

Michigan State University Libraries

Disaster Manual

Response & Recovery for Collections

7th Edition – PUBLIC

November 2018 update

Table of Contents

Introduction to 2018 Updates	4
Acton Plan Summaries	5
Water Disaster Immediate Action Plan	
Special Collections Flood Immediate Action Plan	
Lines of Authority	17
Disaster Recovery Assessment	20
Responding to a Water Disaster Event	21
Reporting Leaks and Water Damage	
Understanding Water Damage	
Unsafe Areas	
Mold	
Recovery Procedures for Collapsed Book Shelves	24
Recovery Procedures for Water Damaged Books	26
Drying Wet Books	
Washing Methods for Muddy Books	
Freezing Materials	
Handling Special Materials	30
Photographs, Slides, Microforms	
Framed Photographs	
Single Sheets (Paper)	
Materials in Drawers and Boxes	
Phonograph Records	
Audio and Video Tapes	
Floppy Disks	
Compact Disks and DVDs	
Parchment or Vellum	
After a Disaster Incident	32
Appendix A: About the Disaster Recovery Team	33
Appendix B: Disaster Supplies	35
Facilities and Supplies Outside of the Library	
Disaster Closet Supplies	
Disaster Barrel Supplies	
Locations of Disaster Supplies	

Appendix C: Possible Disaster Scenarios 42
 Flood from Red Cedar
 Fire
 Mechanical Failure
 Storms
Appendix D: Procedures for Using Library Compact Shelving when Power is Out . 44
Appendix E: History of the Disaster Manual 1985 to 2012 46
Appendix F: Full Contact Information - NOT FOR PUBLIC DISTRIBUTION 49

Introduction to 2018 Updates

The 2018 edition of the DRC Manual returns to a more comprehensive format covering a wide variety of disaster situations. While water leaks will most likely continue to be the main cause of disasters at MSUL, the near-flooding of the Red Cedar in February, 2018, made us all realize disasters come in many forms and in unexpected ways. Another major change is the authorization to use the services of Belfor, a disaster mitigation company kept on retainer by the University, in the event of a large-scale disaster. No matter the cause, fire, flood or “just a water leak,” any recovery involving more than a couple hundred books can become overwhelming for library staff to cope with (as we learned during the 2015 4th of July disaster). Belfor can come in and assist with not only the clean up of the physical space, they can pack books and take them away to freeze dry and clean. The books are then returned in (mostly) shelvable condition, leaving library staff to deal with the administration of the disaster, including the withdrawal of books which cannot be saved and finding solutions to prevent the next disaster. The information in this manual is extensive, but not totally comprehensive. Not every potential disaster situation can be covered. However, there should be enough information to ease the mind before a disaster event and to reduce the stress during one.

Eric Alstrom, head of Conservation and Preservation and chair of the Disaster Recovery Committee, headed the rewrite of this edition. Bexx Caswell-Olson, Sarah Mainville and Arlene Weismantel read through the drafts and suggested edits and additions. Nora Sleasman did much of the research as well as offering valuable insight into the final product. The entire 2018 DRC also needs to be thanked for their continued efforts in responding to dealing with wet books as well as their input into all things related to disaster recovery.

Eric Alstrom
September 2018

Action Plan Summaries

Below are the steps to follow for the listed scenarios. More detailed information about various steps are found elsewhere in this document.

WATER DISASTER IMMEDIATE ACTION PLAN FOR ALL LIBRARY EMPLOYEES

1. **REMAIN CALM.** Personal safety comes first. Never enter a flooded area until you are confident there is no electrical or toxic hazard. *If health or safety is threatened, call 911.*
2. **CALL PATRON SERVICES DESK: 5-2333**
 - If Patron Services is not open, CALL DLS: **5-2345**
 - If no response, use **CALLING TREE ON BACK**
 - Provide the following information:
 - a. Your name, phone number, and location
 - b. Nature and size of emergency and exact location affected by water

This call will start the process of calling the appropriate service personnel to remedy the situation.

3. Locate nearest **DISASTER BARREL** (see locations on back). More supplies are located in the **DISASTER CLOSET** in the Main Library basement (WG-7). Use DT-3 (staff lounge) key to open.
4. Remove appropriate supplies from the **DISASTER BARREL**:
 - If water is coming from ceiling on to books or anything that might be damaged by water, throw plastic sheeting over the area
 - If a plastic wastebasket could catch drips place it appropriately under the leak
 - If water is on floor put down gator tails to keep it contained
 - Cordon off the affected area with "Do Not Enter" tape
5. **CALL UNIT SUPERVISOR.** Follow Unit's procedures for contacting a full time Library Staff Member to inform them of the situation.

Special Collections Action Plan: Flooding

Last Updated: 29 October 2018

In the event of an impending flood impacting the MSU Libraries Main Library building the Director of Libraries or designee will make the decision to begin the evacuation of materials from Special Collections which is on the ground floor of the East Wing of the Main Library. The Disaster Response Plan is as follows.

PRELIMINARY STEPS

The Evacuation Core Group will assemble to start the Special Collection evacuation procedures. This Core Group consists of: Head of Special Collections (SPC), Head of Preservation, Special Collections Conservator, Chair and/or Assistant Chair of DRC, Head of Facilities and the division AD, or their designees. See below for list of designated personnel and alternatives.

1. Head of SPC will:
 - Designate two SPC Staff to be team leaders for the Vault and Comics Collections. (Team leaders will shift to Rare after their designated area is evacuated.)
 - Remove the “priority items” on the Priority List (inside the door to the Vault) from the shelves and take to a designated secure area.
 - Make sure all doors to SPC areas on first and ground floors are open and accessible.
2. The Chair or Assistant Chair of the Disaster Recovery Committee will issue the call for 30 volunteers from MSU Libraries staff and ask them to assemble by the East wing elevators on Ground floor as soon as possible (or at a designated time). The call will first go out to a list of library staff who have agreed to be available and are willing and able to help. This list is maintained by the DRC chair. If necessary, another call for volunteers will be issued to continue the evacuation process.
3. Head of Facilities will:
 - Direct the closure of the first floor of the East Wing 24/7 for use as temporary storage for removed SPC materials. Security in 1 East is a top priority. The area will be cordoned off and security personnel will be posted.
 - Clear out the SPC Reading Room and assemble shelving. A dozen units of shelving are kept in the sub-basement to get started. The rest of the shelving will be retrieved from Remote Storage and assembled as needed. See Appendix for dimensions and quantities.
 - Set up dehumidifiers, fans and possibly sand bags if needed in SPC stacks.
4. The DRC Stacks Maintenance member will be asked to lead early arriving volunteers in gathering book trucks
 - 12 regular metal book trucks will be assembled in the old Reading Room to use with the Comic Collection and Rare.
 - 12 “New Haven” wooden closed-back trucks will be brought to the ground floor at the East Wing elevators for octavo and folio in the Vault.

- 6 oversize green metal trucks will be brought to the same area for Vault oversize materials.
 - Each book truck will have identification attached indicating what collection it holds and where the final destination is. These signs are kept in the Disaster Closet.
 - If the elevators are inoperable, another set of book trucks must be left by the far East stairwell on 1 East.
5. Volunteers will assemble outside of the SPC Reading Room on the first floor to be assigned their tasks.
- All volunteers will be given wrist bands indicating they are acting on behalf of the MSUL for the purpose of disaster response activities. Volunteers will be designated in the following categories (30 total):
 - 9 volunteers will work in the Vault
 - 6 in the Vault removing books and loading on trucks
 - 3 in the Reading Room unloading trucks and placing on temporary shelving
 - 6 volunteers will work in the Comics Collection
 - 4 in SPC stacks removing books and loading on trucks
 - 2 on 1E unloading trucks and placing in designated area
 - 2 volunteers will work in select areas of Rare (see below) then shift to other areas of need
 - 13 “runners” will move book trucks from SPC to 1E
 - Jobs should be rotated on a regular basis and volunteers should take scheduled breaks so people do not become overly fatigued.
 - NOTE: These volunteers are in addition to DRC members and SPC staff!
6. Operations will begin in the Vault as volunteers arrive. There is no need to wait until a complete “team” has arrived to start moving books.

BOOK REMOVAL PROCEDURES

(See floorplans below for routes and locations)

SPC Vault

- **9 volunteers:** There will be 3 teams of 2 in the vault, headed by SPC Staff Member. In the Reading Room there will be 3 volunteers headed by SPC Conservator.
- All materials will be removed starting at the beginning of each call number run.
- The Vault evacuation will use “New Haven” wooden book carts, filling the top 3 shelves on each cart and use the SPC back door (nearest the East Wing elevators).
 - A. SPC Staff Member will supervise three teams of 3 people each. Teams will evacuate the following 3 categories of books in the vault: Octavo, Folio and Oversize. Removal will start from the shelf beginning at that respective call number range and go to the end of that size.
 - B. On each team one person will remove books and the second person will place the books on the truck. One of the designated “runners” will take the truck upstairs. The third person will be on the receiving end and remove the books from the truck and place on the temporary shelves.
 - C. The “runners” will move the book trucks through the back door closest to the Vault. Priority is given to full trucks leaving the area.
 - D. “Runners” will be stationed in the Vault, at the elevators and on the first floor. Each “runner” will move the book trucks between their designated stations (Vault to elevator; up the elevator; elevator to Reading Room).
 - E. When the Vault has been evacuated, SPC staff and volunteers will move to Rare (see below).
 - F. In case the elevators are not working due to power outage, see below.

