

January 4, 1995

REPORT: Full Building Survey

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SUBJECT: Asbestos Material Survey - Centennial Hall
EH&S Project No: 068-94-130
Client Project No: For Data Base

Scope of Work: A full building asbestos material survey was completed on December 28, 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 Centennial Hall.

Project Description: Bulk samples of suspect ACM were collected on-site and analyzed via polarized light microscopy (PLM) by Milan Asbestos Laboratory 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 pipe insulation and associated pipe fitting insulation
- <4" fibrous pipe fitting insulation on fiberglass
- 4"-8" white fibrous pipe insulation and associated pipe fitting insulation
- 4"-8" felt with tar pipe insulation and associated pipe fitting insulation
- 4"-8" fibrous pipe fitting insulation on fiberglass
- 9"-14" white fibrous pipe insulation and associated pipe fitting insulation
- white fibrous tank insulation
- 9"x9" floor tile, black with white
- 9"x9" floor tile, light grey with peach and charcoal
- 12"x12" floor tile, red with black

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

- ceiling plaster
- wall plaster
- 12"x12" floor tile, black with white
- 12"x12" floor tile, white with grey
- 12"x12" ceiling tile, pegboard
- 12"x12" ceiling tile, random pencil holes

- 12"x12" ceiling tile, pinhole fissured
- 12"x12" ceiling tile, fissured
- 2'x2' ceiling tile, pinhole mini crater
- 2'x2' ceiling tile, pinhole fissured
- 2'x2' ceiling tile, pinhole textured
- 2'x4' ceiling tile, pinhole textured
- 2'x4' ceiling tile, mini pinhole textured
- 2'x4' ceiling tile, sheetrock
- baseboard adhesive, brown
- sheetrock and taping compound
- textured sheetrock
- canvass vibration joint
- brick mortar
- clay tile mortar
- pyrobar and mortar
- concrete block mortar

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

- **floor tile adhesive**

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

- 9"x9" floor tile, khaki with white
- 12"x12" floor tile, white with olive and charcoal
- 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 and do not pose significant health concerns to the building occupants.
2. Facilities Management;
The Center Pipe Space has been cleaned and encapsulated. The floor has been sealed with a rubber barrier. Air test conducted in this area after encapsulation by MacNeil Environmental, Inc. (5/19/1992) indicate fiber concentrations less than 0.01 f/cc. Contractors working in this area should be instructed to use caution when working on the rubber membrane floor. This material should not be punctured.

In the Appendices, material descriptions followed by a date refer to samples referenced from previous surveys conducted by Braun Environmental or by the Department of Environmental Health & Safety. The date refers to the original sampling date.

In many rooms and hallways carpeting is covering the asbestos containing floor tile. This should be noted in case the carpeting is removed during a 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.

Samples taken of the white fibrous fittings on fiberglass lines produced mixed results. As a result, these materials are listed in the Appendices as being asbestos containing.

3. General;
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, or prior to roof removal or demolition.

Due to limited access points in the 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.

Due to the installation of a new elevator in the South Building, there was no access and, thus, no materials listed for the 6W stairwell.

The west wing of the Basement was inaccessible at the time of the survey due to a construction project. In addition, the following areas were also inaccessible: Rooms 36A, B2, B3, B79, B79A, E28, E38A, W21, W23, and P8301; and the Northwest Stairs in the Basement.

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.

| <u>MATERIAL TYPE</u> | <u>LOW RANGE</u> | <u>HIGH RANGE</u> |
|-----------------------------|------------------|-------------------|
| • thermal system insulation | \$162,667 | \$213,735 |
| • floor tile | 106,528 | 213,056 |
| TOTAL | \$269,195 | \$426,791 |

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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