MOLD REMEDIATION ON A BUDGET

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Southern Illinois University Carbondale
Morris Library

- 2.6 million volumes
- 36,000 current periodicals and serials
- 3.6 million microform units
**Morris Library**
- Renovation of floors 1-5 completed in 2009
- Basement completed in 2013
- Floors 6 & 7 currently being renovated
Marion Street Storage

- 15,300 boxes of archival collections
- Archived copies of these and dissertations
- 5,000-8,000 Rare Books
STORAGE 1 & 2

- 200,000 volumes
- Periodicals, IMC, and SCRC collections
- Library storage since 1960s
STORAGE 1 & 2

- Library without Preservation Librarian since 1989
- Hygrothermographs used but not reviewed until 2008
- Purchased PEM2 in 2009
- White mold found October 7, 2011
POLITICAL/ECONOMICAL ENVIRONMENT

- The University
  - Faculty positions frozen
  - Chancellor approving everything
  - Threat of four unions striking
  - Faculty Association union on strike for a week beginning November 3rd
  - November 1st sweeping of all open faculty salaries
POLITICAL/ECONOMICAL ENVIRONMENT

- The Library
  - Four Faculty positions frozen
  - Library assessed additional 1% budget cut
  - 17 out of 22 Library faculty walked out during the strike
  - November 1\textsuperscript{st} sweeping of four open faculty salaries
  - Insurance was not an option, previous insurance issues with SCRC storage
POLITICAL/ECONOMICAL ENVIRONMENT

- Preservation Unit
  - Unionized Civil Service
  - Brand new Conservation Lab Supervisor
  - Loss of Bindery Supervisor, no guarantee of filling position
  - Retirement of Marking Supervisor
  - Marking position was cut as part of the 1%
Our Process

- Assessment needed to be completed before October 17th (Remember: Salaries were being swept Nov. 1st)
- Two days for assessment
  - Est. 5,000 books
  - 27 rows (discovered mold later on 2nd floor)
  - Estimated 10 minutes of cleaning per book
  - Total of 50,000 minutes or 834 hours of work
- Center for Environmental Health and Safety
- Justification for keeping open salary money
- Permission granted in four days by Provost/Chancellor
OUR PROCESS

- Originally asked for $16,000 for 1st floor
- Needed $15,000 more (cut from bindery budget) to include 2nd floor

- Two extra help hired
- Both worked in housing and with mold
- Purchased three hepa filter Nelfisk GM80 vacuums
- Extra help trained along with the McLafferty Circulation Supervisor
- Provided gloves, respirators, eye wear, and suits
- HVAC system cleaned and tested

- Emily and Troy work 50 hrs a week from Oct. 2011 to June 2012
- Student workers worked on last 19 rows
- Assessed every book for mold
- Separated moldy books from none moldy books
- Cleaned each shelf with a bleach water solution
Our Process

- Emily and Troy work 50 hrs a week
- Provided gloves, respirators, eye wear, and suits
- Assessed every book for mold
- Separated moldy books from none moldy books
- Cleaned each shelf with a bleach water solution
OUR PROCESS

- Moldy books were vacuumed in the attached garage
- Provided for adequate air circulation
- Books were vacuumed and left for McLafferty Circ. Supervisor and students to re-shelved
- Storage books checked out before mold discovered were returned to the garage in Storage 1 & 2 for Emily and Troy to vacuum before being re-shelved
TEMPERATURE AND HUMIDITY 2003 TO 2004
TEMPERATURE AND RELATIVE HUMIDITY OF STORAGE 1 & 2 FOR THE 5 MONTH PERIOD, TUESDAY MAY 4, 2010 TO THURSDAY SEPTEMBER 30, 2010 TAKEN WITH THE PEM2 MONITORS
TEMPERATURE AND HUMIDITY MAY TO SEPTEMBER 2005
FIRST FLOOR ROWS 1-27

![Bar graph showing volumes cleaned in rows 1-27 on the first floor.](image)
SECOND FLOOR ROWS 28-78
FINDINGS

- Moldy volumes were randomly across the shelving units
- Most moldy volumes were on third shelf and below
- Large quantities around metal staircase
- Larger quantities at the ends of the shelving units
- Mold attracted mostly to linen
- Periodicals bound in multiple kinds of materials show that one kind of material has mold and the other kind does not.

