



CHICORA FOUNDATION, INC.

PRESERVING THE PAST FOR THE FUTURE

P.O. BOX 8664
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COLUMBIA, S.C. 29202
803-787-6910

October 16, 2015

The Honorable Nikki R. Haley
Office of the Governor
1205 Pendleton Street
Columbia, South Carolina 29201

Dear Governor Haley,

I have been an assessor of museum, libraries, and archives for the past 25 years and am including my resume of experience, should there be any question. Essentially being an assessor means examining buildings to ensure the structure can protect collections, staff, and patrons; and examining collections to determine the level of deterioration and determine what needs to be done to protect irreplaceable items of public heritage.

In 2008 I was retained by the Institute of Museum and Library Services (IMLS) to conduct an assessment of the I.P. Stanback Museum at South Carolina State University. This was done and the report was accepted by IMLS and the Museum.

Recently, South Carolina State University has sought to close the I.P. Stanback Museum, proposing to transfer collections to a space in the Crawford Engineering Building. Since I had experience with the Museum and its collections, the Stanback Advisory Board requested that I examine the building to determine its suitability for holding collections. I did that assessment, pro bono, on October 2 and immediately provided a detailed report to the Advisory Committee. I am attaching that report.

We found the building is entirely unacceptable for the storage of valuable museum collections. It lacks appropriate environment controls; it lacks adequate fire protection; it lacks appropriate security. We found it exhibited evidence of pests, including rats. We failed to identify appropriate ADA access; a steep ramp lack handrails and poses a hazard; there is evidence of mold. Some windows cannot be fully closed, leaking air and allowing pest access.

To allow a brief editorial comment, as a South Carolina taxpayer I am ashamed of the deplorable condition of this building. I would not house students or faculty in this building, much less valuable museum collections. Either the University administration has chosen to ignore the infrastructure problems or has simply never gotten out of the Administration building to examine the deteriorating condition of at least this particular building.

I explained in my assessment that given the amount of money it would take to make the Crawford building suitable for storage and staff, the money would be better spent on the existing Museum building where there is a decent shell (and which the State of South Carolina spent \$400,000 to renovate just a few years ago). In addition, the building size is appropriate for the collections.



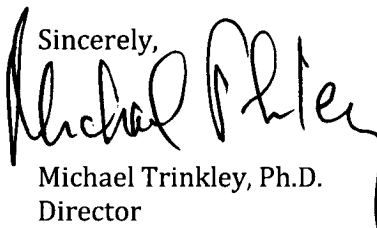
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Governor Nikki R. Haley
October 16, 2015
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Since my assessment, I have been informed that the Museum's Director, Ms. Ellen Zisholtz, has been dismissed by South Carolina State University. While it is not my intention to interfere with personnel decisions, it is my professional opinion that this is a mistake. There is no one with greater knowledge of the collections, no one with a greater passion for the museum, and no one with a higher professional standard. Frankly, it is my opinion that the dismissal is retaliatory.

What is my concern, however, are comments made by the University, Interim President, Franklin Evans, in a letter dated October 12 in which he states that the "conclusions reached . . . are specious, speculative, and lack proper evidentiary support." I should have thought that our detailed report, with an abundance of photographs showing each and every concern we enumerated, would have provided adequate "evidentiary support." While the Interim President is free to hold whatever opinions he wishes, I do not believe he has the training, expertise, or knowledge to make such statements. I object to his comments in the strongest possible terms. Instead of criticizing the messenger, the Interim President should be reaching out and attempting to ascertain what alternatives there are for the preservation of the Museum's irreplaceable collections.

I understand the depth, and breadth, of the problems at South Carolina State University. However, using a dilapidated and inappropriate building to house museum collections owned by the State of South Carolina and valued at over \$1 million is bad business for the State of South Carolina. If South Carolina State University does not wish to properly care for these items, then they should be deaccessioned to other institutions capable and willing to provide the care necessary for this wonderful collection. Relegating the collections to the Crawford building will lead to their deterioration and is unprofessional and irresponsible. It cheapens South Carolina respect for heritage.

Sincerely,

Michael Trinkley, Ph.D.
Director

xc: Rep. Carl L. Anderson, Chairman, South Carolina Legislative Black Caucus (SCLBS)
Rep. John R. King, Chairman Elect SCLBS
Rep. Harold Mitchell, Immediate Past Chairman, SCLBC
Rep. Cezar McKnight, Secretary, SCLBC
Sen. Kevin L. Johnson, Treasurer, SCLBC
Rep. Gilda Cobb-Hunter
Higher Education Subcommittee Chairman Rep. Jim Merrill
Rep. Chip Limehouse
Rep. Kenny Bingham
Dr. Millicent E. Brown, Chair, Stanback Advisory Board

Enclosures: Trinkley resume
Crawford Engineering Building Assessment

MICHAEL TRINKLEY

Chicora Foundation, Inc.
P.O. Box 8664 • 861 Arbutus Drive
Columbia, South Carolina 29202
803-787-6910

Degrees:

B.A. 1974 University of South Carolina, Columbia. Anthropology
M.A. 1976 University of North Carolina, Chapel Hill. Anthropology
Ph.D. 1980 University of North Carolina, Chapel Hill. Anthropology

Positions Held:

Chicora Foundation, Inc., 1983-present. Director; Chairman, Board of Directors.

S.C. Department of Highways and Public Transportation, 1978-1985. Environmental Section.

University of South Carolina, Fort Jackson Campus, 1980-1986. Instructor in Undergraduate Program.

University of South Carolina, CCI Campus, 1980. Instructor of Anthropology in Undergraduate Program.

Registrations:

- SC Commercial Pest Control License in Structural Pests and Fumigation (C0006368);
- Inter-American Development Bank (Banco Interamericano de Desarrollo/Banco Interamericano de Desevolimento);
- United Nations Development Program (Registration Number 05914);
- The World Bank (DACON Registration Number C-765);
- Caribbean Development Bank;
- Chicora is listed by Dunn & Bradstreet, DUNS Number 62-436-2810.

Associated Training:

First Responder First Aid (1996, 1998, 2001, 2005), CPR (1996, 1998, 2001, 2005), OSHA 40-hour Hazardous Material Emergency Response (1989), OSHA Construction 30 hour (2012), Hazardous Materials Management and Compliance Training (1989), OSHA Bloodborne Pathogens Act Training (1996, 1998, 2001), Clemson University *Home Moisture Problems and Related Health Issues* (1997), Skillpath *Solving Moisture and Mold Problems* (2004), FEMA *Introduction to Mitigation* Study Course (2001), FEMA *Community Hurricane Preparedness* Study Course (2001), SC Preparedness Division *Earthquake Course* (2002), National Fire Academy *Emergency Response to Terrorism* (2001), US Army Medical Command *Biological & Chemical Warfare and Terrorism: Medical Issues and Response* (2001), SC Preparedness Division *Mass Fatalities Incident Response Course* (2002), SC Preparedness Division *Disaster Planning for Seniors and the Disabled* (2002), Traco Impact Resistant Glazing Systems for Coastal Construction Training (2006).

Reviewer:

National Endowment for the Humanities

Institute of Museum Services

National Park Service, Historic Preservation Fund Grants to Indian Tribes and Alaska Natives

Professional Organizations:

American Association of Museums; American Library Association (ALCT-PARS); Southeastern Museums Conference; American Institute for Conservation of Historic and Artistic Works (Associate); National Trust for Historic Preservation; South Carolina Federation of Museums; Southeast Regional Conservation Association; South Carolina Archives Association; Association of Preservation Technology

Conservation/Preservation Experience:

- 2012 Consultant, Jimmy Carter National Historic Site Museum, Collection Condition Survey, Chicora Foundation, Columbia, South Carolina.
- 2009 Invited Speaker, Integrated Pest Management for Museums, U.S. Army Museum System Training Conference, Columbia, South Carolina.
- 2008 Invited Speaker, Understanding Your HVAC System, South Carolina Archival Association, Columbia, South Carolina.
- 2006 Workshop Instructor (with Debi Hacker), Housekeeping for Museums: Things that Heloise Never Told You. North Carolina Department of Historic Sites, Fremont, North Carolina.
- 2006 Workshop Instructor (with Debi Hacker), Housekeeping for Museums: Things that Heloise Never Told You. North Carolina Department of Historic Sites, Sedalia, North Carolina.
- 2006 Workshop Instructor, Hurricane Disaster Preparedness. SOLINET, Charleston, South Carolina.
- 2006 Workshop Instructor, Hurricane Disaster Preparedness. SOLINET, Hampton, Virginia.
- 2006 Workshop Instructor, Hurricane Disaster Preparedness. SOLINET, Baton Rouge, Louisiana.
- 2006 Workshop Instructor, Hurricane Disaster Preparedness. SOLINET, Woodbine, Georgia.
- 2005 Workshop Instructor, Disaster Planning for Libraries. Chicora Foundation, Greenwood Public Library, Greenwood, South Carolina.
- 2005 Workshop Instructor, Hurricane Disaster Preparedness. SOLINET, Raleigh, North Carolina.
- 2005 Workshop Instructor, Hurricane Disaster Preparedness. SOLINET, Orange Park, Florida.
- 2005 Workshop Instructor, Attack of the Giant Mold Spore. SOLINET, Orange Park, Florida.
- 2005 Workshop Instructor, Fire Safety for Museums, Libraries, and Archives, FRMA Annual Conference (Florida SHRAB Grant), Boca Raton, Florida.
- 2005 Workshop Instructor, Attack of the Giant Mold Spore. SOLINET, Fort Myers, Florida.
- 2005 Workshop Instructor, Attack of the Giant Mold Spore. SOLINET, Montgomery, Alabama.
- 2005 Participant, 1-day Edison Coatings Workshop, Richmond, Virginia.