Comic Art

- **6 volunteers:** headed by Comic Art Bibliographer and assisted by SPC member on 1 East
- All materials starting at PN 6728.1 through PN 6728.2 will be removed.
- The Comics Collection evacuation will use metal book trucks and use the old Reading Room door.
 - A. Bibliographer for Comic Art or designee will supervise two teams of 3 each working at both ends of a range opening. Removal begins at the following call number: PN 6728.1. Materials will be continue to be removed as long as possible through PN 6782.2 (or further if possible).
 - B. On each team one person will remove the Comics and the second person will place the books on the truck. One of the designated “runners” will take the truck upstairs. The third

person will be on the receiving end and remove the books from the truck and place in the designated shelves and tables on 1E.

- C. Trucks will use both aisles on either end of the stacks and exit through the old Reading Room. Runners will take the book trucks around to the East Wing Elevators to go to the first floor. Turn left upon exiting the elevator and follow instructions for transfer to 1 East in designated area.
- D. Designated SPC member will supervise Comics placement on 1 East beginning in the southwest corner. Comic Art will be placed on tabletops and on top of the half shelves.
- E. When the Comics have been evacuated, SPC staff and volunteers will move to Rare (see below).
- F. In case the elevators are not working due to power outage, the Vault will be giving priority. See below for details.

Rare

- **2 volunteers:** headed by SPC Staff Member and assisted by SPC staff member on 1 East
- First remove Richard Ford Collection (PS 3556 .O713 – all in shelf boxes)
- Second remove Cookbook Collection (TX 153 through TX 951)
- Books from Rare will be removed after the Vault and Comic Collection has been emptied, except for selected areas listed below. Whichever team finishes first, will start to work on Rare.
 - A. Under the direction of a SPC staff member, two volunteers will start to remove books in the Ford and Cookbook Collections.
 - B. SPC Staff Member or designee will supervise two teams of 3 each working at both ends of a single range opening. All books in this call number range will be removed. (Extra volunteers should take a break and then relieve others.)
 - C. On each team one person will remove the books and the second person will place the books on a “New Haven” wooden book cart. One of the designated “runners” will take the truck upstairs. The third person will be on the receiving end and remove the books from the truck and place in the designated shelves and tables on 1E, starting in northwest corner.
 - D. The “runners” will move the book trucks through the back door closest to the Vault. Priority is given to full trucks leaving the area.
 - E. Trucks will use the back door of SPC next to the East Wing Elevators for transfer to 1 East. Books will be set on desks and low shelving starting in the northeast corner.
 - F. Designated SPC member will supervise shelving on 1 East.
 - G. In case the elevators are not working due to power outage, the Rare books will be removed, if at all, after Vault and Comic Collection. See below for details.

IN CASE OF POWER OUTAGE:

(See floorplans below for routes and locations)

In case the elevators are inoperable due to power outage, only one area at a time will be evacuated, starting with the vault. A general call for an additional 30 volunteers from Library staff will be made. The SPC Head will organize a human chain in the 1 East stairway. Volunteers will be instructed to hand books up the stairs and onto a book truck to go to the Reading Room.

If Special Collections has no lighting besides the egress lights Facilities will bring emergency lighting from Remote Storage. NOTE: When the power goes out, the building generator will ONLY power the egress lights, the proximity card readers and the smoke detection/alarm system. NO outlets will be powered by the generator.

Priority will be given to Vault materials if the power goes out. If there is time (and energy), the same procedures will be used to remove the Comic Collection then the Rare materials as listed above.

The compact shelving will have to be opened using the Battery Packs. Patron Services has 2, Stacks Maintenance has 1 and Facilities has power packs as well. SPC also has a battery pack kept on the shelves above the student computer workstation. Only Facilities or authorized SPC or Conservation staff can use the Battery Packs.

All volunteers will be given headlamps when working in the Vault. Portable emergency lighting will be installed, but there will be shadows between the stacks.

In case the elevators are not working due to power outage, SPC Head will designate a person to organize a human chain up the East Wing stairs.

- A. Books will be placed on trucks which will be transported to the ground level East Wing stairwell.
- B. Books will be lifted up the stairs from person to person and placed onto another book truck at the top of the stairs.
- C. Book truck will be taken to the Reading Room and unloaded onto shelves.

APPENDIX

Miscellaneous:

Other things that are important to know and do during the evacuation process:

1. Head of Security will be designated, who will appoint volunteers to direct book trucks and stand guard at entrances to SPC Stacks (back door and old Reading Room door on Ground floor East), 2 entrances to 1 East study area and entrances to SPC Reading Room.
2. Head of Volunteers will be designated, who will give all staff involved in evacuation efforts, including volunteers, wrist bands and direct them to locations needing their assistance. This person will keep a list of volunteers to check them in/out and ensure security.
3. Head of Volunteers will see that volunteers take a break approximately every 2 hours and make sure no one is over-exerting themselves to the point of needing medical attention. The team leader will need to check individuals for signs of physical or emotional distress and be proactive in protecting our most valuable asset: people.
4. There will be periodic training sessions for DRC, SPC and all volunteers going over the general plan and how to best move fragile books. This will happen at least once a year.
5. A DRC member with P-card access will need to purchase bottled water and snacks for volunteers.
6. Facilities DRC member and staff will need to construct shelving in the Reading Room, transport more shelving from Remote, and secure 1 East.
7. Communications Director will be selected to communicate between teams, run errands, report status of evacuation between Libraries Director, SPC Head, SPC Staff and DRC members, as well as campus and other security forces (police and fire).
8. A Recorder will be selected to take notes, take pictures and shoot video of evacuation at all stages.
9. Team Leaders will be given identification vests, kept in the Disaster Closet.
10. Head of SPC will remind SPC staff of importance of teaching volunteers how to carefully handle SPC materials, especially those most valuable.
13. Good communication is key to the evacuation's success. Always make sure the Head of SPC, Head of DRC, Preservation Librarian and SPC Conservator are regularly updated regarding evacuation process.
14. SPC Staff will distribute Walkie-Talkies (owned by SPC) to team leaders in SPC and on 1E.
15. The Core Group (Head of Special Collections (SPC), Head of Preservation, Special Collections Conservator, Chair and/or Assistant Chair of DRC, Head of Facilities and the division AD) should meet at the beginning of each semester to review these plans and make any necessary updates.

Temporary Shelving Needs for Vault Books:

All calculations based on using free-standing 18" or 24" deep shelving (the black shelving).

Octavo

- 13.5" high shelves
- Approximately 1750 total linear feet needed (580 3' long shelves in Vault)
- For 18" shelving, books can be shelved on either side. 290 shelves total
- For 24" shelving, books can be shelved two deep on either side. 155 shelves total
-

Folio

- 16" high shelves
- Approximately 560 total linear feet needed (185 3' long shelves in Vault)
- 18" shelving is preferred, books can be shelved on either side. 93 shelves total

Oversize

- Books are shelved laying down, so anything over 8" is acceptable
- Approximately 865 total linear feet needed (approximately 287 shelves)
- Either 18 or 24" shelving is acceptable; can only shelve on one side. 287 shelves total

Several units of shelving are stored in the sub-basement of the library in order to get the installation started. The rest of the shelving is at Remote and will be brought to the library as the initial units are being built.

Leadership Roles (Last updated October 2018):**Head of Special Collections**

To remain in Special Collections at all times in order to be available to answer questions and make decisions.

Person #1: Peter Berg (SPC Head)

Person #2: Leslie Behm (SPC)

Director of Operations

Keep evacuation running smoothly, answer questions, make decisions regarding evacuated materials, communicate with receivers of evacuated SPC materials.

Person #1: Eric Alstrom (Head of Preservation/DRC Chair)

Person #2: Nora Sleasman (Preservation Assistant)

Vault Leader in SPC

Stay in Vault training volunteers in proper book handling, oversee the removal of books and be available to answer questions as well as provide security.

Person #1: Tad Boehmer (SPC)

Person #2: Jessica Achberger (SPC)

Comics Leader in SPC

Remain in the area of the Comics Collection overseeing the removal of comics and being available to answer questions and provide oversight and security.

Person #1: Randy Scott (Comics Bibliographer/SPC)

Person #2: Ed Gildner (Bind Prep/part-time SPC)

Vault receiver at designated location

Direct volunteers where to unload boxes.

Person #1: Linsey Allen (Conservation/DRC)

Person #2: Kris Baclawski (SPC)

Comics receiver at designated location

Direct volunteers where to unload trucks.

Person #1: Ruth Ann Jones (SPC)

Person #2: Sarah Klimek (SPC)

Communications

Communicate between teams, run errands, report status of evacuation to SPC Head, Library Director, etc. (Not to outside sources or the press)

Person #1: Michael Laney (DMC/DRC)

Person #2: Sarah Mainville (Media Preservation/DRC))

Security and Head of Volunteers

Enlist guards for entrances, elevators and stairways. Give wristbands to volunteers. Keep list of volunteers. Ensure volunteers take breaks for rest and refreshment. With Library Director's approval, DPPS can be called in for security, as well.

Person #1: Josh Maki (Stacks/DRC)

Person #2: Becky Turnwald (Patron Services/DRC)

Hospitality-First Aid

Provide water and snacks for volunteers, set up rest area for volunteers to take breaks.

Have first aid kits available. At least one must have P-card access.

Purchasing: Susie Garmo (Mailroom/DRC)

Set up/Distribution: Sue Depoorter (Conservation/DRC)

Back-up: Mary Schueller (Front Office Staff)

Stacks Liaison

Take lead in bringing trucks to SPC

Person #1: Elizabeth Lyon (Stacks/DRC)

Person #2: Mark Andrews (Stacks)

Recorder

Take pictures and video, keep stats on numbers of trucks filled, etc. Ideally the Conservation Lab tablet will be used, but personal phones/cameras are okay.

