

February 21, 1994

REPORT: Full Building Survey

TO: Linda McCracken-Hunt, Project Development, 100 Shops Building
Tim Nelson, Facilities Management Asbestos Coordinator
Fay Thompson, Department of Environmental Health and Safety, Director

FROM: John Allen, Asbestos Group, Environmental Health and Safety, B-7 U-Tech Building,
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SUBJECT: Asbestos Material Survey - Johnston Hall
EH&S Project No: 073-93-163
Client Project No: For Data Base

Scope of Work: A full building asbestos material survey was conducted on December 29, 1993 through January 26, 1994. The purpose of the survey was to identify asbestos-containing materials (ACM) as defined by the Environmental Protection Agency (EPA). Any material that is greater than 1% asbestos is considered to be ACM. The intent of the survey was to identify both friable and nonfriable suspect ACM, identify nonfriable ACM that may become friable under demolition or renovation conditions, and to provide approximate cost estimates for the removal of identified ACM prior to renovation of Johnston Hall.

Project Description: Bulk samples of suspect ACM were collected on-site and analyzed via polarized light microscopy (PLM) for asbestos content. Results of analyses are listed in Appendix I of this report. Appendix I is formatted to provide a room by room inventory of suspect ACM, the asbestos content of each material listed, and friability. An explanation of the tables and abbreviations used in the tables is included with Appendix I. Appendix II is a room by room listing of only those suspect materials that tested >1% asbestos. Minnesota Department of Health (MDH) Asbestos Rules regulate only friable ACM (material may be reduced to powder or dust under hand pressure) while the EPA regulates ACM that may become friable under demolition or renovation conditions.

The following friable or potentially friable materials tested positive as ACM:

- <4" white fibrous pipe insulation and associated pipe fitting insulation
- <4" felt with tar insulation and associated pipe fitting insulation
- <4" fibrous pipe fitting insulation on fiberglass with tar
- <4" fibrous pipe fitting insulation on fiberglass
- 4"-8" white fibrous pipe insulation and associated pipe fitting insulation
- 4"-8" felt with tar insulation and associated pipe fitting insulation
- 4"-8" fibrous pipe fitting insulation on horsehair with tar
- 9"-14" white fibrous pipe insulation and associated pipe fitting insulation
- 2'x2' ceiling tile, crater pinhole
- 2'x2' ceiling tile, fissured pinhole
- 9"x9" floor tile, black with tan
- 9"x9" floor tile, grey with black and white
- 9"x9" floor tile, beige with light grey and white
- 12"x12" floor tile, beige with light grey and white
- 12"x12" floor tile, beige with dark brown
- white putty on metal duct
- wall transite

The following suspect materials tested none detected (ND) as ACM:

- <4" fiberglass with tar pipe insulation
- <4" fibrous pipe fitting insulation on fiberglass

- ceiling plaster
- wall plaster
- 12"x12" ceiling tile, white with concentric holes
- 12"x12" ceiling tile, white with large holes
- 12"x12" wall tile, fissured
- 2'x4' ceiling tile, crater pinhole
- 2'x4' ceiling tile, fissured pinhole
- 12"x12" floor tile, aqua with peach and red
- 12"x12" floor tile, yellow with aqua and red
- 12"x12" floor tile, grey with white
- baseboard adhesive, brown
- sheetrock and taping compound
- red clay tile mortar
- clay tile mortar
- concrete block mortar
- red/yellow brick mortar
- canvass vibration joints
- wood paneling
- wall board
- pyrobar mortar

The following nonfriable with low potential to become friable materials tested positive as ACM:

- **floor tile adhesive**
- **ceiling tile adhesive**

The following nonfriable with low potential to become friable materials tested less than 1% asbestos:

- <4" cork with tar insulation and associated pipe fitting insulation
- 4"-8" horsehair with tar pipe insulation

For room locations of above noted materials, refer to Appendices.

Observations and Recommendations:

1. Department of Environmental Health & Safety (DEHS);
Please refer to condition assessments for specific damaged areas. In general, materials were found to be in good to excellent shape and do not pose serious health threats to the building occupants.
2. Facilities Management;
Asbestos containing white fibrous debris was found in the interstitial area between the 3rd and 4th Floors. Before impacting the 3rd Floor ceiling, the area should be cleaned and the plaster sprayed with an encapsulant. Contact Facilities Management's Asbestos Coordinator Tim Nelson if these remediation techniques wish to be examined further.

In many rooms throughout the building, carpeting is covering the asbestos containing floor tile. This should be noted in case the carpeting is removed during any proposed renovation project. If the floor tile comes up with the carpet, the carpet should then be removed by the Facilities Management Asbestos Abatement Unit.

Asbestos containing ceiling tiles were found in the following areas: Rooms B1, B10, B12, B14, B16, the B10 Hall and Ground Floor Hallway. Proper Operation & Maintenance (O&M) procedures should be followed whenever working on or above these ceiling tiles.

3. General;
In the Appendices, reference sample numbers with the preface **R** refer to samples referenced from previous surveys conducted by the Department of Environmental Health & Safety. The original sample date is given following the material description.

Due to limited access points in the plaster ceilings and walls, some pipe chases were completely inaccessible or only slightly visible. As a result, the quantities listed reflect the visibility available at the time of the survey.

Although no roof sampling was done, complete roof sampling is recommended at a time when a qualified roofing contractor is on-site to patch core sample holes in roofing.

The following rooms were inaccessible at the time of the survey: Rooms B20, B20 A, B30, B36 and 501.

Cost Information: The approximate cost for the removal of all ACM is itemized below. These figures are based on the assumption that all friable and potentially friable ACM are going to be removed. For project specific removal costs, contact this office with your project requirements and unit costs can be calculated for the impacted areas.

MATERIAL TYPE	LOW RANGE	HIGH RANGE
• thermal system insulation	\$212,855	\$274,759
• floor tile & adhesive	104,292	208,584
• ceiling tile adhesive	82,960	165,920
• ceiling tile	7,398	14,796
• wall transite	300	450
TOTAL	\$407,805	\$664,509

All ACM removal must be performed by a Minnesota licensed asbestos abatement contractor. All asbestos removal shall be performed within the specified procedures as outlined in the University of Minnesota Technical Specification for Asbestos Abatement. Please note that removal costs are highly variable and dependent on such factors as contractor availability, accessibility of work areas and site specific work plans.

Air monitoring is required for many asbestos-related projects. Environmental Health and Safety (EH&S) is available to provide this service. The estimated cost for EH&S to complete air monitoring requirements for specific projects will be made available upon request. The cost of air monitoring is a function of contractor on-site days and may vary dependent upon project specific scope of work. EH&S will provide labor, equipment and project oversight as necessary. Project management and contract administration will be provided by the Facilities Management Project Development Group.

EH&S also recommends that throughout the general renovation activities associated with this building, precautions and work practices should be implemented to minimize nuisance dust levels. Dust suppression techniques (misting the air with water and keeping materials wet) should be required of the general contractor.

If there is any further information required, or other questions arise regarding this request, please contact John Allen at 627-4861.

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