- 2005 Participant, International Building Lime Conference, Orlando, Florida.
- 2004 Participant, Solving Moisture and Mold Problems, SkillPath Seminars, Charlotte, North Carolina.
- 2004 Workshop Instructor, Critter Jitters: Integrated Pest Management for Libraries, Museums, and Archives. MACREN, Asheville, North Carolina.
- 2004 Workshop Instructor, Preserving Collecting in a Hostile Environment. SOLINET, Lexington, Kentucky.
- 2004 Workshop Instructor, Attack of the Giant Mold Spore. SOLINET, Murfreesboro, Tennessee.
- 2004 Workshop Instructor, Critter Jitters: Integrated Pest Management for Libraries, Museums, and Archives. SOLINET, Miami, Florida.
- 2004 Workshop Instructor, Disaster Planning and Recovery for Museums. SOLINET and TBLC, Tampa, Florida.
- 2004 Workshop Instructor, Hurricane Disaster Planning: Making Sure Your Institution Survives the Big One Workshop. SOLINET and Florida Records Managers Association Annual Meeting, Boca Raton, Florida.
- 2004 Workshop Instructor, Can You Stand the Heat: Fire Safety for Museums, Libraries, and Archives. SOLINET and Florida Archives Society Annual Meeting, Orlando, Florida.
- 2004 Workshop Instructor, Attack of the Giant Mold Spore. SOLINET, Richmond, Virginia.
- 2003 Participant, U.S. Heritage 3-day Lime Workshop, Chicago, Illinois.
- 2003 Invited Speaker, SOLINET Pre-Conference Preservation Workshop, Setting and Achieving Environmental Standards for Collections, Atlanta, Georgia.
- 2003 Workshop Instructor, Hurricane Disaster Planning: Making Sure Your Institution Survives the Big One Workshop. SOLINET, Pinellas, Florida.
- 2003 Invited Speaker, Critter Jitters and Wood Destroying Pest Two-Day Workshop, Augusta Museums, Augusta, South Carolina.
- 2002 Participant, Earthquake 101, South Carolina Emergency Preparedness Division, Columbia, South Carolina.
- 2002 Participant, Disaster Response Planning for Organizations Serving Seniors and People with Disabilities, South Carolina Emergency Preparedness Division, Columbia, South Carolina.
- 2002 Invited Speaker, Integrated Pest Management and Disaster Planning for Historic Sites, Preservation Training Institute, Fairfax County, Virginia.
- 2002 Invited Speaker, Mold in Library Collections, Society of American Archivists Annual Meeting, Birmingham, Alabama.
- 2002 Workshop Instructor, Hurricane Disaster Planning: Making Sure Your Institution Survives the Big One Workshop. SOLINET, University of Florida, Gainesville, Florida.
- 2002 Workshop Instructor, Preserving Collections in a Hostile Environment Workshop. SOLINET, Historic New Orleans Collections, New Orleans, Louisiana.
- 2002 Workshop Instructor, Disaster Planning for Libraries. SOLINET and Louisiana State Library, Louisiana.

- 1999 Workshop Instructor, Preserving Collections in a Hostile Environment Workshop. SOLINET, Raleigh, North Carolina.
- 1999 Workshop Instructor, Mold and Appropriate Cleanup Procedures Workshop. SOLINET, Raleigh, North Carolina.
- 1999 Invited Speaker, Cemetery Preservation and Conservation Techniques. Georgia Historical Society Annual Meeting. Augusta, Georgia.
- 1998 Invited Workshop Instructor (with Debi Hacker), Housekeeping for Museums: Things that Heloise Never Told You. North Carolina Museums Conference, Asheville, North Carolina.
- 1998 Invited Speaker, Current Advances in Fire Safety for Museums and Libraries, Annual Meeting of Palmetto Archives, Libraries, and Museums Council on Preservation. Columbia, South Carolina
- 1998 Workshop Instructor, Hurricane Disaster Planning: Making Sure Your Institution Survives the Big One Workshop. SOLINET, Tampa, Florida.
- 1998 Workshop Instructor, Wood Destroying Organisms at Historic Sites and Museums, Southeastern Museum Conference, Little Rock, Arkansas
- 1998 Splish Splash: Blood, Sewage, and Other Liquids. Paper presented to the Society of American Archivists, Orlando, Florida
- 1998 Workshop Instructor, Disaster Planning and Recovery for Small Libraries, SWFLIN, SOLINET, Fort Myers, Florida
- 1998 Workshop Instructor, Mold and Appropriate Cleanup Procedures, SWFLIN, SOLINET, Fort Myers, Florida
- 1998 Workshop Instructor, Integrated Pest Management Strategies for Small Institutions, SWFLIN, Fort Myers, Florida
- 1998 Workshop Instructor, Mold and Appropriate Cleanup Procedures Workshop. SOLINET, Tampa, Florida.
- 1998 Workshop Instructor, Critter Jitters: Integrated Pest Management for Libraries. SOLINET. Sevanee, Tennessee.
- 1997 Invited Pre-Conference Workshop Instructor (with Debi Hacker), Housekeeping for Museums: Things that Heloise Never Told You. Southeastern Museums Conference, Raleigh, North Carolina.
- 1997 Session Participant, Integrated Pest Management for Museums. Southeastern Museums Conference, Raleigh, North Carolina.
- 1997 Workshop Instructor, Critter Jitters: Integrated Pest Management for Libraries. SOLINET and Jackson, Mississippi Library Council. Jackson, Mississippi.
- 1997 Invited Speaker, Toxins, Poisons, Carcinogens: Problems with Contaminated Records, Society of American Archivists Annual Meeting, Chicago, Illinois.
- 1997 Workshop Instructor, Developing Disaster Plans for Archives. Florida Society of Archivists Workshop, Jacksonville, Florida.
- 1997 Invited Speaker, Understanding HVAC for Preservationists. Annual Meeting of the North Carolina

Preservation Consortium, Raleigh, North Carolina.

- 1997 Presenter, Preserving Collections in a Hostile Environment Workshop. SOLINET and Louisiana Association of Museums, Baton Rouge, Louisiana.
- 1997 Invited Speaker, Disaster Planning for Museums and Historic Sites. Restoration Atlanta 97. Atlanta, Georgia.
- 1997 Participant, Clemson University Moisture Problems and Related Health Issues Workshop, February 17-19, Myrtle Beach, South Carolina.
- 1996 Presenter, Developing Workable Disaster Plans. Florida Society of Archivists, Sarasota, Florida.
- 1996 Invited Speaker, Disaster Planning for Museums. Southeastern Museum Conference Pre-Conference Workshop, Jekyll Island, Georgia.
- 1996 Presenter, Hurricane Disaster Planning: Making Sure Your Institution Survives the Big One Workshop. SOLINET, Tampa, Florida.
- 1996 Presenter, Hurricane Disaster Planning: Making Sure Your Institution Survives the Big One Workshop. SOLINET, Virginia Beach, Virginia.
- 1996 Presenter, Mold and Fumigation Workshops. SOLINET, Miami, Florida.
- 1995 Presenter, Hurricane Disaster Planning: Making Sure Your Institution Survives the Big One Workshop. SOLINET, Mobile, Alabama.
- 1995 Presenter, Integrated Pest Management and Mold Workshops. SOLINET, Naples, Florida.
- 1995 Presenter, Mold Workshop. Northeast Florida Library Network and SOLINET, Jacksonville, Florida.
- 1995 Presenter, Environmental Monitoring Workshop, Northeast Florida Library Network, Jacksonville, Florida.
- 1995 Presenter, Mold and Fumigation Workshops. SOLINET, East Carolina University, Greenville, North Carolina.
- 1995 Presenter, Integrated Pest Management Workshop. SOLINET, Raleigh, North Carolina.
- 1994 Participant, Pest, Insect, and Fungus Management: Non-Toxic Fumigation and Alternative Control Techniques for Preserving Cultural/Historic Properties and Collections 2-day conference, Boston, Massachusetts.
- 1994 Presenter, Hurricane Disaster Planning: Making Sure Your Institution Survives the Big One Workshop. SOLINET, Maitland, Florida.
- 1994 Presenter, Integrated Pest Management for Historic Sites Workshop. SOLINET, New Iberia, Louisiana.
- 1994 Presenter, Hurricane Disaster Planning: Making Sure Your Institution Survives the Big One Workshop. SOLINET, Greenville, North Carolina.
- 1994 Presenter, Hurricane Disaster Planning: Making Sure Your Institution Survives the Big One Workshop, SOLINET, Jacksonville, Florida.

