

## MEMORANDUM

TO: ECU Campus Community

FROM: Paul Barry, MD, MPH, director, ECU Prospective Health  
Bill Koch, MSE, associate vice chancellor for  
campus safety and auxiliary services

DATE: November 30, 2021

SUBJ: Environmental Health & Safety update to campus: Brewster A-Wing

We await the final report from NIOSH, which will include the study of the incidence of cancer cases. Based on the complexity of obtaining and reviewing sufficient medical information to conduct a thorough case study, NIOSH has informed ECU that it does not expect to provide a final report until 2022.

No building-related health concerns or sources connected to reported building occupant health issues have been identified by any of the offices and agencies involved in the Brewster-A Wing Health Hazard Evaluation.

In this communication, you will find summaries of the Terracon and NCDHHS reports and a longer update of the Brewster-A Wing Health Hazard Evaluation findings to date.

### **Summary of Terracon Asbestos Consulting Services Report (Nov. 4, 2021):**

Terracon, a third-party consultant, was contracted to conduct an asbestos survey of Brewster-A Wing. Terracon conducted the asbestos survey on Oct. 6, 2021. Terracon staff conducted a walkthrough to identify and assess suspect asbestos-containing building materials and collected samples of suspect building material, air and drinking water.

Asbestos was not identified in the water or air samples collected. The air and water samples were analyzed by transmission electron microscopy (TEM), which provides a high level of magnification (20,000X and above). TEM is a conclusive detection technique for asbestos fibers because asbestos and non-asbestos fibers can be differentiated in the images. TEM is a sensitive technique, as well, meaning it can detect much less than the Environmental Protection Agency's (EPA) regulatory limit for asbestos in drinking water. No asbestos fibers were detected.

The consultant did detect asbestos in building materials. Some building materials containing asbestos had not been previously identified. The materials were in good condition and inaccessible to building occupants, except for vinyl floor tile. Vinyl floor tile is accessible to building occupants, but it is non-friable. According to the EPA, non-friable means that the material, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure. It is only potentially harmful when damaged by drilling, grinding, sanding or significant breakage during removal.

The consultant reported no health concerns and recommended continuing to manage the asbestos-containing material in place. The Terracon report has been shared with NCDHHS and NIOSH for their review. The report is attached.

**Summary of NCDHHS Review of Occupational Health Concerns in Brewster Building Report (Nov. 16, 2021):**

On Nov. 17, EH&S received the NCDHHS report on occupational health concerns in the Brewster Building (A Wing). The cover letter and report are attached and have been shared with NIOSH. The report outlines the findings of a walkthrough of Brewster Building - A Wing conducted on Aug. 26 by Mr. David Lipton, Certified Industrial Hygienist with NCDHHS. He was accompanied by two EH&S staff, an engineer with Facilities Services and Dr. Rick Langley, Medical Consultant with the N.C. Division of Public Health, Occupational and Environmental Epidemiology Branch. The purpose of the walkthrough was to evaluate the design and operation of the HVAC systems and inspect the A Wing building for visibly obvious conditions that could have an impact on the indoor environment.

Overall, NCDHHS found no obvious conditions that could have negative impacts on the indoor environmental quality of the Brewster Building – A Wing.

**Brewster-A Wing Health Hazard Evaluation Findings as of Nov. 22, 2021:**

Based on concerns reported by faculty, EH&S staff conducted an environmental assessment of Brewster-A Wing from June to August 2019. The A Wing of Brewster houses faculty and support staff office spaces for several academic departments. The concerns were based on several reported pancreatic cancer deaths of faculty with offices in the building.

The EH&S Indoor Environmental Assessment involved:

- Review of pancreatic cancer reference materials to understand causative agents or factors
- A walkthrough of the building to identify potential sources of pancreatic cancer or other indoor air quality issues
- HVAC and plumbing inspection
- Air testing for indoor air indicators (CO, CO<sub>2</sub>, relative humidity and temperature)
- Gamma radiation and radon testing
- Water quality analysis per NCDHHS drinking water standards (inorganic chemical and bacteriological)
- Air monitoring for volatile organic compounds per EPA TO-15 Method

All air and water quality sampling results were within normal recommended standards with many at non-detectable levels. Visual inspection revealed no observed sources for significant health issues or pancreatic cancer.

EH&S received an email from a member of the ECU Faculty Senate (Dr. Annette Greer) on July 9, 2021, and a letter from a member of the Association of American University Professors (Dr. Karin Zipf) on July 13, 2021, requesting additional evaluation. EH&S discussed the concerns and next steps with Dr. Zipf and Dr. Greer and informed the ECU Director of Prospective (Employee) Health and the Pitt County Health Director. EH&S involved a faculty expert in cancer epidemiology, a Vidant oncologist specializing in pancreatic cancer, and the NCDHHS Cancer Registry and Division of Public Health – Occupational and Environmental Epidemiology Branch. The NCDHHS staff reviewed the 2019 EH&S Indoor Environmental Assessment of Brewster-A Wing and stated that it was comprehensive with standard findings expected from a 50-year-old office building.