Person #1: Shelby Krosbe (Graphic Services)

Person #2: Eric Weston (Systems/DRC)

Facilities

Secure area, move furniture, set up shelving, bring supplies, set up dehumidification, etc.

Person #1: Jay Johnson (Facilities/DRC)

Person #2: Bob McClure (Facilities)

DLS member (Cassaday)

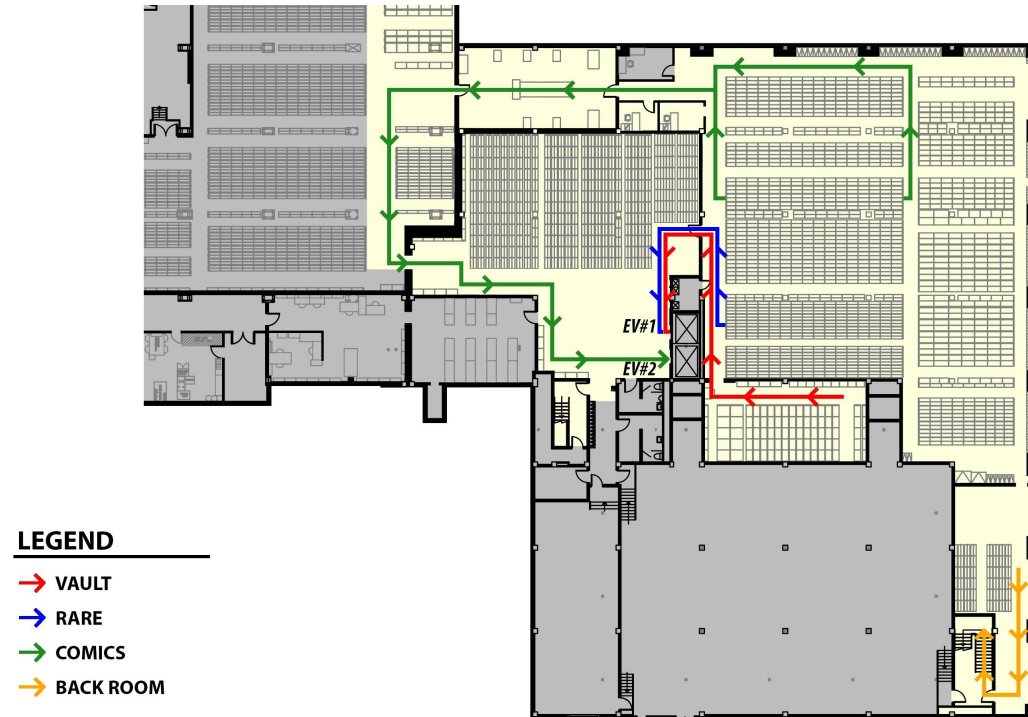
Assist with communications from DLS

Head of Systems (TBD)

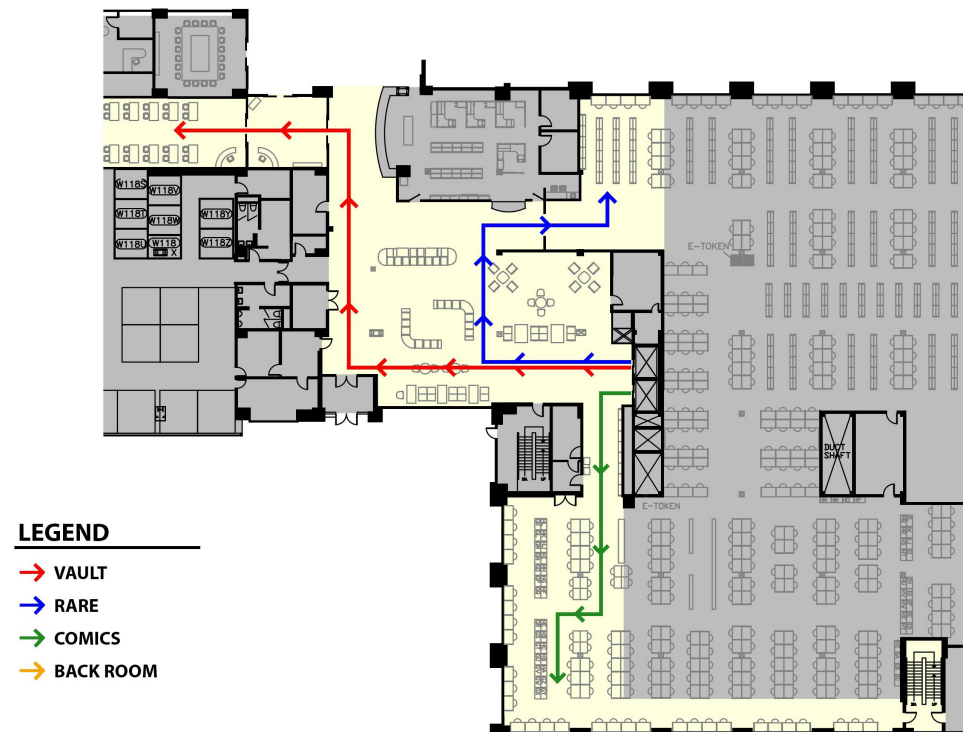
Troubleshoot computer issues, implement MSU COOP Plan as needed

Floor Plans:

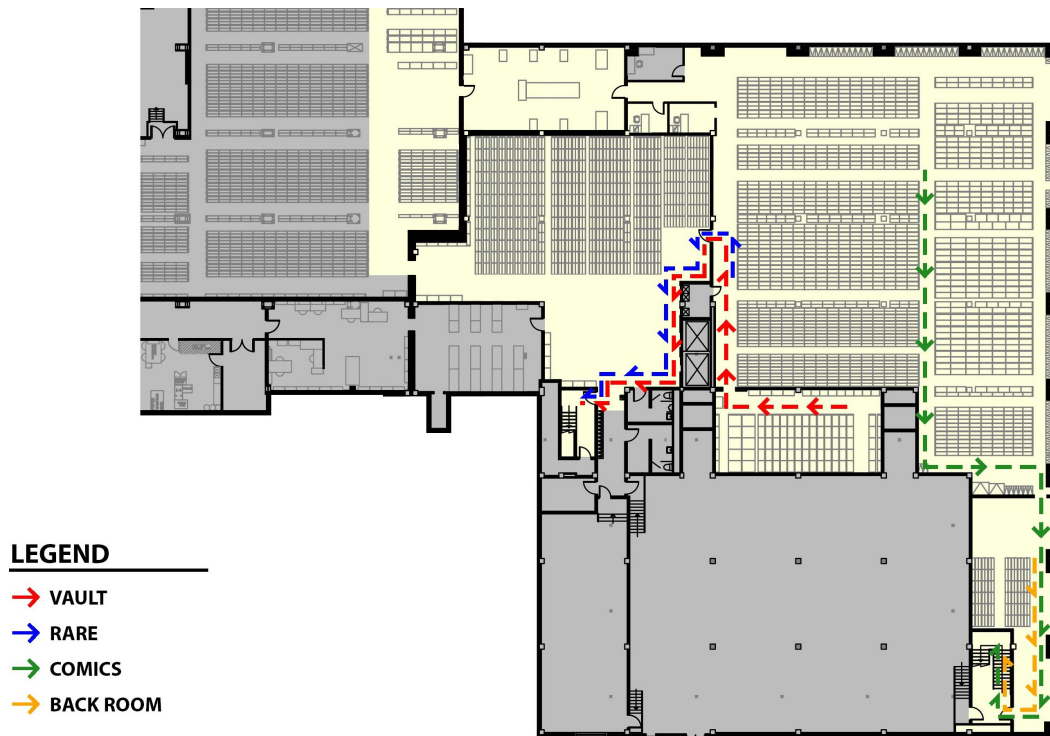
Ground Level – Routes to evacuate the various collections:



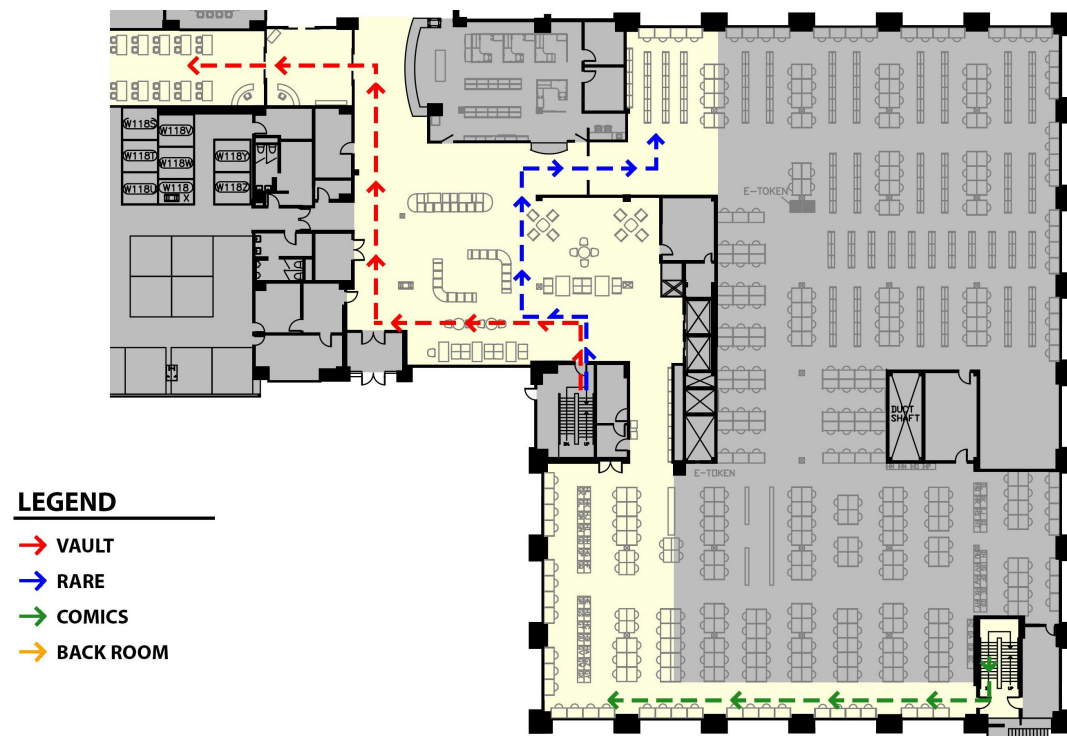
First Floor – collection destinations:



Power Outage – Alternative Ground Level Route:



Power Outage – Alternative Routes to Destination:



Lines of Authority

Patron Services (355-2333) staff is trained to respond to various kinds of emergencies and is the first to be contacted when an emergency occurs. However, policies and procedures have been established which designate the following persons as those who have authority to make major decisions such as closing the building.