- 1994 Presenter, Mold and Safety Precautions. PALMCOP annual meeting, Columbia, South Carolina.
- 1994 Invited workshop leader, Integrated Pest Management for Libraries. Florida Library Association Annual Meeting, Orlando, Florida.
- 1994 Presenter, Hurricane Disaster Planning: Making Sure Your Institution Survives the Big One Workshop. SOLINET, New Orleans, Louisiana.
- 1993 Invited Speaker, Integrated Pest Management, Restoration and the Environment. Restoration 93, Boston, Massachusetts.
- 1993 Presenter, series of Preserving Collections in a Hostile Environment Workshops held throughout Florida, under auspices of SOLINET and a LSCA grant from the Florida State Library.
- 1993 Presenter, Preserving Collections in a Hostile Environment Workshop. SOLINET, Nashville, Tennessee.
- 1993 Presenter, Disaster Planning and Recovery for Small Libraries Workshop. IAMSLIC, Washington, D.C.
- 1992 Presenter, Preserving Collections in a Hostile Environment Workshop. SOLINET, Tallahassee, Florida.
- 1992 Presenter, ABC's of Preservation in Remodeling Libraries, USC College of Library and Information Science, Continuing Education Course. Columbia, South Carolina.
- 1992 Presenter, Preserving Collections in a Hostile Environment Workshop. North Carolina Preservation Consortium, Charlotte.
- 1992 Presenter, Preserving Collections in a Hostile Environment Workshop. SOLINET, Atlanta.
- 1991 Presenter, Disaster Planning for Libraries Workshop. Conference of NOAA Libraries, Charleston, South Carolina.
- 1991 Invited Speaker, Preservation for Libraries and Archives: A Simple Approach. Georgia Society of Archivists, Atlanta, Georgia.
- 1991 Presenter, Preserving Collections in a Hostile Environment Workshop. Hilton Head Museum, Hilton Head Island, South Carolina.
- 1991 Co-Presenter, Fire Safety for Museums, Archives, and Libraries Workshop. Charleston, Charleston Archives, Libraries, and Museums; Camden, Historic Camden Foundation.
- 1990 Invited Speaker, Developing A Hazardous Communication Plan. South Carolina Pest Control Association Annual Conference, Columbia, South Carolina.
- 1990 Co-Presenter, Integrated Pest Management Workshop. SOLINET, Tallahassee, Florida.
- 1990 Presenter, Integrated Pest Management Workshop. SOLINET, Atlanta, Georgia.
- 1989 40 hour OSHA Training in Hazardous Material Control and Emergency Response (Instructor, Bill Broadwell, DIVEX, Inc., Columbia, South Carolina).
- 1989 Participant, South Carolina Environmental Training Institute, Hazardous Materials Management and Compliance, Sumter, South Carolina.

- 1988 Preservation Consultant, Palmetto Archives, Libraries, and Museums Council on Preservation, Preservation Needs Assessment Program.
- 1988 Co-organizer and speaker, Chicora Foundation Museum Pest Control Seminar, Columbia, South Carolina.
- 1988 Participant, Identification and Preservation of 19th Century Photographs Seminar (James M. Reilly), University of South Carolina and Palmetto Archives, Libraries, and Museums Council on Preservation, Columbia, South Carolina.
- 1988 Presenter, The Preservation of Archaeological Field Records: Is There A Hope For the Future? Forty-fifth Southeastern Archaeological Conference and the Society for Historical Archaeology, Columbia, South Carolina.
- 1988 Co-organizer, Conservation of Organic and Composite Archaeological Specimens Workshop. Chicora Foundation and South Carolina State Museum, Columbia, South Carolina.
- 1987-present Consultant for museums and archives on issues of environmental conservation, design, safety, hazardous materials management, and integrated pest control. Selected clients include: South Carolina State Museum (contact Mr. Fritz Hamer), Clemson University Library (contact physical plant) , North Carolina Preservation Consortium (contact Mr. Harlan Greene), Jessie Ball DuPont Library (contact Ms. Annie Armour, University of the South), Atkins Library (contact Mr. Robin Brabham), Institute of Paper Science and Technology (contact Ms. Cindy Bowden or Ms. Martha Blaydes), Atlanta History Center.
- 1987-present Licensed commercial pesticide applicator in the fields of structural pests and fumigation (License No. C0006338).
- 1986 Co-organizer, Archaeologists, Conservation and Chemicals Seminar. Chicora Foundation and University of South Carolina Environmental Services, Columbia, South Carolina.
- 1985 Co-organizer, Conservation of Metals Seminar. Chicora Foundation and SCIAA, Columbia, South Carolina.

Public Presentations:

Implementing Simple Preservation Techniques. Week-long presentation at the General Lewis Inn, Lewisburg, West Virginia, 1998 (with Debi Hacker, Chicora).

Preserving Your Family Heritage. One-day presentation at the Charleston Public Library, Charleston, SC, 1998 (with Debi Hacker, Chicora).

Preserving Your Family Heritage. Two-day presentation at the North House Museum, Lewisburg, West Virginia, 1998 (with Debi Hacker, Chicora).

Preserving Your Family Heritage. Presentation at the Savannah Regional HeritageFest, McCormick, South Carolina, 1993.

Preserving Your Family Heritage. Workshop presentation for SCHRAB, Aiken, South Carolina, 1992.

Practical Library Preservation. Class lecture, School of Information and Library Science, University of South Carolina, 1991.

Preserving Photographs. Hartsville Museum lecture, 1991.

Integrated Pest Management for Librarians. Class lecture, School of Information and Library Science, University of South Carolina, 1990.

The Preservation of Archaeological Field Records, Anthropology 542, University of South Carolina. 1989.

Publications:

- 2004 Simple tools for evaluating gaseous pollutants in small collections. *Abbey Newsletter*. March/April, pp. 15-16.
- 2002 Web publication of *Hurricane! Surviving the Big One: A Primer for Libraries, Museums, and Archives* in Spanish. Joint publication of SOLINET and Chicora Foundation, Inc. (originally published 1993).
- 1998 Don't Use Ozone Near Artifacts. *CM Cleaning and Maintenance Management* magazine, July.
- 1998 Revision of *Preserving Your Family Treasures*. Chicora Foundation, Inc., Columbia (originally published 1993).
- 1998 Revision of *Hurricane! Surviving the Big One: A Primer for Libraries, Museums, and Archives*. Joint publication of SOLINET and Chicora Foundation, Inc. (originally published 1993).
- 1997 *Preservation Concerns in Construction and Remodeling of Libraries: Planning for Preservation*. Reprinted by the Palmetto Archives, Libraries, and Museums Council on Preservation.
- 1997 Integrated Pest Management: Just for the Big Guys? *ICOM Ethnographic Conservation Newsletter*, Smithsonian Institution, Washington, D.C.
- 1997 Managing the Museum Environment. *Paper Conservation News*, number 81. Institute of Paper Conservation, Oxford, England.
- 1995 Site Records in the Southeast: An Overview of Preservation Efforts and Challenges. National Park Service, Southeast Regional Office, Atlanta.
- 1994 Critters in the Collections, Roachs in Reference: A Simple Guide to Integrated Pest Management. *Florida Library Association Journal*.
- 1993 *Hurricane! Surviving the Big One: A Primer for Libraries, Museums, and Archives*. Joint publication of SOLINET and Chicora Foundation, Inc.
- 1993 *Can You Stand the Heat? A Fire Safety Primer for Libraries, Archives, and Museums*. SOLINET Preservation Publication, Atlanta.
- 1993 *Preserving Your Family Treasures*. Chicora Foundation, Inc., Columbia.
- 1992 *Preservation Concerns in Construction and Remodeling of Libraries: Planning for Preservation*. South Carolina State Library. (Reprinted by Portuguese).
- 1992 Membrane Roofing: Types, Maintenance and Inspection Procedures for Libraries, Archives, and Museums. *SOLINET Preservation Series*.
- 1991 Integrated Pest Management in Libraries and Museums. In *1991 Disaster Preparedness Seminar Proceedings*, Southeastern Museums Conference.
- 1989 Draft, *Hope for the Future: A Report on the Preservation of South Carolina's Paper-Based Records*, PALMCOP.

- 1989 Can You Stand the Heat: Self-Inspections for Fire Safety in Libraries, Archives, and Museums. *PALMCOP Report*, August, pp. 3-5.