### **NIOSH Assessment**

A request was submitted to NIOSH by both EH&S and concerned faculty to request a Health Hazard Evaluation. On Aug. 24, 2021, Dr. Paul Barry, director of ECU's Office of Prospective Health, and ECU's EH&S/Facilities Services team had an initial meeting with the NIOSH unit handling the Health Hazard Evaluation. The discussion involved an overview of the building activities and work completed to date. The NIOSH team indicated they would conduct a two-track process, very similar to the EH&S approach. The NIOSH occupational safety team would work with the EH&S office and Facilities Services to assess the Brewster Building, while their medical team would work with Dr. Barry and physicians and scientists at ECU to assess the cancer cases.

All reports, testing and requested materials regarding Brewster Building have been submitted to NIOSH for consideration in their evaluation. The NIOSH industrial hygienist requested building drawings, pest control information and information for housekeeping chemicals. The NIOSH team has reported no building-related concerns to date. A NIOSH physician is working with the ECU medical team and NCDHHS to obtain the remainder of medical records. The NIOSH team is completing the building environmental assessment and cancer cluster case work and expect a draft report to be completed and submitted to NIOSH management for review in January 2022.

### **NCDHHS Assessment**

EH&S requested a meeting with NCDHHS representatives to discuss pancreatic cancer concerns and conduct a site assessment of Brewster-A Wing. A public health physician and a certified industrial hygienist with NC DHHS conducted an on-site assessment on Aug. 26, 2021. NCDHHS identified no health concerns during the site assessment.

The NCDHHS team provided initial assistance during a virtual meeting on July 28. The industrial hygiene team reviewed the 2019 indoor environmental quality assessment conducted by ECU EH&S. The 2019 assessment was determined by NCDHHS to be thorough and comprehensive, reporting conditions representative of a typical building that is 50+ years old and no indication of hazardous operations previously conducted in the building. The NCDHHS team also shared a brief literature review and a summary of pancreatic risk factors from the American Cancer Society. The only environmental risk factor associated with pancreatic cancer is exposure to chemicals in dry cleaning and metal working industries, which do not apply to the Brewster Building. Finally, NCDHHS recommended contacting NIOSH to request a health hazard evaluation (HHE), which ECU EH&S completed online immediately following the meeting.

On Nov. 17, EH&S received the NCDHHS report on occupational health concerns in the Brewster Building (A Wing). The cover letter and report are attached and have been shared with NIOSH. The report outlines the findings of a walkthrough of Brewster Building - A Wing conducted on Aug. 26 by Mr. David Lipton, Certified Industrial Hygienist with NCDHHS. He was accompanied by two members of EH&S, an engineer with Facilities Services and Dr. Rick Langley, Medical Consultant with the NC Division of Public Health, Occupational and Environmental Epidemiology Branch. The purpose of the walkthrough was to evaluate the design and operation of the HVAC systems and evaluate the building for visibly obvious conditions that could have an impact on the indoor environment. Overall, NCDHHS found no obvious conditions that could have negative impacts on the indoor environmental quality of the Brewster Building-A Wing. Mr. Lipton recommended proceeding with the asbestos-containing materials survey using a qualified and N.C. accredited asbestos inspector. At the time of the NCDHHS walkthrough, ECU was in the process of hiring a consultant.

The NCDHHS report mentioned the following observations and suggestions:

- No obvious sources of pollutants were identified near outdoor air intakes.
- Mr. Lipton felt the planned upgrades to the HVAC building automation system described by the Facilities Services engineer would help monitor the system for operational anomalies, increase energy efficiency, ease maintenance and better control space temperature.
- Directional diffusers are a better choice than blocking air flow at individual room vents.
- Pandemic guidance recommends installing HVAC filters with a minimum efficiency value rating (MERV) of 13. ECU is using MERV 8 filters due to the increased drag on the fan motors and reduced air flow caused by using a MERV 13 filter.
- The CO2 levels were found to be consistently around 600 parts per million, which is well within recommended standards and indicative of good air flow and outdoor air exchange.

Overall, the NCDHHS certified industrial hygienist and other NCDHHS team members found no obvious conditions that could have negative impacts on the indoor environmental quality of Brewster – A Wing.

### **Terracon Asbestos Assessment**

In response to a specific request in the AAUP letter, Terracon, a third-party consultant was contracted to conduct an asbestos survey of Brewster-A Wing. Terracon conducted the asbestos survey on Oct. 6, 2021. Terracon staff conducted a walkthrough of all rooms and areas within the building to identify and assess suspect asbestos-containing building materials. In addition, samples were collected of suspect building material, air and drinking water.

Asbestos was not identified in the water or air samples collected. The air and water samples were analyzed by transmission electron microscopy (TEM), which provides a high level of magnification (20,000X and above). TEM is a conclusive detection technique for asbestos fibers, because asbestos and non-asbestos fibers can be differentiated in the images. TEM is a sensitive technique, as well, meaning it can detect much less than the Environmental Protection Agency's regulatory limit for asbestos in drinking water. No asbestos fibers were detected.

The consultant did detect asbestos in some building materials that had not been previously identified. The materials were in good condition and inaccessible to building occupants, except for vinyl floor tile. Vinyl floor tile is accessible to building occupants, but it is non-friable. According to the EPA, non-friable means that the material, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. It is only potentially harmful when damaged by drilling, grinding, sanding or significant breakage during removal.

The consultant reported no health concerns and recommended continuing to manage the asbestos-containing material in place. The Terracon report has been shared with NCDHHS and NIOSH for their review. The report is attached.

To date, no building-related health concerns have been identified, but EH&S will wait for NIOSH to complete its assessment and provide a final report before drawing any conclusions.