The names are listed in the order they are to be called in the event of any major emergency such as fire, power failure, tornado, and bomb threats. If you cannot reach the first person on the list (the Director), continue down the phone list until you reach someone with authority.

For disasters involving only collections, contact the chair of the Disaster Response Committee (see below). If unavailable, continue to call committee members until a DRC member is reached.

Full contact information, including personal and cell phone numbers, is included in "Appendix F," which is not available in the public version of this document.

MSU Libraries' Administration

Director of Libraries: Joseph Salem.....	355-4100
Senior Associate Director: Arlene Weismantel	884-6447
Associate Director – Collections: Steve Sowards	884-6391
Assoc. Dir. – Digital Information: Shawn Nicholson ..	884-6448
Assistant Director – Public Services: Terri Miller.....	884-0841
Asst. Dir. – Technical Services: Kay Granskog.....	884-0814
Head of Facilities Support: Jay Johnson.....	884-0832; 930-0620(work cell)
Head of Patron Services: Erin Weller	884-1943
Head of Conservation & Preservation: Eric Alstrom..	884-0905
Head of Special Collections: Patrick Olson.....	884-0821

Disaster Response Committee

To be contacted immediately if collections are affected or endangered in any way. Contact members of the Disaster Recovery Committee if necessary. If unable to contact, use DRC contact list and call in order until someone is reached.

Eric Alstrom (Chair, Conservation & Preservation) ...	884-0905
Bexx Caswell-Olson (Conservation)	884-0802
Nora Sleasman (Preservation)	884-5986
Sarah Mainville (Media Preservation)	884-0857
Sue Depoorter (Conservation).....	884-4042
Linsey Allen (Conservation).....	432-0941
Navi Cassaday (Distance Learning Services).....	353-5303

Susie Garmo (Mailroom)	884-1964
Jay Johnson (Facilities)	884-0832; 930-0620(work cell)
Mike Laney (DMC)	884-8983
Jay Lantrip (Fine Arts)	884-0861
Elizabeth Lyons (Stacks Maintenance).....	884-1812
Josh Maki (Remote Storage).....	485-2242
Kim Pierce (Text Management).....	884-0879
Julie Taylor (Copy Center/Publishing Services).....	884-0827
Becky Turnwald (Patron Services)	884-1946
Eric Weston (Systems).....	884-0883
Whitney Miller (University Archives)	884-6437

Infrastructure Planning and Facilities

Trouble Truck/IPF Main Number	353-1760 (or "0" for operator)
Paul Coonrod	353-2931
Deb Russell.....	432-0512

Risk Management and Insurance

Risk Management must be called for advice regarding insurance documentation, as soon after the disaster event as possible.

Main Office	355-5022
Risk and Insurance Coordinator: Debbie Hurst.....	355-5022 ext. 2
.....	<hurst@msu.edu>

Fire Prevention, Department of Public Safety and Occupational Safety Office

Emergency Action Team Coordinator: Officer Steve Beard	
.....	355-2221
.....	<beardb@police.msu.edu>

There are several officers assigned to the library but Sgt. Jessica Martin and Sgt. Steve Brandman are the two police supervisors for our building. To reach them, call 355-2221 ext. 1 and ask to be transferred to one of them.

Fire Marshal Unit Commander: Officer Denis Zietlow	
.....	355-2221
.....	<zietlowd@police.msu.edu>
Fire Safety Training: Kristina Wilson (Occupational Industrial Hygienist)	
.....	432-5409(w).....803-5935(c)
.....	wilso920@ehs.msu.edu

Disaster Recovery Vendors

Belfor..... 800-856-3333
Belfor Representative: Craig Harfst..... 800-421-4141
..... 616-308-9070(c); 616-554-0855(w);

Film Rescue 800-329-8988;
..... <mail@filmrescue.com>

Disaster Recovery Assessment

In all emergencies that affect the condition of the library collections, notify Patron Services (355-2333) who will initiate disaster recovery procedures for collections. The Disaster Recovery team is on call for any emergency that affects library materials, and will take charge of recovery operations as soon as they arrive on the scene. They have been trained in handling wet or otherwise damaged library materials, and have access to necessary supplies, equipment, and services.

NOTE: These instructions assume that the structure has been rated safe for entry for non-emergency personnel.

NOTE: For specific units and types of disasters, see Immediate Actions Plans (i.e. Water Leak or SPC Flood Action Plan). These will supersede the following for those situations.

In the event of a disaster affecting library materials, the following steps should be taken:

1. Secure the perimeter of the affected area from unauthorized entry. Use yellow perimeter tape available from DPS, Physical Plant, or from Library Stores.
2. Delegate the following tasks as help arrives:
 - If necessary, call for additional volunteers.
 - Bring/obtain a copy of the *Disaster Recovery Manual for Collections* on-site.
 - Formulate a plan of action to determine activity priorities and immediate supply requirements.

To estimate the number of ranges/books affected:

~ 50 books/shelf X # shelves per section X # sections in range =
Approximate # of books affected

To estimate the approximate # of boxes needed:

Approximate total number of books affected / ~ 25 books per recovery
box = Approximate # of recovery boxes needed

- Assess the condition of stacks – braced or leaning
3. Obtain the list of rare/valuable/fragile materials for the site you are working at. These materials should be addressed first.
 4. Obtain supplies from the Disaster Recovery barrel. Fans, wet-dry vacs, and other supplies are available as required.
 5. Appoint person to meet and direct staff and supplies.
 6. Set up teams to sort and deal with different material types - i.e. books, maps, papers, and computers.
 7. Establish a production line to handle different types of materials.
 8. Train volunteers on the spot.

Responding to a Water Disaster Event

The following describes recommended procedures and techniques when a disaster situation is discovered.

For a small disaster event (under 250-300 books), recovery operations will be done in-house by the Disaster Recovery Team and conservation staff. For larger events (with more books or more serious situations such as fire or flood), call IPF (353-1760) to have Belfor come in and remove the books for drying and recovery.

Reporting Leaks and Water Damage

- Do not enter an area if there is any danger of electrical shock.
- Report all water problems to Patron Services (355-2333). They will call IPF to remedy the situation.
- Remain in the vicinity of the problem and keep others from entering any dangerous or flooded area.

Water Damage

- Wet paper is extremely fragile and may tear at a touch. Any wet material should be handled as little as possible.
- Moist paper combined with warmth provides an ideal condition for the growth of mold. In order to prevent mold from developing it is absolutely essential to stabilize water-damaged materials within 48-72 hours. Weather is critical. When it is hot and humid 48 hours is the maximum safe period. When weather is cold a bit more time can be taken, but should not go beyond 72 hours. Mold will not grow without warmth and exposure to air. Damp books are even more susceptible to mold than wet ones.
- All books, even those apparently dry, should be removed from the affected area and examined carefully. They should be stored in an area with good air circulation, air conditioning and with low humidity.
- All books should be thoroughly dry and be checked for mold before they are returned to their places.
- As soon as area has been declared safe by Facilities or IPF (or the Fire Department, DPS Safety Officer, or Library administrator in the event of a fire, flood, tornado or other large scale event), the following step should be taken:
 1. Secure the area, cordoning off the affected ranges in order to prevent possible injury to staff and patrons.
 2. Stabilize Environment by:
 - A. In winter, open windows and doors to lower temperature as much as possible but not below 32 degrees F. Have Physical Plant shut off heat if possible. Circulate air with fans.
 - B. In summer, request Physical Plant to lower temperature as much as possible. Circulate air with fans.

- C. Try to lower humidity as rapidly as possible. Bring in de-humidifiers. Mop up water as soon as possible after source of water damage has been located and incoming water stopped.
3. Survey extent of damage. Make notes describing the scene, including number of ranges and approximate number of books affected, condition of the stacks (braced or leaning). This is a good time to photograph the scene if a camera is available.
4. Formulate a plan of action and determine immediate supply needs and action priorities:
 - A. Delegate responsibilities
 - B. Appoint a person to meet and direct arrivals of off-site supplies and personnel
 - C. Appoint a person to secure the perimeter from sightseers
 - D. Set up a central communications post
5. Make arrangements for equipment and supplies.
6. Make arrangements for additional staff to help in removing wet materials from area.