Selected List of Preservation Assessments/Consultations:

Crawford Engineering Building Assessment, Orangeburg, South Carolina (I.P. Stanback Advisory Board)
Museum Center at Five Points, Cleveland, Tennessee (CAP assessment)
Exchange Building Museum, Charleston, South Carolina (CAP assessment)
Jimmy Carter National Historic Museum, Plains, Georgia (NPS contract)
Oconee County Heritage Center, Oconee County, South Carolina (CAP assessment)
Belle W. Baruch Foundation, Georgetown County, South Carolina (CAP assessment)
McMinn County Living Heritage Museum, Athens, Tennessee (CAP assessment)
Georgetown County Museum (NEH assessment and preservation training)
Camden Archives and Museum, Camden, South Carolina (CAP assessment)
Kaminski House Museum, Georgetown, South Carolina (CAP assessment)
Etowah Indian Mounds Historic Site Museum, Cartersville, Georgia (CAP assessment)
Antonio J. Waring, Jr. Archaeological Laboratory, University of West Georgia, Carrollton, Georgia (CAP assessment)
I.P. Stanback Museum and Planetarium, Orangeburg, South Carolina (CAP assessment)
University of Kentucky Art Museum, Lexington, Kentucky (HVAC)
Athenaeum Library, Cincinnati, Ohio (Building and HVAC)
Vorhoff Library and Newcomb Archives, Tulane University, New Orleans, Louisiana (Building and HVAC)
Savannah History Museum, Savannah, Georgia (museum construction/storage consultation)
Lincoln Memorial University Library and Museum, Harrogate, Tennessee (HVAC)
Coosa Valley Technical College Library, Rome, Georgia (mold and HVAC)
James Madison University, Harrisonburg, Virginia (preservation assessment)
St. Petersburg College, St. Petersburg, Florida (archives)
Appalachian State University, Boone, North Carolina (library construction consultation)
Hampton Museum and Visitors Center (building and collection assessment), Hampton, South Carolina
Aiken County Historical Museum (moisture and HVAC), Aiken, South Carolina
University of Illinois Library (preservation assessment), Urbana-Champaign, Illinois
University of Illinois Library (mold and HVAC), Urbana-Champaign, Illinois
Georgia Institute of Technology Price Gilbert Memorial Library, Atlanta, Georgia
Xavier University, Library (mold and HVAC), Cincinnati, Ohio
Sacred Heart of Jesus Catholic Church (HVAC/murals), Baton Rouge, Louisiana
Duke University, School of Law Library, Durham, North Carolina
Civil Rights Museum, Savannah, Georgia
Lafayette Natural History Museum and Architects Southwest, Lafayette, Louisiana
University of the South, School of Divinity (Exhibit Area), Sewanee, Tennessee
University of North Carolina at Greensboro Library (HVAC), Greensboro, North Carolina
University of New Orleans Library (mold and HVAC), New Orleans, Louisiana
Squires Library and Dixon Pentecostal Research Center, Cleveland, Tennessee
Person County Register of Deeds, Roxboro, North Carolina
AT&T University Library, Durham, North Carolina
Institute of Paper Science and Technology (museum and library), Atlanta, Georgia
Atlanta History Center Renovations (HVAC), Atlanta, Georgia
University of Georgia Law Library (HVAC and mold), Athens, Georgia
University of North Carolina at Charlotte Library (HVAC), Charlotte, North Carolina
Atlanta History Center Library, Atlanta, Georgia
University of the South, Dupont Library, Sewanee, Tennessee
History Department, Presbyterian (USA) Church (HVAC), Montreat, North Carolina
Clemson University Library (HVAC), Clemson, South Carolina
College of Charleston Library, Charleston, South Carolina
South Carolina State Library, Orangeburg, South Carolina

South Carolina State Museum (HVAC), Columbia, South Carolina
Penn Center Museum, Beaufort, South Carolina



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Chicora Foundation, Inc.

Memo

To: I.P. Stanback Museum Advisory Board
From: Michael Trinkley, Ph.D. and Debi Hacker
CC:
Date: October 2, 2015
Re: Assessment of Space in Crawford Hall for Museum staff, exhibits, and storage

Introduction

Chicora Foundation conducted the November 2008 IMLS CAP assessment of the I.P. Stanback Museum and Planetarium. We were requested early last week to examine a space that is being proffered as a replacement for the museum building while it undergoes renovation. That inspection was conducted on October 2, 2015 by the authors and was *pro bono*. A second independent assessment was conducted at the same time by conservators Carol and Craig Crawford who are submitting their own assessment.

A July 17, 2015 article in the Orangeburg *Times and Democrat* ("S.C. State Closing Nine Buildings to Save \$2,500 a Day") explains that the Stanback Museum is proposed to be taken off the campus-wide boiler system "to save money on heating and maintenance." He reported that the proposed building had "undergone extensive renovation, and the humidity and environment are controlled." The building would provide "a safe home for the museum's artifacts, which include a renowned African art collection that's been valued in the millions of dollars" President Evans further stated, as justification for the closing of the existing building, that there are "problems with the roof and it's better that people not be in the building while renovations are underway." We have no independent verification of this information.

Brief Building Comparisons

The Stanback building was constructed in 1979, opening in 1980. In 2007 it underwent about \$400,000 in renovations. The structure consists of approximately 15,000 square feet, all at-grade using construction techniques common in the late 1970s. Among issues noted in 2008 was a need for additional staff, significant upgrades of security and fire protection, and a replacement roof. Many building issues were the result of inadequate maintenance by the University.

The Crawford Engineering Building, originally called the Mechanical Industries Hall, was a WPA project, built between 1938 and 1942. It had only minor renovations post-2006, but we cannot determine the overall impact. The building, based on aerial photographs, appears to have the same roof that was present in 1994 (putting the roof at or beyond its service life). The building is listed on the National Register of Historic Places, which places limitations on exterior modifications. The space proposed as a replacement for the Stanback Museum contains approximately 7,000 square feet of useable space.

Thus, the Crawford Building is significantly older, with all of the issues associated with a historic building. As this assessment will explain, the space proposed will require extensive renovations before it is acceptable for the storage or exhibition of museum collections; considerable renovations will also be required before we would recommend it being used by staff. The proposed space is roughly 50% of that currently available.

Crawford Space Assessment

The Building

The proposed space is situated in the northwestern two-thirds of the western wing on the Crawford building. We believe it is designated Room 108, which is actually composed of five spaces. We did not determine which, if any, of these room walls are load bearing. The space is on the ground floor, which is actually about 3 feet below grade. We did not examine what occupied the space above the proposed museum room.

Exterior wall construction is uncertain, but may be poured concrete. What, if any, vapor and/or water barrier is present below grade is unknown. Given the construction period, however, it seems likely that there is none. There is exterior brick cladding. Interior walls are wall board with metal studs, suggesting that at least some sub-division has been conducted in the last 20 years. It is not possible to determine exterior wall treatment since a secondary wall has been constructed for reasons that are not clear.

The floor is likely poured concrete, but is covered throughout by carpet.

The ceilings were originally much higher, but dropped ceilings have been added, likely to allow ductwork and perhaps other utilities to be added. In the process of this the upper half of the windows have been covered with plywood on the exterior of the building, which significantly compromises the historic character of the structure.

Windows are single pane metal casements. None are in operable condition. There is much damage, including failing window putty and corrosion. Several of the windows do not shut completely, allowing entry of pests, and air and moisture penetration. Several (perhaps all) have been modified by using drywall screws to secure them closed. These could be easily pried open. Extensive, and costly, repair of these windows is required to maintain historic integrity of the building, although these windows are entirely impractical for a museum.

Doors are all solid core, but none are fire rated. There is a steep ramp, lacking handrails, at the northwest entry.

While we do not know what is overhead, we did determine that immediately adjacent to this space to the southeast is a garage. Present is an automobile, several engines, much accumulated trash, and chemicals. This is an unsuitable occupant for a museum building. In addition, the wall separating the museum and garage is not fire rated, consisting of two sheets of drywall and metal studs.

Overall building maintenance, at least in the area, we examined, was poor.

ADA Compliance

It is critical that museums be ADA compliant allowing unhindered and convenient access by the public. There is currently no ADA compliant entrance to building that we observed. The front entrance involves steps, although a ramp could be constructed. The egress through the single glass door is not ADA compliant. There is an exterior step and the interior ramp is too steep and lacks handrails (which is likely also a building code violation and is certainly a significant liability to the University). The

University is certainly aware that the maximum slope of a ramp is 1:12 and the maximum rise for any ramp run can be no greater than 30 inches. The current ramp exceeds both.

Fire Safety

The space lacks fire detection; there is no evidence of smoke detectors. Even in the garage, where one might expect fires to originate, we saw no evidence of heat detectors (smoke detectors would generally not be suitable for such an environment, although heat detectors are entirely unsuitable for museums because of the slow response).

The space lacks automatic fire suppression.

There were no manual fire extinguishers in the space at the time of this assessment. Elsewhere in the building extinguishers were most recently inspected in 2013 or earlier. None are in compliance with NFPA 101, *Life Safety Code* or NFPA 10, *Standard for Portable Fire Extinguishers*.

As previously mentioned, the wall between the garage and museum space is not fire rated and would require extension from floor to ceiling. Doors are not fire rated. The drop ceiling provides an avenue for rapid fire spread.

The northwest door, identified as a fire exit (comprising one of only two conventional means of egress) is likely a violation of NFPA 101, since the floor on each side of such a door is typically required to be "substantially level."

The space also lacks fire pull stations, a likely fire code violation.

The adjacent space to the east has a variety of signs, such as Authorized Entry Only. We don't know what is stored there, but the signage suggests that it may not be suitable for a museum setting. In any event, it seems unlikely that there is a fire rated wall between this space and that proposed for the museum. We could not determine if there were penetrations (which would affect the fire rating).

The hall doors have large glass panels. These glass panels are not fire rated, nor are the doors themselves. This assembly is unacceptable for a museum setting.

It is unlikely that the existing walls provide an appropriate smoke barrier. This not only affects life safety, but it would expose the collections to massive smoke damage, even if unaffected by the heat of the fire itself.

The space, as it exists, does not comply with NFPA 909, *Code for the Protection of Cultural Resources*. This code describes principles and practices of protection for cultural resource properties (such as museums), their contents, and collections, against fire-related damage and loss. It likely also fails to meet appropriate standards for life safety as relating to visitors and staff. The University may also wish to explore NFPA 914, *Code for Fire Protection of Historic Structures* since this building is listed on the National Register.

