp.									
Cercospora sp.									
Curvularia sp.									
Epicoccum sp.									
Fusarium sp.									
Ganoderma sp.									
Myxomycetes, Smuts, Periconia sp.									
Non-specified									
Pestotia sp.									
Pithomyces sp.									
Polythrincium sp.									
Nigrospora sp.									
Oidium sp.									
Rusts									
Speggazinia sp.									
Stemphylium sp.									
Torula sp.									
Arthrinium sp.									
Hyphal Fragments		-	-		-	-		-	-
Background Debris: <sup>#</sup>		1			1			No visible Trace	
Comments:									

Detection Limit = 7 Spores/m<sup>3</sup> (Based on ~ 150 L)

100% of trace analyzed by 400X Phase Contrast using Lactophenol Cotton Blue

**Guidelines for Interpretation:**

# From the amount of particulate matter present a debris rating on a scale from 0 to 5 is assigned. A rating of 0 indicates no particulate matter detected in impaction area. High levels of background particulate can obscure spores and other particulates leading to underestimation. A rating of 5 indicates an overloading of background particulates, prohibiting the accurate detection and quantification of spores that may be present. A rating of 1-4 indicates low to extremely high. Due to method stopping rules, raw counts in excess of 500 are extrapolated based on the percentage analyzed. Criterion maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by Criterion. Criterion bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. Samples analyzed by Criterion Laboratories, Inc. AIHA-LAP, LLC-EMLAP Lab 100424

Reviewed By:   
 Andrew Schwab  
 EMLAP Quality Manager

12/30/21  
 Date



# Chain of Custody

**Matrix** Air  
**Analyte** Air-O-Cell (Fungal)  
**Analysis Type** Brightfield Microscopy  
**Container** Cassette  
**Project** 212727  
**Client** Voith & Mactavish Architects, LLC  
**Site Address** Lincoln University, Lincoln, PA  
 Cresson Hall  
**Location**  
**Turnaround** 3 - 5 Days  
**Field Tech** Michael Barth  
**Sample Notes**  
**Chain of Custody Notes**

## Additional Analytes

Sample Number	Sample Type	Location	Received Condition	Date	Notes
212727-01-192-01-01	Area Sample	1st Floor Hallway	Good	12/21/2021	
212727-01-192-01-02	Area Sample	2nd Floor Hallway	Good	12/21/2021	
212727-01-192-01-03	Area Sample	3rd Floor Hallway	Good	12/21/2021	
212727-01-192-01-04	Area Sample	4th Floor Hallway	Good	12/21/2021	
212727-01-192-01-05	Area Sample	Basement Level	Good	12/21/2021	
212727-01-192-01-06	Ambient	Ambient	Good	12/21/2021	

**Sample Count** 6

Handling Chain Type	Handled By	Date	Time	Notes
Report Results To	Eric Wysocki	12/15/2021		
Send Reports To	Voith & Mactavish Architects, LLC	12/15/2021		
Samples Taken By	Michael Barth	12/15/2021	15:30	
Transported By	Michael Barth	12/19/2021	22:00	
Relinquished By	Michael Barth	12/19/2021	22:00	
Received By	Kyla Ford	12/21/2021	08:37	
Analyzed By	Lauren Mitchell	12/29/2021	16:35	
Reviewed By	Andrew Schwab	12/30/2021	08:58	



January 12, 2022

Voith & Mactavish Architects, LLC  
 2401 Walnut Street  
 6<sup>th</sup> Floor  
 Philadelphia, PA 19103

**ATTENTION:** Ms. Elizabeth Nestor

**REFERENCE:** Lead-Based Paint Chip Sampling  
 Lincoln University – Cresson Hall  
 Lincoln, PA  
 Criterion’s Project Number **212727**

Dear Ms. Nestor,

Enclosed please find the results of the paint chip analysis for lead content. The samples were collected by Mr. Michael Barth of Criterion Laboratories, Inc. (Criterion) on December 15, 2021.

A total of eight (8) paint chip samples were collected from throughout the building.

The Environmental Protection Agency (EPA) has an established action level for lead content of 0.5 percent by weight or 5,000 parts per million (ppm) as determined by laboratory analysis. If laboratory analysis indicates that the lead content exceeds 5,000 ppm, the existence of lead-based paint is confirmed.

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

Location	Surface Tested	Result (%By Weight)	Results
Exterior	White Wood	46.3	Positive
Exterior	White Wood	30.9	Positive
1 <sup>st</sup> Floor Hallway	Blue Metal Support Beam	0.59	Positive
1 <sup>st</sup> Floor Hallway	Blue Metal Support Beam	4.9	Positive
Basement Stairwell	White Brick	0.06	Negative
Basement Stairwell	White Brick	0.07	Negative
2 <sup>nd</sup> Floor	White Wood Window Casing	0.07	Negative
2 <sup>nd</sup> Floor	White Wood Window Casing	0.05	Negative

Ms. Elizabeth Nestor  
Voith & Mactavish Architects, LLC  
January 12, 2022  
Page 2

Lead chip sample results are attached. If you should have any questions, please call me at 215-244-1300, extension 1030.