Retrieving materials:

- If there has been a fire, entry will be delayed for up to several days until the fire department deems the building safe to enter. There still may be hot spots. Warn staff and volunteers to always feel something before opening. If hot, call a fire fighter.
- Never retrieve items if it means endangering life or other material.
- Establish a location for wrapping and packing wet materials into crates or boxes. Move tables into area to provide work surfaces. Cover tables with plastic.
- Establish a human chain from the location of books to the wrapping and packing site. If distance is too far for human chain, establish book truck convoys to move materials (cover trucks with plastic).
- A team member should be at the head of the chain. This team member should make rough priority and sorting decisions regarding treatment to follow:
 - Separate coated from non-coated materials.
 - Separate books that are so wet that they need interleaving from damp books that can be air-dried.
 - In a disaster involving hundreds of volumes the decision to freeze or air dry may best be made here, directing books to two separate processing chains.
 - The Disaster Recovery Team leader should not become personally engaged in tasks, which do not permit movement from place to place.
- For large scale disasters, such as flood, fire or tornado, Belfor will be contracted to do much of this work. DRC members and staff from affected areas may need to help or be on hand to direct the work.

Priorities for moving material from area:

- If area has previously established priorities, follow them.
- If books have fallen from shelves and are lying in water, retrieve these first. Water on floor should be removed as rapidly as possible to reduce humidity.
- Remove coated books before others.
- Remove any boxes of materials from floor.
- Remove wettest books next. This will also aid in reducing humidity.
- Soaked carpet should be removed promptly. If carpet lies under shelving ranges it must be cut.

Precautions:

- Books that are to be frozen should be kept closed to minimize warping.
- Books with coated paper should not be allowed to dry out until they are interleaved or frozen. It is better to allow them to stay wet if they cannot be stabilized promptly.
- Do not empty cardboard boxes if they are very wet. Freeze as is.
- Always remember that reducing the cost of future restoration must be one of the top priorities of the salvage operation.

Washing muddy or dirty books:

- This is rarely possible because of lack of time
- No untrained person should ever be allowed to wash water-damaged materials.
- Never wash books if time is critical.
- Never under any circumstances wash material that contains water-soluble materials such as non-permanent ink, watercolors, tempura, etc.
- See "Recovery Procedures for Water Damaged Books" for more details on washing muddy books.

Unsafe Areas

If an area that has been declared unsafe to enter contains material that has been previously identified as being especially vulnerable to destruction, or is extremely valuable, it may be desirable to persuade the fire marshal or IPF personnel to provide a safe means of access to remove these materials even though the area is still considered hazardous.

Mold

If access to an area has been delayed for several days, mold development may already have started. If there is a large amount of material it may be necessary to use fungicidal fogging. A professional fumigator should do the fogging.

Consult Wallace Conservation Lab staff for advice for any suspected or potential mold issues.

Recovery Procedures for Collapsed Book Shelves

If shelving collapses or falls over:

1. Clear the area
 - A. Clear the area of staff and patrons near collapsed stack to insure personal safety.
 - B. If anyone was injured immediate steps should be taken to secure medical aid. Call 911 if life threatening or Patron Services (355-2333) for assistance.
 - C. Rope off area immediately with yellow "caution" tape (available in the Disaster Closet in WG7).
2. Notify Patron Services (355-2333), who will then notify the following departments in this order:
 - A. Facilities - who will inspect the situation and call IPF as needed (884-0832)
 - B. Disaster Recovery Coordinator or member of Disaster Recovery team
 - C. Stacks office/unit/group having responsibility for the maintenance of the book stacks concerned.
 - D. Collection Area Coordinators for the affected stacks.
3. Take no further action until a member of the Disaster Response Committee member and/or a Facilities staff member arrives to direct recovery operations.

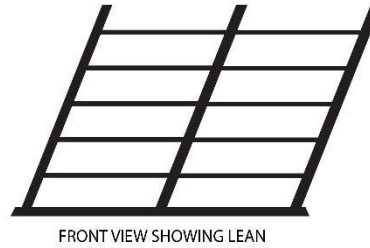
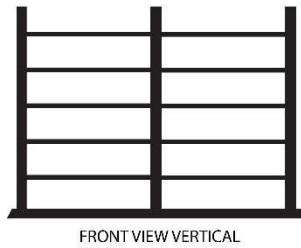
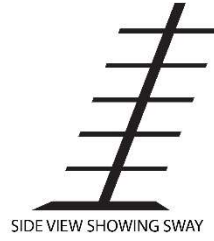
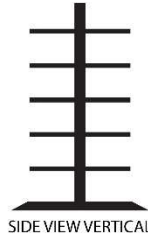
How to Remove Books from Collapsed Stacks:

1. Do not start these procedures until Facilities or IPF has deemed the situation safe to work in given permission to enter the area.
2. In the case of a totally collapsed stack do not rush into action. Take time to plan and seek advice. First rescue books that are lying in positions which place them in stress. Work slowly enough to avoid further damage. See below for illustration.

NOTE: In the case of a partial collapse, immediate action is needed.

3. Do not expose yourself or others to any danger of personal injury.
4. If the leaning stack can be firmly braced with something readily at hand, do so. But don't waste time if the means to do this aren't immediately at hand. Do not brace against another stack.
 - A. First, pick up any fallen books that are in the way.
 - B. Place a book stool alongside the collapsing range on the side opposite the direction of the sway. Pass books to a human chain.
 - C. Lighten the weight which is pushing the stack in the direction of its lean or sway by removing books in this order:
 - 1) Top shelves first
 - 2) Shelves on the side of the sway first.
 - 3) Shelves opposite the direction of the lean.

- 4) Books, which are wedged, are helping to keep the range from total collapse. Remove these last.



Procedures for the Recovery of Damaged Library Materials

Drying Wet Books

Considerations:

Costs involved with drying and restoring materials are not always justified if material is in print and is replaceable. Decisions should be made at this point before drying.

After drying, further decisions may be made whether replacement or restoration will be needed. Replacement if possible is nearly always cheaper than restoration.

If the water damaged material was infected by mold before freezing, it should be sent to a commercial disaster recovery company to be sterilized by fogging with a fungicide.

Drying Techniques/Options:

Freeze-drying and vacuum drying:

Freeze-drying causes the water in materials to pass from the frozen to the vapor phase without going through the liquid phase. The moisture becomes volatile and mixes with air. Air is circulated to remove the moisture. Vacuum-drying generally is understood to mean that frozen liquid passes through a liquid state before it is removed by air absorption. Consult commercial disaster recovery companies, such as Belfor (800-856-3333).

Air-drying:

The drying should be done in a large open workspace. There should be constant air circulation and dehumidification.

- Temperatures should be maintained at 65-70 degrees F (maximum) with a relative humidity of 35-45% (maximum).
- Frequent readings of temperature and humidity should be taken.
- Moisture content in the drying materials can also be measured.
- Wet wrappings and blotting materials should be removed from the room as fast as possible in order to keep the humidity down.
- If the books are contorted, they should be remolded into shape before drying. Wet materials should be separated into small units so that air will flow freely around them. The smaller piles will also prevent crushing of the materials on the bottom.
- If the books are dirty, they should be cleaned.
- Books can be weighed at the start of the drying process in order to determine the amount of water that has been absorbed.
- Drain books by standing them on their heads (less strain on the spine) with their covers spread sufficiently to make them stand up. ethafoam (preferably), styrofoam or foam rubber supports can be used to help the books stand. Their pages should not be fanned. Each book should stand on a piece of absorbent paper. These should be changed frequently and removed from the room.

- When dried sufficiently to be opened without damage, the book may be interleaved with absorbent sheets.
 - A. When opening the books, take considerable care, keeping the opening shallow at first. Interleaving materials and absorbent papers under the books should be removed and changed often. After the interleaving has been changed a few times, the books will be almost dry. At this point they may be laid flat under moderate pressure to reduce cockling and warping.
 - B. If desired, partially dry books may be hung over nylon lines to finish drying. (They should not be hung when very wet because they will be damaged further). Hanging will help to restore the spine to its original shape. Spines tend to become concave due to the swelling of the leaves by water and the subsequent interleaving process.
 - C. Never stack drying books
- After drying:
 - A. Books should **not** be returned immediately to the shelves. They should be shelved in a holding area with 35-45% humidity, separate from the stack area. This area should be well ventilated and air-conditioned, with a temperature not to exceed 65 degrees F. Temperature and humidity must be adjustable. There, the books can be inspected for further repair, rebinding, or restoration needs. Random inspection for mold infestation can also take place at this time. Newly-dried materials should never be packed in boxes unattended for more than a day or two. Books should remain in the holding area at least 6 months before returning them to the main stack area. During this time, temperature and humidity can be slowly changed to duplicate stack conditions. The books should be carefully inspected before their return to the stacks.
 - B. The shelves should be thoroughly washed with disinfectant, including the corners, bottoms, and sides of the shelves.
 - C. Do not move materials back until the shelves are completely dry and the temperature and humidity have been restored and maintained for several days. Then, the books may be reshelved in the collections.

Washing Methods for Muddy Books

The washing of materials containing water-soluble components, such as inks, water-colors, tempera, dyes used in certain maps, and the like, should not be attempted under any circumstances. Seek the guidance of an expert.

This method requires a large room with plumbing and adequate drainage.

- Install hoses feeding to bottoms of 6-8 (20 gallon) plastic garbage cans to:
 - Keep water running
 - Keep dirt overflowing out
- Keep books tightly closed (do not open books - they will fall apart)
- Gently sponge under water (Daub—do not rub or brush—this will only drive dirt deeper!)

- Move books from can to can in successively cleaner water
- Spray with fine stream of water at end of procedure
- Press out water with hands (do not use mechanical presses)
- Dry or freeze

NOTE: Do not attempt this method with open volumes, manuscripts, books printed on coated paper, art on paper, or photographs.