Ex. American Medical Association
- 230 total volumes
- 210 bound in one kind of black buckram do not have visible mold
- 20 bound in another linen material does have visible mold
FINDINGS

- Ex.
  - Row 10 (sections 4-6)
  - Chemical Abstracts
    - 268 volumes
    - bound in 1 type of leather and 4 kinds and colors of book cloth (orange, light orange, black, and green)
    - 106 had mold growth and all were light orange
    - These volumes were intermixed among other volumes

- Ex.
  - Row 11
  - The Correspondant (or Le Correspondant)
    - 213 volumes in row 11
    - 93 had mold growth
    - All leather
**Final Costs for the Project: Supplies and Equipment**

<table>
<thead>
<tr>
<th>Item</th>
<th>Number</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nilfisk GM80 HEPA filter vacuums</td>
<td>3</td>
<td>$3,751.44</td>
</tr>
<tr>
<td>Nitrile Gloves</td>
<td>5 boxes medium, 5 boxes extra large</td>
<td>$205.00</td>
</tr>
<tr>
<td>3M n95 Dust Masks</td>
<td>2 boxes</td>
<td>$48.00</td>
</tr>
<tr>
<td>Tyvek aprons</td>
<td>15</td>
<td>$30.00</td>
</tr>
<tr>
<td>Tyvek suits</td>
<td>10</td>
<td>$67.50</td>
</tr>
<tr>
<td>Flashlights</td>
<td>2</td>
<td>$29.97</td>
</tr>
<tr>
<td>soot sponges</td>
<td>15</td>
<td>$47.25</td>
</tr>
<tr>
<td>spray bottle for bleach solution</td>
<td>6</td>
<td>$18.00</td>
</tr>
<tr>
<td>Bottle of bleach</td>
<td>1</td>
<td>$2.00</td>
</tr>
<tr>
<td>extra vacuum brushes</td>
<td>4</td>
<td>$89.84</td>
</tr>
<tr>
<td>timeclock</td>
<td>1</td>
<td>$234.99</td>
</tr>
<tr>
<td>timecards</td>
<td>2 packages</td>
<td>$24.98</td>
</tr>
<tr>
<td>paper towels</td>
<td>requested through Facilities Operation Center (FOC)</td>
<td>Free</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$4,548.97</strong></td>
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</table>
**Final Costs for the Project: Labor**

<table>
<thead>
<tr>
<th>Individual</th>
<th>Hours</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extra Help #1</td>
<td>820.5 hrs ($15 an hr)</td>
<td>$12,307.50</td>
</tr>
<tr>
<td>Extra Help #2</td>
<td>875 hrs ($15 an hr)</td>
<td>$13,125.00</td>
</tr>
<tr>
<td>Preservation Librarian</td>
<td>400</td>
<td>$9,600*</td>
</tr>
<tr>
<td>McLafferty Circulation Supervisor</td>
<td>100</td>
<td>$1,400*</td>
</tr>
<tr>
<td>Student Workers</td>
<td>198 hrs</td>
<td>$1,633.50*</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>$24,966</strong></td>
</tr>
</tbody>
</table>

*Additional costs not included in the project budget*
**Positives**

- **Stacks maintenance**
  - Books were not correctly shelved
  - Dirty books
  - Assessing volumes for new bindings or conservation
- We used it to ask for another permanent storage building (FAIL)
- Asked for money to finish Morris Library (FAIL at the time)
REFERENCES


QUESTIONS