Sincerely,

A handwritten signature in black ink, appearing to read "E Wysocki". The signature is stylized with a large initial "E" and a series of loops for the last name.

Eric Wysocki  
Project Manager

Attachment



## Lead Analysis EPA Method 6200 (Bulk)

Client <u>Voith &amp; Mactavish Architects, LLC</u>	Site Address <u>Lincoln University, Lincoln, PA Cresson Hall</u>	Sample Date <u>12/15/2021</u>
Project # <u>212727</u>		Sample Received Date <u>12/21/2021</u>
Collected By <u>Criterion Laboratories, Inc.</u>	Analyzed By <u>Karaturk, Hazel</u>	Sample Analysis Date(s) <u>12/30/2021</u>

Sample Number	Location / Description	Results (%)
212727-02-023-01-01	Exterior - White Wood Paint	46.3400 +/- 0.4800
212727-02-023-01-02	Exterior - White Wood Paint	30.9400 +/- 0.3200
212727-02-023-01-03	1st Floor Hallway - Blue Metal Support Beam	0.5944 +/- 0.0163
212727-02-023-01-04	1st Floor Hallway - Blue Metal Support Beam	4.8800 +/- 0.0700
212727-02-023-01-05	Basement Stairwell - White Brick	0.0615 +/- 0.0054
212727-02-023-01-06	Basement Stairwell - White Brick	0.0733 +/- 0.0061
212727-02-023-01-07	2nd Floor - White Wood Window Casings	0.0685 +/- 0.0054
212727-02-023-01-08	2nd Floor - White Wood Window Casings	0.0517 +/- 0.0060

Sample Count 8

James A. Weltz, CIH, Technical Director

Criterion Laboratories, Inc. bears no responsibility for sample collection activities of non-Criterion personnel. This report relates only to the samples reported above, and when reproduced, must be in its entirety; QC data associated with this sample set is within acceptable limits; Samples were received in good condition. \*\* Note: If your project number ends with an "R", it is a revised report and replaces the original document in full. Samples are analyzed by Criterion Laboratories, Inc. using CLI Method: 355 (EPA 6200) analysis using XRF Fluorescence Spectrometer.

Criterion Laboratories, Inc. (ID 100424) is accredited by the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC in the IHLAP; EMLAP and ELLAP accreditation programs for Polarized Light Microscopy (PLM), Phase Contrast Microscopy (PCM); Air-Direct Examination; and Airborne Dust, Paint, Settled Dust by Wipe and Soil for Fields of Testing as documented by the Scope of Accreditation Certificate and associated Scope. Additionally, Criterion Laboratories, Inc. is certified by the Center for Disease Control (CDC) Environmental Legionella Isolation Techniques Evaluation (ELITE) Program for the determination of Legionella in water by culture and holds accreditation from the National Voluntary Laboratory Accreditation Program (NVLAP ID 102046-0) for the determination of asbestos in bulk samples by Polarized Light Microscopy (PLM). This test report must not be used to claim product endorsement by NVLAP, NIST, AIHA or any agency of the US Government. Unless specifically listed as above, these test results are not covered under AIHA-LAP, LLC, 100424 accreditation.

**THIS IS THE LAST PAGE OF THE REPORT**



# Chain of Custody

**Matrix** Bulk/Building Material  
**Analyte** Lead  
**Analysis Type** XRF  
**Container** Bag  
**Project** 212727  
**Client** Voith & Mactavish Architects, LLC  
**Site Address** Lincoln University, Lincoln, PA  
 Cresson Hall  
**Location**  
**Turnaround** 3 - 5 Days  
**Field Tech** Michael Barth  
**Sample Notes**  
**Chain of Custody Notes**

## Additional Analytes

Sample Number	Location	Description	Received Condition	Date	Notes
212727-02-023-01-01	Exterior	White Wood Paint	Good	12/21/2021	
212727-02-023-01-02	Exterior	White Wood Paint	Good	12/21/2021	
212727-02-023-01-03	1st Floor Hallway	Blue Metal Support Beam	Good	12/21/2021	
212727-02-023-01-04	1st Floor Hallway	Blue Metal Support Beam	Good	12/21/2021	
212727-02-023-01-05	Basement Stairwell	White Brick	Good	12/21/2021	
212727-02-023-01-06	Basement Stairwell	White Brick	Good	12/21/2021	
212727-02-023-01-07	2nd Floor	White Wood Window Casings	Good	12/21/2021	
212727-02-023-01-08	2nd Floor	White Wood Window Casings	Good	12/21/2021	