Security

There appears to be no security panel specific for this space. The panel at the main building entrance was registering a trouble signal, apparently associated with the dialer. The implication is that the building security, at present, is not operable.

The only security identified was a single space monitor within the double doors from the building hallway and two glass break sensors in two of the three rooms with glass windows. A door contact on the exterior door has been removed.

Door locks are primarily what are known as deadlocking latch bolts. These are low security and unsuitable for museum settings.

Security lacking minimally includes glass break in the third room with windows, space monitor for the main hallway, door alarms for the front and hallway doors. If any of the rooms with windows were to be used for collection storage or exhibit, then those rooms must have window contacts, preferably combined with space monitors. The latter are recommended since entry into the spaces is very simple through the metal stud walls. Minimally an ANSI Grade 1 Interconnected Lock should be expected for all doors. This is the highest level of ANSI grades for door locks and is typically reserved for locks intended for commercial security. Standard knob locks, such as are currently present, will not meet Grade 1 standards and are unsatisfactory.

At the present time this space is entirely unsuitable for the storage of artwork that in 2008 was insured for \$1,000,000.

Pest Control

During this assessment the space exhibited at least three forms of pests that are highly damaging to collections. The first were cockroaches. Dead specimens were observed in multiple locations. Given the partially below grade setting and very old construction, it is likely that roaches will be a significant problem, although treatable with baits and careful inspection.

The second significant problem was the presence of cast larval skins. These are indicative of pests that eat museum collections, especially textiles and leather. Many of the museum's most significant collections fall into this category. The treatment for these pests is far more complicated, especially once populations become established – as we fear they have at this location.

The third problem is of extraordinary consequence both the safety of the collections, as well as staff and visitors. We found rat droppings (fecal material) at multiple locations. In addition, we found a recently dead juvenile Norway rat on a sticky trap. Rodents will find the hollow walls and drop ceiling particularly attractive. Unlike mice they have a much larger (3-dimensional) range and are difficult to catch. In addition, the NFPA has noted that rodents are a leading cause of fire because they tend to gnaw and chew on electrical wires. Given the rodent problem, all interior walls and the dropped ceiling will need to be inspected to ensure that fecal remains are removed and wiring is inspected.

The pest problems will be difficult, perhaps impossible, to manage without extensive building envelop work. We observed numerous wall penetrations that, in addition to being a fire safety issue, also allow for ready access by pests. A rat, for example can enter through a hole the size of a quarter and other pests require entry points far smaller.

It should be obvious, but nevertheless worth explaining that all pest control activities must be building-wide. It is not adequate to deal only with the museum space, since elimination of pests in this space will only create a vacuum to be filled by pests from elsewhere in the building. Moreover, it must be consistent throughout the institution's presence in the building – a one or two treatment approach will not be satisfactory. Finally, the rats must be caught with snap traps and absolutely no poison may be used in a museum (or building) setting.

At present, the space has significant pest problems that endanger not only collections, but also place staff and visitors in danger of a variety of rat-borne diseases.

Light

The space has plastic shielded fluorescent lamps. The plastic shields are capable of filtering a great deal of the UV light. Fluorescent lamps, however, produce a great deal of visible light and that light is

of very poor quality for exhibits. Therefore, considerable modification of the existing lamps in exhibit spaces will be required.

Of greater concern are the windows. Visible light, on a very cloudy, overcast day, ranged from 100 to 150 lux. While these light levels are acceptable in the short term for items that are not especially sensitive to light, much artwork, fabric, and leather should not be exposed to visible light levels greater than 50 lux.

The windows also allowed UV light of between 2,500 and 3,500 $\mu\text{W}/\text{lm}$. The maximum level acceptable for museum materials is 75 $\mu\text{W}/\text{lm}$.

Therefore, spaces with windows are unsuitable for storage or exhibit space unless modified to reduce visible light. This is made more complex (and costly) by the National Register status of the building. One suitable solution would be to install plexiglass sheets that have film which eliminates UV radiation and significantly reduces visible light. Another benefit of such plexi installations would be that they would also help seal the windows. Complicating this process is the need to install these shields on the interior so as not to affect the outside appearance of this National Register building.

Nevertheless, without significant modifications, the light levels in the proposed space are entirely too high for the storage or exhibition of the museum's collections.

Temperature and Humidity

Temperature and humidity affect collections by causing chemical and physical deterioration, increased pest problems, and mold.

At the present time the entire space is serviced by two DX units, one on the east side of the hall and another on the west. Ductwork is of unknown type and condition. Thermostats are located in the small closets containing the units and therefore do not reasonably reflect space conditions where collections and exhibits will be located.

At the time of this assessment, the spaces were 75°F, with a relative humidity of 62%. We have no long-term data collection and must rely on this information at a general level.

To examine the suitability of these conditions we can use the *preservation index*. This reveals the combined effect of temperature and RH on the decay rate of vulnerable organic materials in collections and gives a general idea of how long it will take for them to become noticeably deteriorated. In the current situation, this space yields a preservation index of approximately 20 years (anything under 45 years is a clear risk to collections).

Readers might wonder if this is a significant issue since the collections will be in this space for "only a few years." It is critical to explain that damage is cumulative and irreversible. So yes, it is of concern that the collections will be subjected to this climate, even for "only a few years."

Likewise, readers may suggest simply reducing the temperature, adjusting the thermostat to perhaps 68°F. Temperature and relative humidity are interconnected. Adjusting one will affect the other. In this case, going from 75°F to 68°F, will increase the relative humidity from 62% to 78%. This "buys" us only one extra year – increasing the preservation index to 21 years. Moreover, it creates an environment that is so damp, mold will likely to be visible within 20 days.

Of course, mold is already present and visible on at least one wall. We have special concern regarding the possibility of additional mold within the walls and these areas should be carefully inspected.

This reveals that both temperature and humidity must be controlled – and very simple DX units such as the ones present in this space are entirely incapable of achieving the control necessary for museum settings. To make the space acceptable will require extensive modification of the units and/or supplemental dehumidification. And this dehumidification will be far beyond the capability of relatively inexpensive dehumidifiers.

Thus, at present, the control of temperature and relative humidity in this space is unacceptable for the storage or exhibition of museum collections.

Filtration of Particulates

At the present time the two DX units have only 1-inch fiberglass filters installed. This provides less than 20% ASHRAE Dust Spot Efficiency, or roughly a MERV 4 rating. They offer “minimal” filtration and are capable of capturing under the best circumstances particles of greater than 10 microns. Minimal recommendations for a museum collection are MERV 10 or ASHRAE Dust Spot Efficiency of 50-55%. Better recommendations suggest MERV 11 or even MERV 13 filtration.

The filtration provided at present is entirely unacceptable. It may be that the DX units can operate efficiently using higher quality filtration, although such systems can rarely use higher than about MERV 8 filters. Consequently, additional filtration would be required.

Summary

Aspect	Issue	Does the Building Meet Minimum Museum Standards	
Building	Windows	No	Deteriorated, many don't close, leaky
	Floor Covering	No	Carpet is hydrostatic, contributes to particulates, can't be adequately cleaned
	Maintenance	No	Current maintenance level is minimal and overall poor
	Adjacent Spaces	No	Garage with fire and pollution hazard; unknown elsewhere
	Adequate Space	?	Less than 50% of current space
ADA compliance	Electrical Service	?	Panel not available, but likely breakers are inadequate
	Access	No	Ramp too steep
			No handrail
			No exterior ramp
			Front entrance has stairs
Fire Safety			No ADA compliant fire safety devices
	Detection	No	No smoke detectors
	Suppression	No	No sprinkler system
	Fire Extinguishers	No	None present in proposed space; elsewhere not inspected
	Pull Alarms	No	Not present at either doorway
	Fire Walls/Doors	No	None are fire rated; doors have glass
	Smoke Barriers	?	Likely many penetrations; no evidence of patching
Security	Suitable Neighbors	No	Unknown activities to east; garage to the south
	Alarms	No	Inadequate number and placement
	Alarm Panel	No	Nothing specific for proposed space; current panel in fault and may be inoperable
	Doors	No	Inadequate jam assemblies; easy for forced entry
Pest Control	Locks	No	Inadequate locks and associated assemblies
	Control of Pests	No	Presence of cockroaches, dermestid beetles, rats
Light	Pests Sealed Out	No	Multiple entry points; multiple wall penetrations; windows don't close
	Control of Visible Light	No	Visible light levels too high because of windows
	Control of UV Light	No	Plastic shades on fluorescent lamps deteriorated; high levels from windows
Temp & RH	Control	No	DX systems offer imprecise temperature control and no relative humidity control
Filtration	Preservation Index	No	Currently only 20 years
	Adequate particulate	No	MERV 4 only; a minimum of 10 needed

This assessment examined seven critical building aspects: ADA compliance, fire safety, security, pest control, light, temperature and humidity, and filtration. The proposed building is unsuitable for museum collections in each of these seven areas.

This building should not be used to store valuable museum objects, even in the short term. To attempt to do so would be a violation of the most minimal museum standards and the University's fiduciary responsibility to those who have donated collections to the institution. It would be impossible for the museum to obtain loans from any other museum for temporary exhibit purposes. It would result in significant, irreversible damage to the collections.