Freezing Materials

For large scale water disasters, Belfor will remove the books to an off-site facility to freeze and dry the affected materials. Use the guidelines below to help select the materials that should (or should not) be sent.

- Suggested priority for freezing
 - A. Materials that have developed mold
 - B. Rare, unique and expensive volumes (but not vellum bound)
 - C. Manuscripts and art on paper stock
 - D. Materials on coated stock
 - E. Journals & monographs on non-coated stock
 - F. Do not freeze microfilm, microfiche, or color slides unless they cannot be dried professionally. If material has to be frozen it should be done as rapidly as possible.
- Purpose of Freezing
 - Stabilization by freezing buys time. After freezing, decisions can be made about determining which items to replace rather than restore.
 - Freezing stabilizes water-soluble materials, such as inks, dyes, etc.
 - Freezing is not a drying method, nor will it kill mold spores, but it will keep spores dormant.
- Packing materials for freezing
 - If cardboard boxes are used, line with plastic or freezer paper.
 - Wrap each book in freezer paper to prevent items from sticking together. Leave the tops and bottoms of books unwrapped to facilitate drying.
 - Books should be wrapped and packed in the best shape and condition possible. However, if misshapen and warped item cannot be put into better shape without damage, wrap and freeze as is.
 - Pack books spine down, or on the side, never fore-edge down.
 - Do not pack material too tightly.
 - Packaged material waiting transportation to freezers should be kept at 4 degrees F or below in order to prevent mold growth.
- Shipping Frozen Materials

- Load boxed material onto wooden pallets or skids if available for ease in transportation and to provide air spaces under boxes. Trucks should be backed up to loading dock.
- Load material in truck so that air can circulate between containers.
- Include instruction that materials should be frozen rapidly at the freezer facility to -20 degrees F. or below to create the smallest possible ice crystals.

Handling Special Materials

Photographs, Slides, Microforms

- Do not freeze microfilm, microfiche, or color slides unless they cannot be dried professionally. If material has to be frozen it should be done as rapidly as possible.
- Seal black and white negative film and prints in polyethylene bags and place in non-metal garbage cans under clean, cold running water until material can be shipped. Material can be left under these conditions for up to three days before the emulsion will separate from film backing.
- Contact Film Rescue International (800-329-8988; mail@filmrescue.com <www.filmrescue.com>) for advice on recovering film-based materials. (Eastman Kodak Company no longer provides emergency service for cleaning and drying).
- Water damaged color slides and color negatives and positive film are time sensitive. There may only be a 48 hour time period in which to save them.
- Materials should be shipped to laboratory in cold water. For a trip of several hours it may be necessary to add ice (not dry ice) to keep it cold.

Framed Photographs

- Remove from frames at once so photographs will not stick to glass, plexiglass or the frame.
- Lay photos between blotters to dry.

Single Sheets (Paper)

- Do not attempt to separate single sheets. Normally frozen “as is” and separated later after vacuum or freeze-drying.
- Do not attempt to sponge off mold.

Materials in Drawers and Boxes

- This includes materials in archival storage boxes
- Do not turn wet manuscript boxes upside down to empty, as the contents could stick to container and be torn.
- If contents are thoroughly wet, freeze contents and containers as is.
- If materials are damp and will not be damaged by handling, repack into dry boxes before freezing. If in doubt, freeze boxes as found.

Phonograph Records

- Remove discs from wet or damaged jackets. Always hold disks by their edges.
- Wipe discs gently with a soft, anti-static or lint-free cloth and place in a rack to dry in a low dust environment. If discs are heavily soiled, wash gently in clean water (room

temperature or slightly cooler) without any soap added. Air dry. Do not use paper towels. Take care that labels are not lost or damaged.

Audio and Video Tapes

- Rinse soil and mud off tapes. Dry within 48 hours if they include paper boxes and labels. Otherwise, they can stay wet for several days.
- Do not freeze.
- Do not touch magnetic media with bare hands.
- Handle open reels by hubs or reels
- Air dry. Preservation copying may be necessary.
- Keep all labels and identifying marks with the tapes.

Floppy Disks

- Avoid touching magnetic surfaces of diskettes.
- Keep wet and pack immediately. Pack vertically in plastic crate or tub.
- Air dry as soon as possible

Compact Disks and DVDs

- Air-dry disks immediately. Do not scratch the surface.
- If disks cannot be dried immediately, pack vertically in crates or cardboard cartons

Parchment or Vellum

- Immediately air-dry, vacuum-dry, or freeze-dry
- Moisture causes these materials to cockle. Seek advice of professional conservator regarding flattening.

After a Disaster Incident

- Enter event information into the Disaster Log on the Libraries' Intranet no matter what the size of the event
 - The Disaster Log is available on the Disaster Response Committee intranet page <disaster-intranet.lib.msu.edu/>
 - Click Forms->Disaster Event Log Form along the top menu. Enter the information as prompted. Be as specific as possible describing the event.
- After a major incident, a debriefing should be held to determine what went right and what went wrong. Reports should be written and perhaps even published in order to help others learn from any mistakes.
 - Revise the appropriate action plan if needed.
 - Supply sources and facilities should be evaluated and, if inadequate, new ones should be found.
- Used supplies should be replaced.
- Each person should be thanked for his/her part in the operation.
- Site inspections should continue periodically for a year to be sure that no mold has begun to grow.

Appendix A: About the Disaster Recovery Team

(ADD ADDITIONAL ROLES OF DRC MEMBERS AS WE DEVELOP THEM)

The Disaster Recovery Coordinator:

- The Disaster Response Committee Chair for the Library will normally serve in the role of Disaster Recovery Coordinator in the event of an emergency or disaster that affects or endangers the Libraries' collections. In the Chair's absence, another member from the Conservation and Preservation unit should be appointed Coordinator.
- Is responsible for calling the members of the Disaster Recovery Team and works closely with the Head of Facilities of the library in acting as quickly as possible to assess the damage and direct clean-up operations.
- Is responsible for maintaining inventory records of disaster supplies and reordering when necessary in order to maintain recommended stock levels.
- Is responsible for communications, summary reports, evaluations, and follow-up assignments.
- Assists branch libraries in responding to emergencies affecting their collections, by providing manpower, supplies, and advice, as needed.

Disaster Recovery Team Members include:

- Disaster Recovery Coordinator
- Head of Conservation & Preservation/Preservation Librarian
- Conservation & Preservation librarians and staff (including Media Preservation Librarian)
- Members of the Disaster Response Committee
- Department Representatives
- Volunteers on call. The DRC Chair maintains a list of library staff (along with contact information) who have indicated they are willing to help in a response or recovery efforts.

Responsibilities and priorities:

- In the event of a disaster affecting the collections, the first team member to arrive should immediately take charge until relieved by the Recovery Coordinator or the Assistant Director for Access and Preservation.
- Appoint a person to secure the perimeter from unauthorized personnel.
- Set up a communications and command station.
- Assess the scope of the salvage problem.
- Formulate a plan of action and determine immediate supply needs and action priorities. The salvage team will have the authority to appropriate supplies such as fans, trucks, etc., from all areas of the library.

- Delegate responsibilities.
- Appoint a person to meet and direct arrivals of supplies and personnel.
- Set up teams with leaders, to deal with books. Train volunteers on the spot.

Appendix B: Disaster Supplies

Facilities and Supplies Outside of the Library

The Main Library keeps a supply of materials and equipment sufficient to deal with recovery from a small or moderate water disaster. However, for a larger disaster, additional equipment and supplies may be needed.

For all emergency supplies and services, on campus or off, make initial contact by calling Infrastructure Planning and Facilities at 353-1760. After hours or on a weekend contact the University Operator who will direct the call.

IPF can supply from its own inventory such items as:

- Generators
- Liquid vacuums
- Trucks
- Dehumidifiers
- Water hoses
- Extension cords
- Water bank trailers
- Freezer and saran wrap – change to oversize ziplock bags
- Plastic garbage bins
- Pedestal fans
- Portable tables
- Portable pumps
- Forklifts
- Plastic crates-stackable
- Pallets
- Milk crates may be available also

For a large scale disaster, Belfor is our disaster recovery vendor. Unless circumstances are extenuating, initial contact with Belfor should be through IPF. This will facilitate billing through the University insurers since the Libraries is a Maintenance Repair Building (MRP) and IPF pays for any maintenance.

- First call IPF at 353-1760
- Can also call our IPF contacts (see contact list)
- Craig Harfst is our Belfor direct contact. Call him directly if contact with IPF is not working: 616-308-9070(c); 616-554-0855(w); 800-421-4141

For other services, such as freezers, freeze-dryers, trucks (including refrigerated truck), IPF or Belfor can supply these.

The library or IPF can purchase supplies, such as crates, newsprint, fans, toweling, etc. The mailroom has the ability to travel to local stores and purchase items such as these if we run out of them from the Disaster Closet.

Disaster Closet Supplies

The Disaster Closet is located on the ground floor of the west wing in WG7 in the southwest corner of the building. Use the DT-3 (staff lounge) key to access.

The Disaster Recovery Coordinator is responsible for maintaining an inventory and location of disaster supplies, and reordering supplies to maintain recommended stock level. The following is a list of supplies should be maintained in the Disaster Closet for disaster response.

In an emergency, the Disaster Recovery Coordinator and Disaster Response Team are authorized to appropriate supplies from anywhere in the library.