**Sample Count**   8  

Handling Chain Type	Handled By	Date	Time	Notes
Report Results To	Eric Wysocki	12/15/2021		
Send Reports To	Voith & Mactavish Architects, LLC	12/15/2021		
Samples Taken By	Michael Barth	12/15/2021	15:30	
Transported By	Michael Barth	12/19/2021	22:00	
Relinquished By	Michael Barth	12/19/2021	22:00	
Received By	Kyla Ford	12/21/2021	08:42	
Analyzed By	Hazel Karaturk	12/30/2021	12:00	
Reviewed By	Andrew Schwab	12/30/2021	13:09	



# ***REPORT ON A UNIVERSAL WASTE INSPECTION***



***Field  
Services***



***Lab  
Services***



***Training  
Services***

**At:**

**Lincoln University  
Lincoln, PA  
Cresson Hall**

**For:**

**Ms. Elizabeth Nestor  
Voith & Mactavish Architects, LLC  
2401 Walnut Street  
6<sup>th</sup> Floor  
Philadelphia, PA 19103**

**Prepared By:**

**Mr. Eric Wysocki  
Project Manager**

**Report Date:**

**January 12, 2022**

**Project Number:**

**212727**

**Dates of Project:**

**December 16, 2021**

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**Section Number**

**1.0 Project Overview**

1.1 Purpose

1.2 Personnel

1.3 Procedures

1.4 Conclusions/Discussion

**2.0 Inventory of Universal Waste Materials**

## ***1.0 PROJECT OVERVIEW***

## **1.0 PROJECT OVERVIEW**

### **1.1 Purpose**

Criterion Laboratories, Inc. (Criterion) was requested by Ms. Elizabeth Nestor of Voith & Mactavish Architects, LLC to perform a Universal Waste Inspection of Cresson Hall located on the campus of Lincoln University in Lincoln, PA. (the "Property"). The purpose of the investigation was to assess the presence of Polychlorinated Biphenyl's (PCB's), Mercury, Freon, and other hazardous materials. The site inspection was performed on December 16, 2021.

Fluorescent light ballasts contain capacitors that could be filled with PCB-laden dielectric fluid. PCB's may also be found in other mechanical, electrical, and hydraulic devices. Generally, if the ballasts are not marked "No PCB's", they are assumed to contain PCB's. Accordingly, they should be containerized (i.e., 55-gallon drums) for characterization and disposal in a Toxic Substances Control Act (TSCA)-approved landfill.

Fluorescent light tubes and arc sodium bulbs contain mercury and should be properly packaged (i.e., cardboard boxes) and transported to a recycling facility prior to any demolition activities.

Refrigerants from water fountains should be recycled prior to their disposal.

### **1.2 Personnel**

The universal waste inspection was performed by Mr. Jonathan McKinnon, Industrial Hygienist of Criterion. The report was written by Mr. Eric Wysocki, Project Manager of Criterion.

### **1.3 Procedures**

A thorough visual inspection of the property was conducted for any potential hazardous materials.

### **1.4 Conclusions/Discussion**

Wastes observed in the building included mercury containing fluorescent light bulbs, PCB-containing light ballasts, refrigerants, petroleum products, lead acid batteries and gas cylinders.

Mercury-containing fluorescent light tubes have been identified throughout the building. Fluorescent light tubes can be packaged in cardboard boxes and disposed of at a recycling facility if they are to be removed. A representative amount of fluorescent light ballasts were inspected, and some were found to contain labels marked "No PCB's" while others did not.

Any light ballast not labeled "No PCBs" should be containerized (i.e. 55-gallon drums) for characterization and disposal in a Toxic Substances Control Act (TSCA)-approved landfill.

Exit signs may contain lead acid batteries which have special disposal requirements.

Petroleum products found in cans and an above ground storage tank (AST) located in the Basement should be disposed of properly.

Oxygen cylinders require specific handling and disposal.

Please refer to Section 2.0, Inventory of Universal Waste Materials for specific quantities of the wastes observed.

If you should have any questions, please do not hesitate to contact me at (215) 244-1300, extension 1030.

WRITTEN BY:



---

Eric Wysocki  
Project Manager

## ***2.0 INVENTORY OF UNIVERSAL WASTE MATERIALS***

## 2.0 Inventory of Universal Waste Materials

**Lincoln University  
Cresson Hall  
Lincoln, PA**

<u>Location</u>	<u>Material</u>	<u>Quantity</u>	<u>Hazardous Waste</u>
Throughout the Building	Fluorescent Light Bulbs	760 Linear Feet (LF)	Mercury
Throughout the Building	Fluorescent Light Ballasts	130 EA	PCBs
Throughout the Building	Exit Signs	11 EA	Lead Acid Battery
2 <sup>nd</sup> Floor Hallway at Center Stairwell	Water Fountain Refrigerant	1 EA	Freon
1 <sup>st</sup> Floor Kitchen	Liquified Petroleum	4 Cans	Hydrocarbons
1 <sup>st</sup> Floor Kitchen	Oxygen Cylinder	3 EA	Compressed Gas
Basement	Storage Tank	1 EA	Hydrocarbons