An effort to make the proposed building even minimally satisfactory would require at least these 26 steps (additional actions may be needed upon further inspection – these 26 represent only what was obvious based on this initial assessment):

1. Significant repair of the building's windows;
2. Removal of all carpet and replacement with a suitable flooring, such as tile or cork;
3. Significant improvement in overall building maintenance, both interior and exterior, with additional housekeeping;
4. Removal of the garage or construction of a fire rated wall complying the NFPA codes;
5. Evaluation of the suitability of the occupation elsewhere in the building, especially above and to the east;
6. Removal of some walls to create a more useable space;
7. Probable electrical rewiring to include additional service to the space to support exhibit and HVAC improvements;
8. Creating a suitable ADA compliant entrance;
9. Removal of the existing ramp or renovation to reduce its slope and install handrails;
10. Install ADA compliant fire safety devices (mounting of extinguishers, installation of pull stations, visible and strobe alarms);
11. Install combination ionization and photoelectric smoke detectors; one in each space;
12. Installation of a sprinkler system is recommended, but likely not possible in only part of the building;
13. Inspect and update all portable fire extinguishers throughout the building;
14. Install pull stations at both exits to the space;
15. Construct fire rated walls as required by code;
16. Replace all doors and assemblies with fire rated doors;
17. Ensure that there are no penetrations of fire walls; minimize or seal penetrations in other walls;

18. Install a security panel at the museum entrance; add space monitors; add door contacts; add glass break monitors;
19. Install ANSI Grade 1 locks on all doors – entrance and interior spaces; key for master control;
20. The entire building must be treated for pests;
21. The entire building must be inspected for rodent nests, travel, and damage, especially to electrical systems;
22. The entire building must be caulked, thresholds improved, in order to seal pests out;
23. Visible and UV light from windows must be reduced; this will likely require installation of plexi panels with film to reduce visible light and eliminate UV light (this is in addition to the repair of the windows);
24. Replace all plastic shades on fluorescent lamps;
25. DX HVAC must either be replaced or significantly upgraded to provide better temperature control and, most importantly, the ability to control relative humidity;
26. DX HVAC unit filtration must be significantly upgraded to at least MERV 10.

I am not an architect or engineer and cannot provide cost estimates for these actions. Having some experience with museum construction, however, I would expect a cost in excess of \$250,000. This is a great deal of money to invest in a very small space (perhaps inadequately small) for short-term storage.

It is my view that it would be far more cost effective to retain the current I.P. Stanback building (which the University has already invested considerable effort to renovate in 2007) and invest the money in updating the HVAC (taking the building off the campus boiler) and roof.

In any event, it is our professional opinion that it is entirely unacceptable to store or exhibit collections in the Crawford Building without the itemized upgrades, repairs, and renovations.

Deterioration of the building cornice, falling on the ground. This National Register listed building requires immediate maintenance attention and the deterioration presents a significant liability to the University.





Dropped ceilings and carpet in the proposed space. Spaces are oddly shaped, minimizing their usefulness for the museum.



Double wood and glass entrance doors, not fire rated. They would need to be replaced. Electrical panel box to the right was locked and not available for inspection.

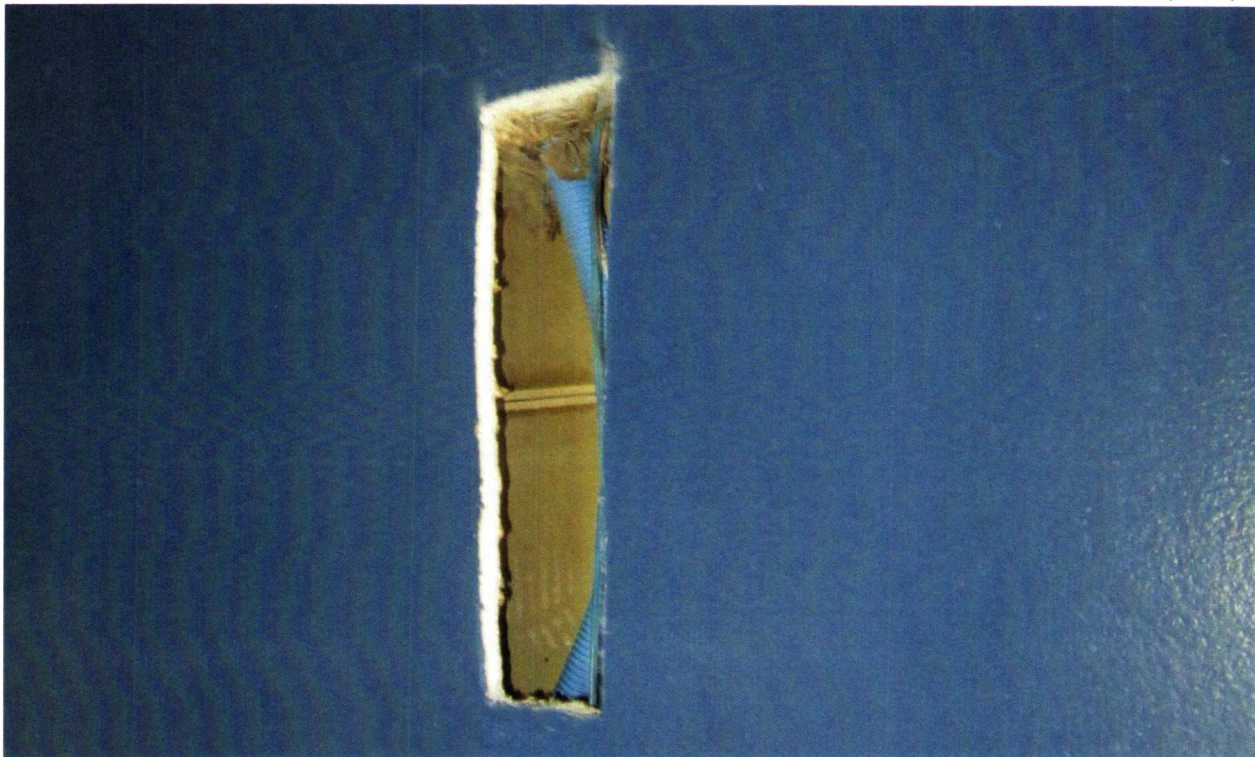


Close-up of metal windows showing deterioration and poor fit. They all exhibit a significant lack of maintenance and require extensive repairs.



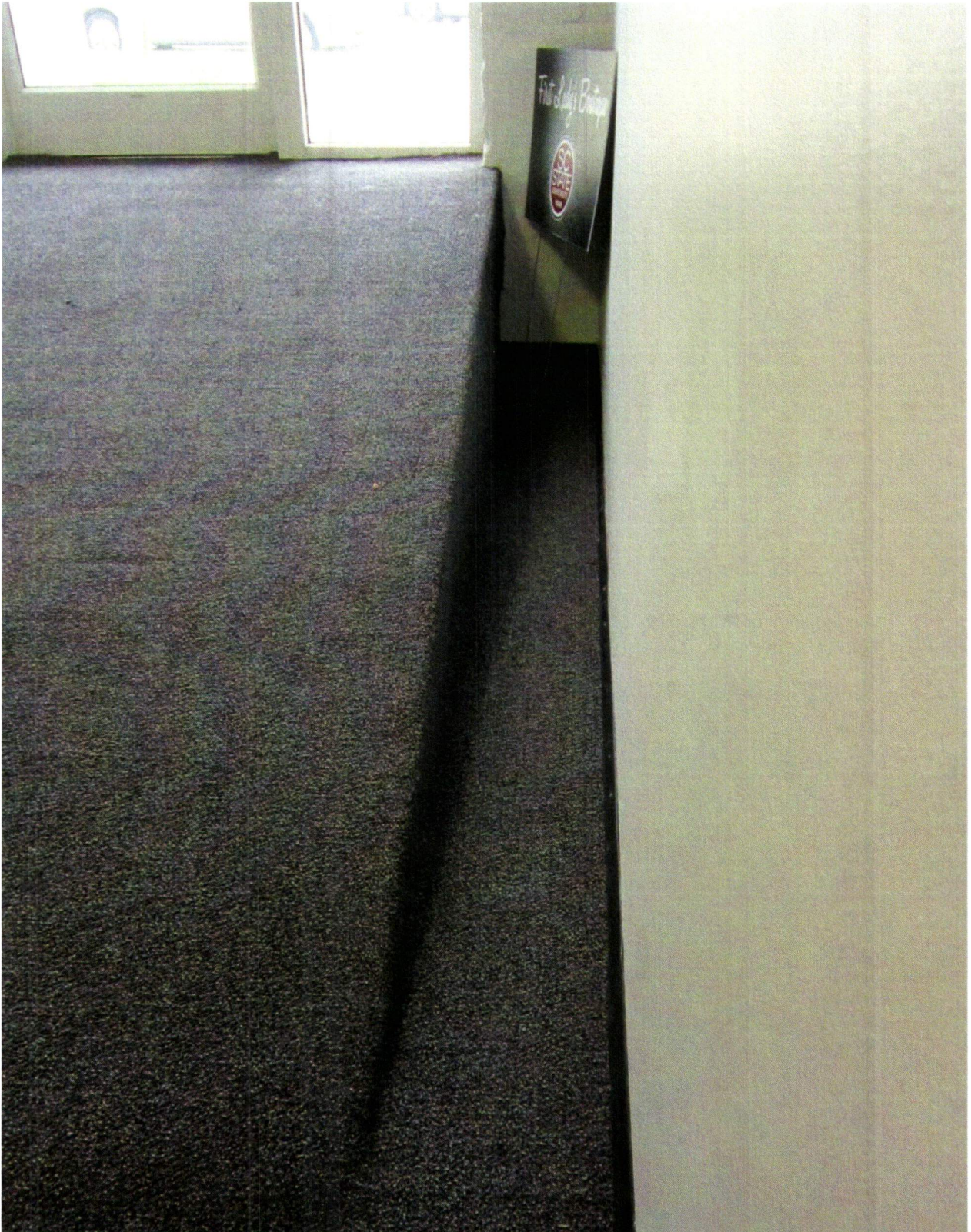
Garage space immediately adjacent to the proposed museum space. The area looks abandoned with significant deterioration to the floor, tools scattered, trash not collected.

