July 5, 2007

REPORT: Full Building Survey

TO: Tim Nelson, Facilities Management's Asbestos Coordinator, 400 Donhowe Building
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FROM: Dale Livingston, Asbestos Group, Environmental Health and Safety, W-140 Boynton
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SUBJECT: Asbestos Material Survey - Peik Gym
EH&S Project No: 268-96-050
Client Project No: for database

Scope of Work: A full building asbestos material survey was conducted on April 1, 1996 through May 16, 1996. The purpose of the survey was to identify asbestos-containing materials (ACM) as defined by the Environmental Protection Agency (EPA), the Occupational Health & Safety Administration (OSHA), and the Minnesota Department of Health (MDH). Any material that is greater than 1% asbestos is considered to be ACM. The intent of the survey was to identify both friable and non-friable suspect ACM, identify non-friable ACM that may become friable under demolition or renovation conditions, and to provide approximate cost estimates for the removal of identified ACM in Peik Gym.

Project Description: Eighty-nine (89) bulk samples of suspect ACM were collected on-site and eighty-one (81) were analyzed via polarized light microscopy (PLM) by the University of Minnesota's 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 in the building:

- <4" white fibrous pipe insulation (PI) (1)
- <4" pipe fitting insulation (PFI) on white fibrous line (2)
- <4" felt w/tar PI (5)
- <4" PFI on felt w/tar line (6)
- 4"-8" white fibrous PI (11)
- 4"-8" PFI on white fibrous line (12)
- 4"-8" felt w/tar PI (15)
• 4"-8" PFI on felt w/tar line (16)
• 9"-14" white fibrous PI (21) Assumed
• 9"-14" PFI on white fibrous line (22) Assumed
• white fibrous duct insulation (30)
• white fibrous tank (32)
• 12"x12" floor tile, olive w/black & white swirls (71)

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

• <4" fiberglass PI (9)
• <4" fibrous PFI on FG (10)
• fiberglass duct insulation (31)
• fiberglass w/styrofoam duct insulation (31.5)
• ceiling plaster (34)
• wall plaster (35)
• red brick mortar (36)
• clay tile mortar (37)
• concrete block mortar (38)
• sheetrock & taping compound (39)
• 12"x12" floor tile, tan w/brown & white streaks (70)
• floor tile mastic (70.5)
• 12"x12" floor tile, grey w/white streaks (72)
• floor tile mastic (72.5)
• 12"x12" ceiling tile, deep fissure (100)
• ceiling tile adhesive (100.5)
• 2'x2' ceiling tile, pinhole/wormhole (110)
• 2'x2' ceiling tile, pegboard(metal) (111)
• 2'x4' ceiling tile, pattern pinhole (120)
• canvass vibration joint (130)
• 4"x4" ceramic floor tile (139)
• red vinyl floor covering (140)
• fiberglass batting (141)
• carpet adhesive (203)

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

• baseboard adhesive (40)
• transite (133)

The following nonfriable with low potential to become friable materials test <1% asbestos:

• floor tile adhesive (71.5)

For room locations of above noted materials, refer to Appendices. Sample numbers of the above materials are located in the parenthesis following the sample descriptions.

Observations and Recommendations:

1.0 Department of Environmental Health & Safety (DEHS):
Please refer to condition assessments for specific damaged areas. In general, materials were found to be in good shape and do not pose significant health concerns to the building occupants.

2.0 Facilities Management:

Ceiling tiles observed in Room G55 and Room G65 are metal (see Appendix I). Fiberglass batting was observed above these ceiling tiles (see Appendix I). No suspect asbestos-containing materials were observed on the ceiling tiles or fiberglass batting.

At the time of the survey, the following area was inaccessible: the ceiling hatch located in Room G55 (see Appendix I of the report).

The current Occupational Safety and Health Administration (OSHA) definition of a non-regulated asbestos material is anything that contains less than one percent (<1%) asbestos by area.

Based upon analysis, one floor tile adhesive (sample 71.5) was determined to contain less than one percent (<1%) asbestos (see Appendix I of the report).

Although no roofing 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.

All quantities in this survey are estimations and should not be considered exact measurements when used on abatement bids. Due to limited access points in the ceilings and walls, some pipe chases or interstitial spaces were completely inaccessible or only slightly visible. As a result, the quantities listed reflect the visibility available 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.

<table>
<thead>
<tr>
<th>MATERIAL TYPE</th>
<th>LOW RANGE</th>
<th>HIGH RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>• thermal system insulation</td>
<td>$46,186</td>
<td>$62,284</td>
</tr>
<tr>
<td>• floor covering</td>
<td>$1,048</td>
<td>$2,096</td>
</tr>
<tr>
<td>• miscellaneous</td>
<td>$505</td>
<td>$970</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$47,739</td>
<td>$65,350</td>
</tr>
</tbody>
</table>

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.

3.0 Recommendations:

At the time of renovation and/or demolition, any areas where contained abatement would need to be performed and those areas not having been accessed during this survey should be entered and surveyed by certified personnel. In the case this may constitute an uncontrolled abatement procedure DEHS would suggest nine samples of surfacing materials and at least three of thermal or miscellaneous materials be taken and analyzed to be considered non-asbestos containing material in accordance with OSHA regulations.

In accordance with OSHA regulations, areas which contain asbestos materials are required to be labeled at the access points (i.e. the outside of mechanical rooms, etc.)

If there is any further information required, or other questions arise regarding this request, please contact Dale Livingston at 626-2317.

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