Contents of Closet:

- Batteries A-(headlamps)-11
- Batteries D-for flashlights-12
- Broom-regular-3
- Broom-push type-1
- Bucket-2
- Bucket with lid-5 gallon-3
- Caution Tape See: Tape
- 2 Clipboard
- 1 Clipboard with case
- 1 Clothes line 450'
- Clothes pins-1 bag
- Dehumidifier-1
- Disaster Immediate Response Plan- (hung on bulletin board (ALSO: must tape 1 copy inside of barrel lids)
- Disaster Response Truck-1
- Disaster Response Wheel (Emergency Response and Salvage)-1 on bulletin board
- Door Stop-2
- Dust Pan-1
- Extension Cords
 - 50'-1
 - 100'-1
 - 25'-4
 - 5' or less-3

- Fans (TEST Yearly)
 - box type-5
 - pedestal type-0 (See Facilities)
 - table top/oscillating type-5
- First Aid Kit-3
- Fishing line-6 rolls
- Flashlight-battery-6
- Flashlight-self-charging-3
- Freezer Wrap-1 roll
- Garbage bags 55 gallon to fit trash can-2 bundles
- Gator Tails or Water Dams-6 lg boxes (extras stored in Room WG16)
- Gloves:
 - Gloves-cloth with rubber-11 pr
 - Gloves-dishwashing
 - Gloves-latex-4 boxes
 - Gloves-leather (work type)-3 bags plus 5 pr.
- Hangers-plastic-7
- Head Lamps-11
- Hooks-8
- ID Stickers-1 bag
- Lab Apron-cloth-5
- Lab Apron-rubber-2
- Lab Apron-vinyl-1 box
- Lab Coat-4 plus
- Label holders (magnetic)-1 bag
- Masks-1 ½ boxes
- Metal Tray-3
- Mop head-14
- Mop-sponge-7
- Newsprint-1 box
- Paper lined pads-3
- Paper towels-1 box
- Pencils-mechanical-10
- Pens-10
- Permanent markers-
 - Marks-a-lot
 - Sharpie

- Peroxide (for first aid)-2 bottles
- Pink Ties-2 bags of various sizes
- Plastic sheeting
 - Size:10'x200' 2 mil:
 - Size:4'x200' 2 mil
- Post-It notes-15 pads, various sizes
- Power Strips-3
- Scissors-5 pair
- Shop-Vac-1
- Sponges-16
- Step Stool-1
- Surge Protector-2
- Tape:
 - Masking-15
 - Packing-3
 - Do Not Enter-2
 - Duct tape-3
- Tissues-10 boxes
- Shop Towels-2 big boxes
- Twine-1 ball
- Utility Knife with blades-10
- Utility Light-1 strand of lights on wooden holder
- Vests (safety)-20
- Wastebaskets
 - Small-5
 - Barrel-1
- Wax paper or Fold a Wrap-18 boxes
- Wrist bands-disposable-
- Wyp-Alls-3 boxes
- Zip-lock bags-2 bundles (Large supply near freezer)
- Zip ties-1 bag
- Zorbix-3 sizes

Disaster Barrel Supplies

Disaster barrels are kept in strategic areas around the Main Library as well as at the Business Library and Remote Storage. The standard contents are as follows, although individual barrel contents may vary depending on location. A list of what should be inside each barrel is located in each barrel.

Disaster barrel contents:

- Barricade Tape – “Do Not Enter”
- Bucket with lid-5 gallon
- Clipboard
- Clothes line
- Disaster Immediate Response Plan (taped to inside of barrel lid)
- Door Stop
- Fishing line
- Flashlight – self-charging
- Garbage bags to fit trash can-5
- Gator Tails – 4
- Gloves-cloth
- Gloves-rubber
- Knife with blades-utility
- Lab Coat
- Masks-4
- Mop-sponge
- Pad of lined paper
- Packing Tape-water resistant to tape sheeting
- Paper towels-2 rolls
- Pencils – 1 dozen sharpened
- Pens – 2
- Permanent markers – 2
- Plastic sheeting-box
- Post-It notes-2 pads
- Scissors – 1 pair
- Sponges – 2
- Wastebasket
- Wax paper – 1 box
- Zip-lock bags-10

Durable Equipment

These items are reusable and do not need to be restocked on a regular basis, but should be checked periodically to make sure they are still available and still in working order. Last checked May 2016.

Durable Equipment held by Facilities for use in a disaster

- 2 Stand fans (high volume) stored in sub-basement (WG5)
- 1 De-humidifier – tool cage
- 2 25' extension cords - tool cage
- 1 50' extension cord – tool cage
- 1 Shop vac – tool cage
- 1 Carpet cleaner/extractor machine - work shop (WG9)
- 2 Floor fan units – book return closet, Beaumont Entrance
- Box of power-strips (approx. 10) – tool cage

Durable Equipment held in Disaster Closet

- 6 Mops
- 4 De-humidifiers
- 5 Table top oscillating fans
- 5 Box Fans
- 1 Wet Vacuum
- 1 String of caged trouble lights
- 4 25' safety extension cords
- 1 50' safety extension cord
- 1 Power Strip

Durable Equipment held in Special Collections

- 1 De-humidifier (In Vault)
- 1 Oscillating Floor Fan (In Vault)

Locations of Disaster Supplies

Main Disaster Closet: Ground West – Room WG7: A caged area with all disaster supplies in the far back southwest corner behind the stacks. Use DT-3 (staff lounge) key to open.

There are extra gator tails and plastic corrugated boxes available adjacent to the stacks in the SW corner of WG16.

Disaster Barrel Locations Main Library:

- First Floor – Beaumont Entrance: In storage room to the right (east) of the exit.
- 1 East – Facilities Office: In outer office adjacent to the elevators, in left corner of the alcove to the right of the entrance.
- 4 West – Digital Media Center (DMC): Enter staff area via door adjacent to Service Counter, turn right (east) and follow to windows, go through last door on the right and immediately turn right into what is called the “back area”. Barrel and supplies are at the end of walkway in corner.

- Ground East – Special Collections: Along corridor leading to the vault, barrel and other supplies are on the right in front of the wooden door.
- 3 East – Distance Learning Services (DLS): Ask DLS staff.
- 4 East: On wall behind elevators (only plastic in barrel).

Disaster Barrel Locations Outside of Library:

- Business Library: In the back staff dining area behind the cabinet used for recycled toner boxes
- Gull Lake Library: In front of side offices in a nook next to a bookcase
- Remote Storage (2244 N. Grand River Ave., Lansing, MI) – Building 1 & 2: Next to restroom in Building 1 (north end); Building 3: Along south wall near the main entrance.
- University Archives & Historical Collections (Conrad Hall, 943 Conrad Rd): In the archives basement alcove on the south-side wall (near the sump pump).

Appendix C: Possible Disaster Scenarios

Michigan State University maintains a file of information on each building on campus, and has created a flood manual and a Master Disaster Plan that encompasses the entire campus. The following information was obtained in part from consultations with various personnel in the Departments of Public Safety and IPF.

Flood from Red Cedar

The 100-year flood level is 14.42 ft. at the Farm Lane Bridge. This level was reached in 1904. The 1975 level was 11.95 and the 1947 level was 11.42. The 1985 level was about 9.5 ft. The February 2018 flood reached over 10 ft.

Water will enter the ground floor level windows on the north side of the West wing at approximately 13.5 ft. To prevent this, the University plans calls for sandbagging at the 13 ft. level. The danger of collection damage due to Red Cedar flooding is very remote. University contingency planning is very detailed. However, the library should maintain a 24-hour watch within the building whenever the level approaches the 11.5 ft. level.

Fire

The Main Library building structure is fire resistant and is fortunate not to have experienced a major fire since its construction. It has a very limited sprinkler system confined to two areas of the Library: in the Mailroom just inside the loading dock, and in the hallway in Binding Prep. However, smoke detectors are located throughout the building and are designed to activate the alarm system.

Disaster statistics indicate that between 1980 and 1993 the greatest number of library fires originated from incendiary or suspicious causes, at a cost of \$4,415,900. Over the past fifty years, deliberately set fires have accounted for as many as eighty per cent of library fires. Although fires can be set in stack areas at any time, the most vulnerable part of the building is usually the book return. The newer book return installed in the front of the library is equipped with limited fire protection features.

Mechanical Failure

For any mechanical failures, the first step to remedy the situation is call IPF (353-1760)

Water Pipes

A water main failure would probably be confined to mechanical rooms and sub-basements. A major failure could bring escaping water into contact with steam mains, which, in turn, would cause secondary steam production, which could rise throughout the building. Water pipes, which rise above the ground floor, are relatively small in diameter. They would probably not allow enough water to escape to rise above 1 ½" on the floors. Lowest book stack shelves are 2"-3" off the floor.

First floor water main capacity is 250 gal. per minute, second floor is 225 gal, third floor is 205 gal, and fourth floor is 50 gal.

Air Conditioning

Air conditioning backup has occurred in the main library several times, resulting in ceiling leaks and damaged books to 4 West and East wing.

Electrical

Electrical failure of itself usually does not constitute a serious danger to the collection. However, an electrical failure combined with another catastrophe that resulted in the wetting of a large section of the collection would constitute the worst possible disaster scenario. Without power to remove water, to dehumidify and to circulate air, a wet collection would mold within 48 hours. The Main Library now has a limited auxiliary power system, which will continue to operate lights, computer systems, and elevators in an emergency.

The University generates its own power. Its transmission lines are all underground and the feeder main to the Library has a back up. Over the last 30 years, the longest campus-wide power outage lasted 5 hours (1987). The University, in the case of a failure of its own plant, has a backup feed from Consumers Power. In the case of a failure of the CP main system, the University could operate independently. Maintaining its own power plant allowed MSU's main campus to avoid losing power during the Northeast Blackout of 2003, which affected 50 million people across Canada and the United States. Nevertheless, there is always the possibility that a CP failure could be combined with a linkage failure as well, which could cause power surge damage to the University system. A simultaneous failure of both CP and the University power system would be the result. Damage to a wet collection would become irreversible if such an outage were to continue for more than a day. Such an eventuality is extremely remote.