Hole in the garage side wall between the garage and proposed museum space showing that the wall is not fire rated. The penetration was never sealed, indicative of the overall poor maintenance of the campus building.

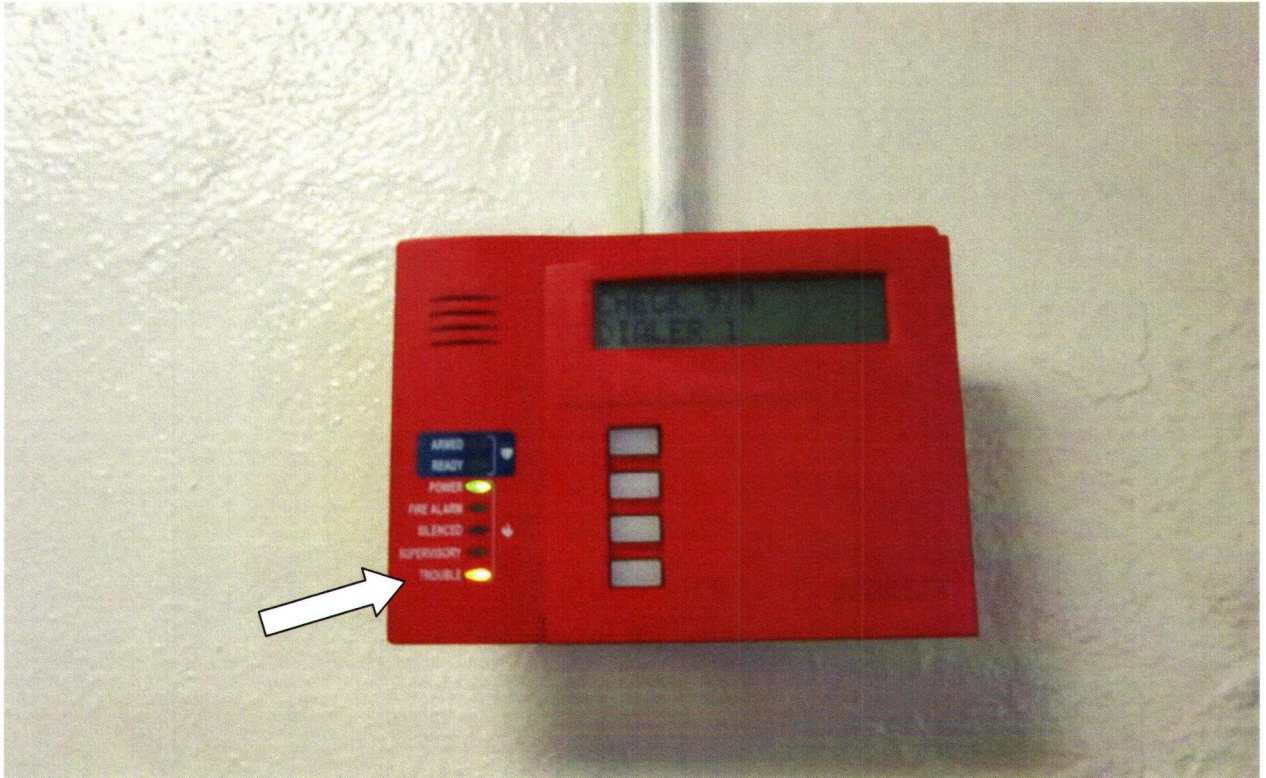


Remnant hazardous and flammable chemicals improperly stored in the garage adjacent to the proposed museum space.

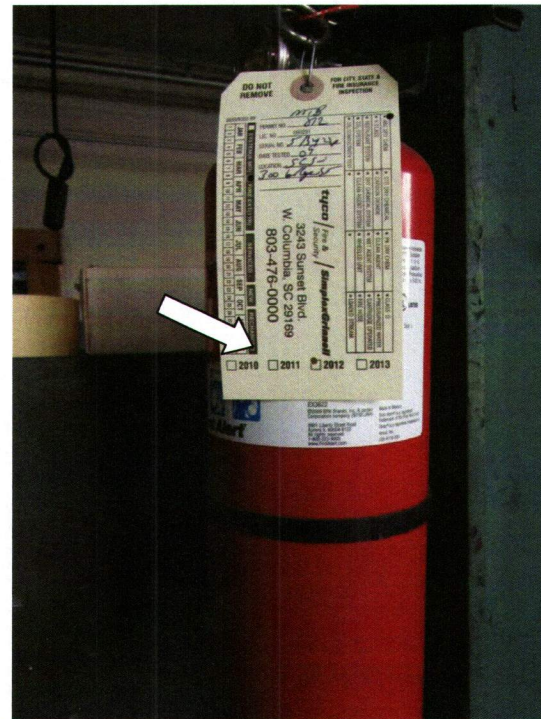
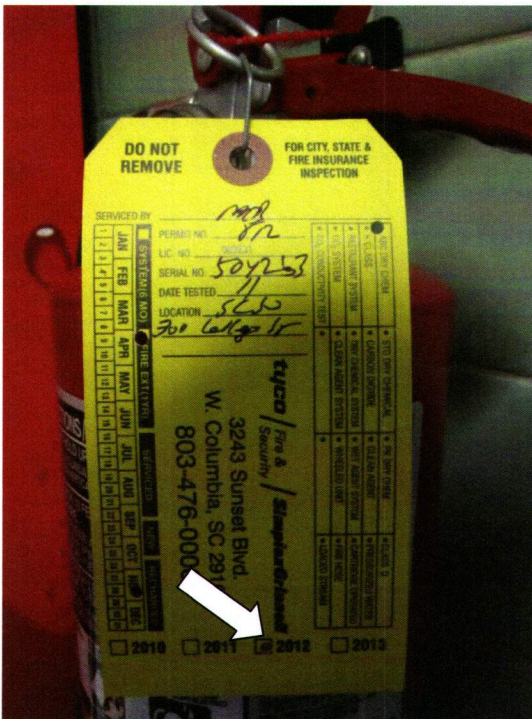




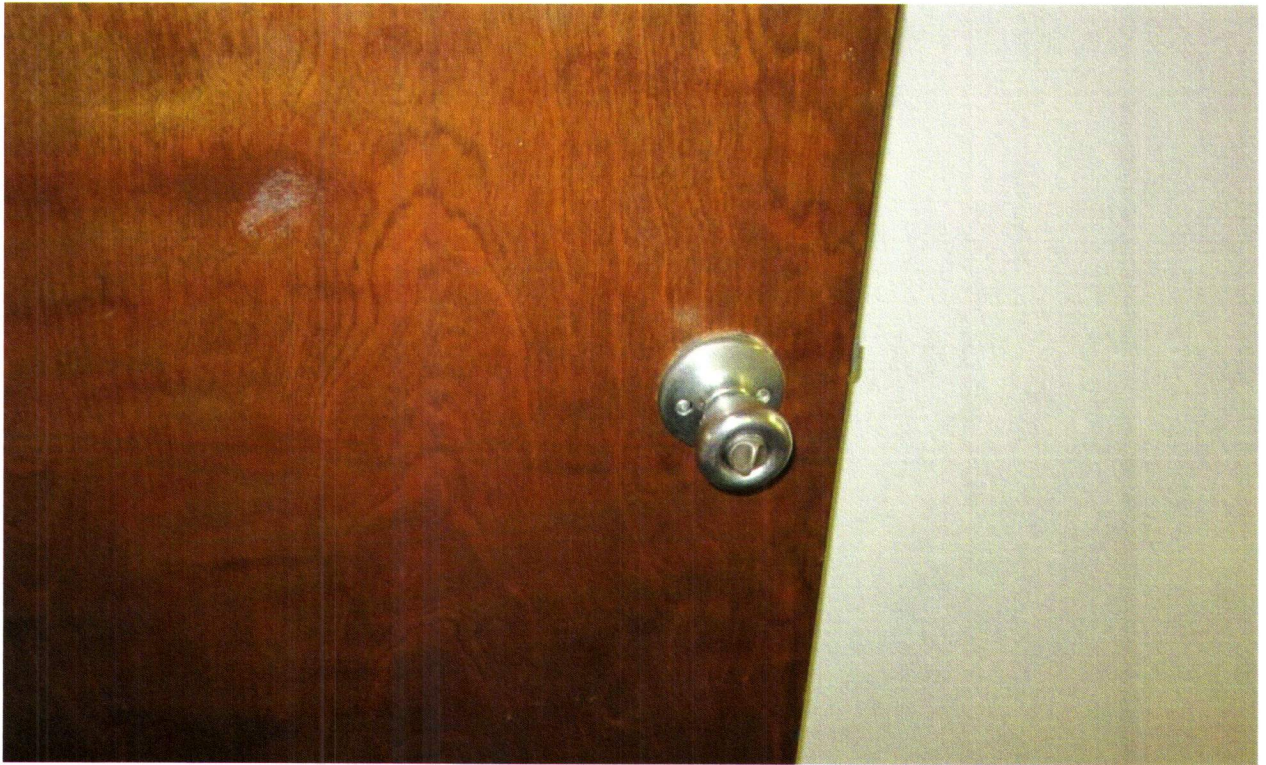
This ramp is not ADA compliant because of the steep slope. It does not meet building code since it lacks a handrail, and it is not compliant with fire codes since the door is at a different elevation than the interior and exterior. There is not ADA compliant entrance.



