

February 21, 1995

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, Suite 153 U-Tech East  
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SUBJECT: Asbestos Material Survey - Electrical Engineering Building  
EH&S Project No: 043-95-010  
Client Project No: For Data Base

**Scope of Work:** A full building asbestos material survey was conducted on August 28 through September 27, 1990 by Delta Environmental Consultants, Inc. 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 the Electrical Engineering Building.

**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" aircell pipe insulation and associated pipe fitting insulation
- <4" felt with tar pipe insulation and associated pipe fitting insulation
- <4" fibrous pipe fitting insulation on fiberglass
- <4" fibrous pipe fitting insulation on fiberglass with tar
- <4" fibrous pipe fitting insulation on white fibrous with tar
- 4"-8" white fibrous pipe insulation and associated pipe fitting insulation
- 4"-8" aircell pipe insulation and associated pipe fitting insulation
- 4"-8" felt with tar pipe insulation and associated pipe fitting insulation
- 4"-8" fiberglass with tar pipe insulation and associated pipe fitting insulation
- 4"-8" fibrous pipe fitting insulation on blue foam
- 4"-8" fibrous pipe fitting insulation on fiberglass
- 9"-14" white fibrous pipe insulation
- wall plaster patching
- 12"x12" ceiling tile, uniform holes
- 9"x9" floor tile, beige with brown
- 9"x9" floor tile, grey with white
- 9"x9" floor tile, grey with green
- 9"x9" floor tile, white with brown
- 9"x9" floor tile, grey with black and white
- 9"x9" floor tile, tan with white and brown
- 9"x9" floor tile, light grey with white and black

- **12"x12" floor tile, grey with black**
- **12"x12" floor tile, beige with white**
- **12"x12" floor tile, grey with black and white**
- **12"x12" floor tile, white with grey**
- **12"x12" floor tile, black with white**
- **12"x12" floor tile, black with white and red**
- **12"x12" floor tile, light grey with black and white streaks**
- **12"x12" floor tile, yellow**
- **12"x12" floor tile, tan with grey and white**
- **1'x2' floor tile, brown**
- **linoleum, cream with white and grey**
- **transite panels**

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

- <4" fiberglass pipe insulation
- <4" fiberglass with tar pipe insulation
- <4" white fibrous with tar pipe insulation
- 4"-8" fiberglass pipe insulation
- 4"-8" blue foam pipe insulation
- 4"-8" cork with tar pipe insulation
- ceiling plaster
- wall plaster
- 12"x12" ceiling tile, pegboard
- 12"x12" ceiling tile, large and small hole
- 12"x12" ceiling tile, pinhole fissured
- 12"x12" ceiling tile, pinhole
- 12"x12" ceiling tile, random hole
- 12"x12" wall tile, textured acoustical
- 12"x12" ceiling tile, random fissured
- 2'x2' ceiling tile, fissured
- 2'x2' ceiling tile, pinhole
- 2'x4' ceiling tile, pinhole fissured
- 2'x4' ceiling tile, pinhole
- 2'x4' ceiling tile, textured sheetrock
- 9"x9" floor tile, green with black and white
- 9"x9" floor tile, light grey with black and white
- 9"x9" floor tile, black with white
- 9"x9" floor tile, grey with white and black
- 12"x12" floor tile, beige with brown and cream
- 12"x12" floor tile, caramel with black and cream
- 12"x12" floor tile, white with black
- 12"x12" floor tile, cream with green
- 12"x12" floor tile, cream with grey
- 12"x12" floor tile, cream with grey and brown
- 12"x12" floor tile, beige with brown and cream
- 12"x12" floor tile, light grey with black and white
- 12"x12" floor tile, grey with white and black
- linoleum, pine green
- fiberglass duct insulation
- canvass vibration joints
- lab tops and sinks
- baseboard adhesive, brown
- sheetrock and taping compound
- concrete block mortar
- brick mortar
- pyrobar and mortar

- clay tile mortar
- black tar paper under wood floor
- exterior duct insulation, blue foam
- ceiling tile adhesive

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

- **floor tile adhesive**
- **black tar on duct**
- **black wall patching compound**
- **baseboard adhesive, brown**
- **ceiling tile adhesive**

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

- ceiling tile adhesive

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.
2. Facilities Management;  
Asbestos containing debris was found on the dirt floor of the Sub-basement. This area must be considered a controlled access space until it is decontaminated. Contact Tim Nelson, Facilities Management's Asbestos Coordinator, for proper remediation techniques.

Asbestos containing wall plaster patching was identified in the North-South Hallway on the 2nd Floor near Room 239. Additional samples were collected by Delta Environmental to isolate the asbestos containing plaster. Delta determined that the asbestos containing plaster was limited to fifty square feet.

In some rooms throughout the building, carpeting is covering the asbestos containing floor tile. This should be noted in case the carpeting is removed during the 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 or a Minnesota Licensed asbestos abatement contractor.

3. General;  
Due to limited access points in the ceilings and walls, some pipe chases and areas above ceilings 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.

Rooms 13, 14, 33, and 34 were inaccessible at the time of the survey.

**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	\$299,583	\$377,362
• floor tile & adhesive	64,538	129,076
• wall transite	9,100	13,650

• ceiling tile and adhesive	<b>1,760</b>	<b>3,520</b>
<b>TOTAL</b>	<b>\$374,981</b>	<b>\$523,608</b>

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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