Structural

Failure of building structures is a constant concern. In the Main Library and some of the branch libraries, roof leaks and minor plumbing leaks are not uncommon. Faulty air conditioning equipment often creates water problems. Any time moisture is introduced into stack areas there is a potential for mold formation. Regular inspection of stack areas, especially in the most vulnerable areas, is essential. Seasonal checks on drains will also help prevent water disasters.

Storms

The Main Library building can probably withstand most windstorms without damage. Shattered windows would be the most likely result if there were a direct hit by a tornado. It is unlikely, even in a major tornado, that there would be any structural collapse. However, loss of glass combined with rain and strong winds has the potential of more damage to the collection than any other cause.

Appendix D: Procedures for Using Library Compact Shelving when Power is Out

Note: expand this section to include all compact shelving (get info from Patron Services)

Special Collections Compact Shelving Power Devices and their Use

Last updated January 2018

Location of devices in SPC

The first three devices are kept in the Special Collection Stacks work area on the shelf above the student computer next to the typewriter.

Definitions

- **Power Override (also commonly known as a Battery Pack)**
This large unit is black with a curly power cord. ONLY use if the power in SPC fails. Facilities suggests that they operate this device. SPC has one unit, and no other units are available. Take great care when operating so it lasts as long as the shelving!
- **Safety Override**
This small black unit, with a silver label on its front, is used to move the compact shelving manually. It requires that power be available. Great caution must be taken when utilizing this device to avoid crushing people! SPC has two units.
- **System On/Off**
This small black unit with 4 colored buttons on its front is needed after using the Power Override/Battery Pack device. Its purpose is to turn the shelving back on. SPC has two units.
- **Junction Box**
This is the power box for a set of shelving. It rests on top of the stationary shelving next to the western most pillar that is in the midst of every set of shelving in SPC. It will require a step stool to reach it.
- **Aisle Limit Switches**
This is a box on top of the shelving between every row. It has an antenna protruding from its side. Its purpose is to keep the shelving from bumping into the facing shelving when moved.

Directions for use

- **Power Override/Battery Pack device:**
If the power goes out in SPC, use the Power Override/Battery Pack device to move shelving one row at a time. To operate, plug the small black piece at the end of the curly cord into the receptacle, which is under the small door above the arrows and stop button on the end caps of the shelving. Once plugged in, press the toggle switch on the Power Override/Battery Pack either up or down to move the shelving either right or left.

VERY IMPORTANT: DO NOT MOVE THE SHELVING CLOSER THAN 3 or 4 INCHES FROM EACH OTHER! Doing so will likely break the Aisle Limit Switches.

- System On/Off device:

Once the power has been restored to the system, the next step is to plug in the System On/Off device into the end cap and hold its blue "ON" button, keep holding it until ALL the arrows on the end caps for that section of shelving turn green. Then remove the device and proceed as normal.

- Safety Override device:

If shelving will not move and power is present in SPC, the Safety Override device may be used to manually move shelving ONE row at a time. With silver label facing up plug the device into the receptacle at the end of the row that you wish to move and push the arrow buttons on the end cap either right or left depending on the direction you wish to move the shelving. Remember if you wish to move more than one row you will need to repeat this process for each row you need to move.

Maintenance

- After every occasion the Power Override/Battery Pack device is used for more than a one-time incident it should receive new batteries. There is a Usage Log on a clipboard in the shelf box with the devices. Please use this log every time the Power Override/Battery Pack is used.
- If it has NOT been used, the Power Override/Battery Pack should be tested every six months. Schedule Kirt from Facilities to do this every June.
- On an annual basis the Power Override/Battery Pack should have its batteries replaced so that it will be ready for use at all times. It takes 18 "D" batteries. Schedule Kirt from Facilities to test the device every December.
- Special Collections has available 18 "D" batteries boxed and ready for use at all times. The batteries are stored with the devices. These back up batteries should be put in the Power Override/Battery Pack whenever batteries are replaced. At the time batteries are replaced in the device, a new set of 18 "D" batteries should be ordered and kept for back-up.

Appendix E: History of the Disaster Manual 1985 to 2012

Introduction for 2012 Edition

As the title suggests, the 2012 edition of the Disaster Recovery Manual for Collections is a departure from previous disaster manuals in the MSU Libraries. Previously, all editions of the Disaster Manual covered information and procedures in the event of disasters, including water, fire, tornadoes, bombs, toxic spills and disruptive behavior to name a few. Since the responsibility of the Disaster Recovery Committee is primarily responding to water emergencies in the collections, the 2012 edition deals only with water emergencies and collapsed shelves leaving the other emergencies to a new Library safety/emergency committee that is being formed in conjunction with University wide emergency response. Access to the Disaster Recovery Manual for Collections is available electronically on the MSUL website at: <http://www.lib.msu.edu/preservation/disaster.jsp>

Associate Director Peter Berg, who is also head of Special Collections and Acting Preservation Librarian, is chair of the Disaster Recovery Committee, a library wide committee committed to the planning for and response to any water emergencies in the MSUL. The Disaster Recovery Committee works in close partnership with the MSUL Facilities to help prepare the MSUL in case of emergency.

Introduction for 2008-09 Edition

Welcome to the updated fifth edition of the MSU Libraries' Disaster Manual. Since 2004 there have been some changes in the world of preservation in the MSUL, which need to be recognized. First and foremost is the creation of a new division, Special Collections & Preservation, which include the units of Special Collections, Wallace Conservation Laboratory, Binding, and Stacks Maintenance. Associate Director Peter Berg, who is also head of Special Collections and Acting Preservation Librarian, heads the division. As such, he is chair of the Disaster Recovery Committee, a library wide committee committed to the planning for and response to any water emergencies in the MSUL. To this end the Disaster Manual has been updated thanks in large part to the work of Nora Carr. Supplies have been updated, organized, and visits have been made to Branches to review response to water emergencies. Access to the Disaster Manual is now available electronically on the MSUL Intranet as well.

The Disaster Recovery Committee works in close partnership with the MSUL Facilities to help prepare the MSUL in case of emergency.

Introduction for 2004 Edition

The fourth edition 2004 of this manual deserves an updated introduction. Since the last introduction, we have had considerable turnover in staffing. The MSU Libraries no longer has an archivist on staff, nor do we presently have a preservation librarian. The coordinator of the disaster recovery committee is now a rotating chair from someone who has been on the committee for at least a year. As the Assistant Director for Access and Preservation I have taken the responsibility for updating and improving the well done manual that Dorothy Frye left when she retired. Working with the committee coordinator, we have added new sections to the plan including updated maps of the branch libraries, which includes the remote storage facility. This storage is located in Lansing and in the case of a fire would be

served by the Lansing Fire Department. Fortunately, the storage facility is extremely close to a fire station, literally at the end of the driveway. Another key section is the new Special Collections mitigation appendix. Working with Peter Berg, Head of Special Collections, we have developed a plan for safeguarding the most valuable materials should there be an eminent threat of flooding. By the end of the year 2004 all of the Main Library building will have smoke alarms to reduce the damage of fire and an earthen berm to reduce the threat of flooding from the Red Cedar River. In 2004 we will add the position of collections conservator and that person will join the disaster committee. The addition of a collection conservator lab in Giltner Hall is also an addition to the branch libraries and remote storage section. In 2002 a systems plan for disaster recovery of data and software including safe duplicate storage was also developed. While not a part of this written plan it is useful to document that plan exists. These improvements both to this disaster plan and to the facilities should help to prevent or mitigate damage to our collections.

Jeanne Drewes, Assistant Director for Access and Preservation

Introduction for 1999 Edition

The first edition of this manual was compiled in 1985 by the Disaster Preparedness Project Team under the direction of the Libraries' Preservation Committee. These librarians were committed to the protection and preservation of the MSU Libraries' rapidly growing collections as well as protecting staff and patrons in the event of fire, tornado, or other disaster. It was the first time an organized initiative was taken in the Libraries for the development of broad policies and procedures for disaster planning and emergency response, although steps had already been taken to formulate evacuation plans.

Since that time, new technology has continually shaped much of the library operation, bringing with it new challenges and new solutions. Disaster planning now requires an array of special methods for handling electronic media and equipment, for example, and at the same time, advances in the field of disaster management have brought new storage and salvage techniques. The 1999 edition of the MSU Libraries Disaster Manual has been updated to include these methods and sources of information, assistance, and supplies needed for disaster response.

This manual contains both general and specific instructions for responding to emergencies in the MSU Libraries. The appendices include policies, procedures, emergency phone numbers, supplies, training materials, and individual branch library disaster plans.

Dorothy T. Frye, Preservation Archivist for the MSU Libraries

Introduction for 1985 Edition

In recent years numerous techniques for the salvage of materials damaged by fire and water have been developed and tested. Libraries have recognized the need to establish programs and procedures to aid in disaster prevention and to help minimize the effects of disasters when they do occur.

To this end, the Preservation Committee established a sub-group: the Disaster Preparedness Project Team. The team was given a charge to identify the nature of potential disasters that might befall the Library and to make a projection as to the extent of the potential damage that would ensue. The Team was directed also to determine the current

response capability of the Library and to recommend specific actions and programs that the Library could adopt. As a part of its report, the Team was instructed to prepare a disaster manual for use by the Library staff.

The Disaster Manual contains detailed procedures for handling disasters. It is to be used in conjunction with the Disaster handbook, which details the immediate steps to be taken when an emergency situation is discovered.

