

# LIBRARY DISASTER PLAN

**Institution:** \_\_\_\_\_

Date of current revision: \_\_\_\_\_

## Table of Contents

### DISASTER RESPONSE PLAN

Immediate Emergency Response  
In-House Emergency Team  
Facilities: Locations of Emergency Systems  
Emergency Services  
Responsibilities for Collections Disaster Response & Recovery  
Collection Salvage Priorities  
Collection Salvage Supplies  
Staff Emergency Procedures

### EMERGENCY PLANNING & RECOVERY DOCUMENTS

Salvage of Water Damaged Materials  
Salvage Glossary  
Emergency History  
Locations Where This Plan is on File  
Acknowledgments  
  
Evacuation Plan & Maps [added by library]  
Copy of Insurance Policy [added by library]  
Copy of Disaster Recovery Services Contract [added by library]

This publication was prepared by The California Preservation Network and supported by the U.S. Institute of Museum & Library Services under the provisions of the Library Services & Technology Act, administered by the California State Library.

## IMMEDIATE EMERGENCY RESPONSE

- Assess your own safety and act accordingly.
- Elicit help from a co-worker or another person in the area.
- Act to protect lives, then physical property.

**MAKE THE FOLLOWING PHONE CALLS in the order shown, based on the type of emergency**

1st CALLS: TYPE OF EMERGENCY:	WHO TO CALL:
Fire	Fire Department
People Hurt	Police
Water / Electrical Emergency	

2 <sup>nd</sup> CALLS: TYPE OF EMERGENCY:	WHO TO CALL:
People Hurt	
Building or Equipment Damage	
Collection Damage	
Computer Damage	

3rd CALL: ALL EMERGENCIES:	WHO TO CALL:
All emergencies <i>during</i> working hours	
All emergencies <i>after</i> working hours	

## In-House Emergency Team

<u>Name</u>	<u>Responsibility</u>	<u>Office Ph.</u>	<u>Home/Cell Ph.</u>
-------------	-----------------------	-------------------	----------------------

Administrator(s): \_\_\_\_\_  
\_\_\_\_\_

Disaster Team  
Leader: \_\_\_\_\_

Building  
Maintenance: \_\_\_\_\_

Preservation  
Resource: \_\_\_\_\_

- Disaster Team:
1. \_\_\_\_\_
  2. \_\_\_\_\_
  3. \_\_\_\_\_
  4. \_\_\_\_\_
  5. \_\_\_\_\_

Department Head: \_\_\_\_\_

Department Head: \_\_\_\_\_

Department Head: \_\_\_\_\_

Department Head: \_\_\_\_\_

Department Head: \_\_\_\_\_

See *Responsibilities for Collections Disaster Response & Recovery* for additional instructions.

## Facilities: Locations of Emergency Systems

**Building:** \_\_\_\_\_  
List locations and attach floor plan (use letters to indicate locations on floor plan).

### A. Main Utilities

1. Main water shut-off valve: \_\_\_\_\_
2. Sprinkler shut-off valve: \_\_\_\_\_
3. Main electrical cut-off switch: \_\_\_\_\_
4. Main gas shut-off: \_\_\_\_\_
5. Heating/cooling system controls: \_\_\_\_\_

### B. Fire Suppression Systems (by room or area)

1. Fire extinguishers: \_\_\_\_\_
2. Fire hoses: \_\_\_\_\_
3. Other: \_\_\_\_\_

### C. Water Detectors \_\_\_\_\_

### D. Keys

Key boxes: \_\_\_\_\_  
Individuals with master and/or special keys (attach list with names, titles, and keys in possession).

### E. Fire Extinguishers (label by number according to type)

1. Type A – wood, paper, combustibles
2. Type B – gasoline, flammable liquid
3. Type C – electrical
4. Type ABC – combination
5. Halon