Alarm panel for the building on the day of the assessment showing a trouble or fault signal apparently related to the dialer. This suggests that the alarm may not be functioning.



Two fire extinguishers in the building showing they have not been serviced since November 2012 – nearly 3 years ago. We did not check when hydrostatic testing was due.



Flimsy knob locks are inadequate for a museum setting, as are the doors and door assemblies. All will require replacement.



Sticky trap showing the capture of a variety of pests, some of which would damage museum collections. The trap has apparently not been checked in a very long time.



Rodent hole and rat droppings in the proposed museum space. Not also the mold and water damage to the wall board.



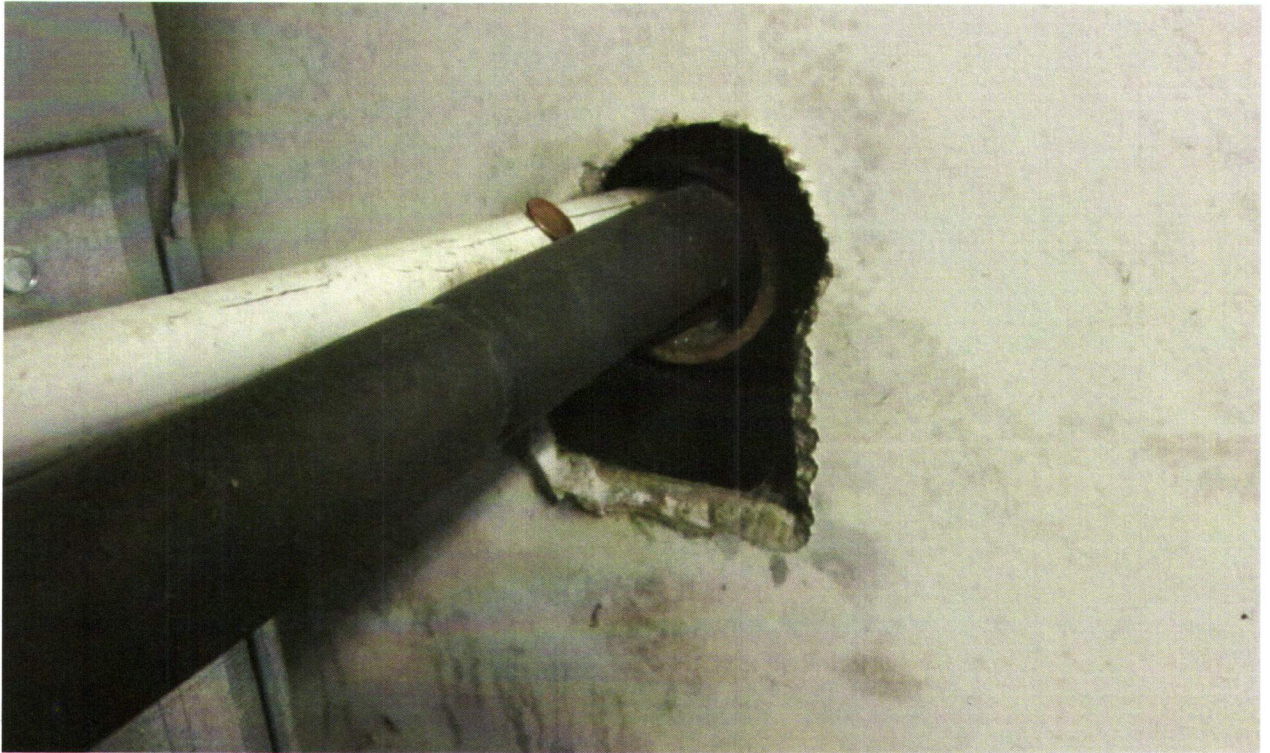
Debris from the interior of the mannequins, probably being used by rodents for nesting material.



Rat on a sticky trap. This indicates that the traps, once set, have not been routinely checked. More importantly, it reveals that rodents are in the building. This is unacceptable for a museum setting and treatment must incorporate the placement of snap traps throughout the building. Treatment of this space alone is not appropriate.



Accumulations of cast larval skins are found at virtually every window, suggesting the presence of dermestid beetles or carpet beetles. Both are major museum collection pests.



Multiple unsealed wall penetrations throughout the space promote pest problems and provide harborage in wall voids. They allow rodents access to electrical wires and that is a significant fire threat. The unsealed penetrations will also aid fire spread. Not also the presence of "black" mold on the wall board, indicating a moisture penetration problem.



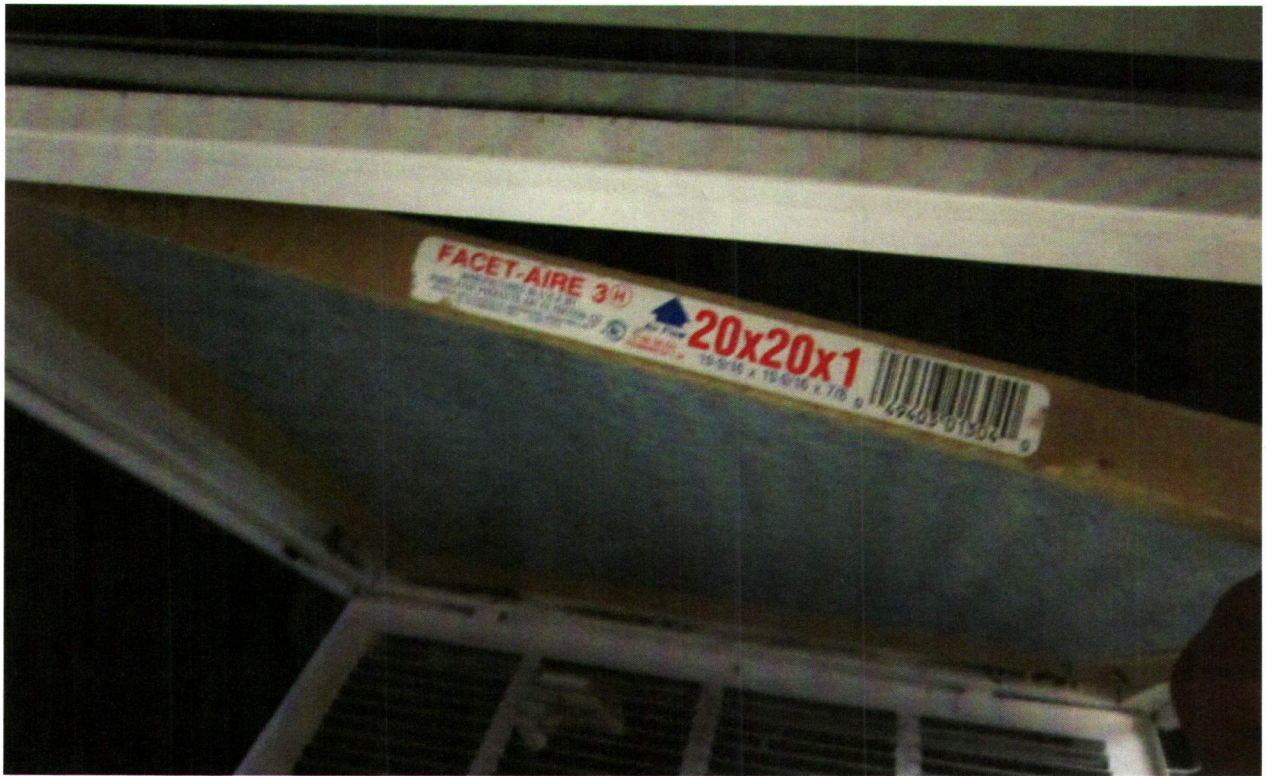
The windows allow significant levels of visible and UV light, even with blinds, that will damage museum collections.



The two DX units in the space provide only cooling and cannot dehumidify the space. This will result in significant mold development – which has already begun in the space.



Note soiling and mold on the grill of the return.



The filtration provided by these 1-inch spun fiberglass filters is inadequate for a museum setting.

Temp °F	% RH	Preservation Index (PI)	Natural Aging Rate	Days to Mold Germination
75 (WARM)	62 (HIGH)	20 Years	FAST	No Risk

IPI Preservation Calculator showing the current environmental conditions would lead to rapid deterioration of the museum collections. Lowering the temperature will only result in an increase of relative humidity, resulting in significant mold growth. The existing HVAC system is not adequate for museum collections.