### F. Fire Alarm Pull Boxes (use floor plan)

### G. Smoke and Heat Detectors (use floor plan)

### H. Radios

1. Transistor radios (for news): \_\_\_\_\_
2. Two-way radio (for communication): \_\_\_\_\_

### I. Cell Phones

### J. First Aid Kits

### K. Public Address System

### L. Nearest Civil Defense Shelter

## Emergency Services

Company/Service and Name of Contact

Phone #

Security: \_\_\_\_\_

Fire Dept.: \_\_\_\_\_

Police/Sheriff: \_\_\_\_\_

Ambulance: \_\_\_\_\_

Civil Defense: \_\_\_\_\_

Other: \_\_\_\_\_

### Maintenance/Utilities

Janitorial Service: \_\_\_\_\_

Plumber: \_\_\_\_\_

Electrician: \_\_\_\_\_

Locksmith: \_\_\_\_\_

Carpenter: \_\_\_\_\_

Gas Company: \_\_\_\_\_

Electric Company: \_\_\_\_\_

Water Utility: \_\_\_\_\_

### Insurance

Risk Management: \_\_\_\_\_

Insurance Company: \_\_\_\_\_

Agent/Contact: \_\_\_\_\_

Policy Number: \_\_\_\_\_

(Attach copy of policy)

Self-Insured? \_\_\_\_ if yes, list contact: \_\_\_\_\_

### Conservators/Specialists

Paper & Books: \_\_\_\_\_

Photographs: \_\_\_\_\_

Computer Records: \_\_\_\_\_

## Emergency Services (con't.)

### Recovery Assistance

Preservation Resource: \_\_\_\_\_

Preservation Resource: \_\_\_\_\_

Disaster Recovery Network: \_\_\_\_\_

Local Freezer Companies: \_\_\_\_\_

\_\_\_\_\_

Disaster Recovery Service: \_\_\_\_\_

Account pre-established? \_\_\_\_\_ Account Number: \_\_\_\_\_  
(Attach copy of contract)

Services available: \_\_\_\_\_ Water Recovery \_\_\_\_\_ Freezer  
\_\_\_\_\_ Vacuum Freeze Dryer \_\_\_\_\_ Fire Recovery  
\_\_\_\_\_ Mold Remediation \_\_\_\_\_ Environmental Control

Disaster Recovery Service: \_\_\_\_\_

\_\_\_\_\_

Account pre-established? \_\_\_\_\_ Account Number: \_\_\_\_\_  
(Attach copy of contract)

Services available: \_\_\_\_\_ Water Recovery \_\_\_\_\_ Freezer  
\_\_\_\_\_ Vacuum Freeze Dryer \_\_\_\_\_ Fire Recovery  
\_\_\_\_\_ Mold Remediation \_\_\_\_\_ Environmental Control

Exterminator: \_\_\_\_\_

### Other

Legal Advisor: \_\_\_\_\_

Architect: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Responsibilities for Collections Disaster Response & Recovery

Identify and list at least one person and an alternate for each responsibility. Sometimes a group or committee will bear responsibility.

<b>Assessment &amp; Documentation</b>	<u>Name &amp; Contact Information</u>
Assesses and estimates the type and extent of the damage.	
Contacts insurance company or risk management and fills out required forms.	
Ensures proper documentation of damage (pictures, videos, etc.)	
Reviews collections priorities list and confirms or adjusts it based upon damage assessment.	
Estimates number of personnel needed to complete the work & how long recovery up will take.	
Evaluates & recommends if salvage can be done in house with staff, or if a consultant and/or disaster recovery service is needed.	
Identifies locations for storing materials out of building if a commercial disaster recovery service is not used.	
Formulates logistics for packing out and moving materials from the building if a commercial disaster recovery service is not used.	
Records all major decisions and a chronology of events.	
<b>Communications</b>	
Handles all public relations & the media.	
Provides communication with workers.	
Interacts with the organization to which the Library reports.	

<b>Security</b>	<u>Name &amp; Contact Information</u>
Secures and protects the building's contents.	
<b>Financial Issues</b>	
Tracks the monetary impact of all decisions.	
Arranges for funds necessary to buy supplies, equipment, food, etc.	
<b>Salvage Operations</b>	
Deploys work teams.	
Supervises work teams in proper packing and personal safety.	
Keeps inventory control of items being removed or discarded.	
<b>Supplies and Equipment</b>	
Responsible for ordering, delivery and dispersal of sufficient quantities of the appropriate materials for packing out.	
Responsible for ordering, delivery and dispersal of sufficient quantities of food, water and other comfort items for the workers.	
<b>Building Issues</b>	
All issues leading up to the eventual restoration of the building to normal.	
Identification of locations for response and salvage activities.	
<b>Personnel Issues</b>	
Provides communications with staff.	
Responsible for union issues.	
Handles health, safety and comfort (physical and emotional) concerns.	
Coordinates and monitors the use of volunteers.	

## Collection Salvage Priorities

### 1. Salvage Priorities – Collections

Listed below are those portions of the collection to which salvage priorities have been assigned.

Priority	Call Number	Location	Size of Collection	Special Notes
----------	-------------	----------	--------------------	---------------

### 2. Salvage Priorities – Bibliographic Records

Listed below are the priorities for salvaging bibliographic records necessary to reestablish the integrity of the library collection.

Priority	Records	Format	Location	Special Notes
----------	---------	--------	----------	---------------

## Collection Salvage Priorities (con't.)

### 3. Salvage Priorities – Administrative Records

Listed below are the priorities for salvaging administrative records that are vital to recovery operations, including personnel records.

Priority	Records	Format	Location	Special Notes
----------	---------	--------	----------	---------------

### 4. Salvage Priorities – Other

Priority	Format	Location	Special Notes
----------	--------	----------	---------------

## Collection Salvage Supplies

### On-Site Location(s) or Off-Site Source

### Source Phone #

Basic response supplies should be immediately accessible. Inventory supplies at least annually.

- \_\_\_ Boxes \_\_\_\_\_
- \_\_\_ Clothes pins \_\_\_\_\_
- \_\_\_ Freezer or wax paper \_\_\_\_\_
- \_\_\_ Gloves, rubber or latex \_\_\_\_\_
- \_\_\_ Interfacing (pellon) \_\_\_\_\_
- \_\_\_ Masks, dust \_\_\_\_\_
- \_\_\_ Newsprint, blank \_\_\_\_\_
- \_\_\_ Note pads & clipboards \_\_\_\_\_
- \_\_\_ Nylon cord \_\_\_\_\_
- \_\_\_ Packing tape with dispensers \_\_\_\_\_
- \_\_\_ Paper towels (no dyes) \_\_\_\_\_
- \_\_\_ Plastic sheeting \_\_\_\_\_
- \_\_\_ Sponges \_\_\_\_\_
- \_\_\_ Trash bags, plastic \_\_\_\_\_

## Other Equipment & Supplies

### On-Site Location(s) or Off-Site Source

### Source Phone #

- \_\_\_ Aprons, smocks \_\_\_\_\_
- \_\_\_ Booktrucks, metal \_\_\_\_\_
- \_\_\_ Boots, rubber \_\_\_\_\_
- \_\_\_ Brooms \_\_\_\_\_
- \_\_\_ Buckets & trash cans, plastic \_\_\_\_\_
- \_\_\_ Camera (to document damage) \_\_\_\_\_
- \_\_\_ Caution tape \_\_\_\_\_
- \_\_\_ Dehumidifiers \_\_\_\_\_
- \_\_\_ Extension cords, grounded \_\_\_\_\_

## Equipment & Supplies (con't.)

On-Site Location(s) or Off-Site Source

Source Phone #

\_\_\_ Fans \_\_\_\_\_

\_\_\_ Flashlights \_\_\_\_\_

\_\_\_ Forklift \_\_\_\_\_

\_\_\_ Generator, portable \_\_\_\_\_

\_\_\_ Gloves, heavy duty \_\_\_\_\_

\_\_\_ Hard hats \_\_\_\_\_

\_\_\_ Lighting, portable \_\_\_\_\_

\_\_\_ Mops, pails \_\_\_\_\_

\_\_\_ Pallets \_\_\_\_\_

\_\_\_ Paper towels \_\_\_\_\_

\_\_\_ Plastic sheeting, heavy  
(stored w/scissors, tape) \_\_\_\_\_

\_\_\_ Refrigerator trucks \_\_\_\_\_

\_\_\_ Safety glasses \_\_\_\_\_

\_\_\_ Sponges, industrial \_\_\_\_\_

\_\_\_ Sump pump, portable \_\_\_\_\_

\_\_\_ Tables, portable \_\_\_\_\_

\_\_\_ Trash bags, plastic \_\_\_\_\_

\_\_\_ Vacuum, wet \_\_\_\_\_

\_\_\_ Water hoses \_\_\_\_\_

\_\_\_ Water-proof clothing \_\_\_\_\_

\_\_\_ Other: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## **Staff Emergency Procedures**

### **Medical Emergencies: Staff**

If a staff member or volunteer is seriously ill or injured:

1. Notify your supervisor immediately.
2. Render the minimum first aid necessary and decide what additional treatment is required (call Fire Department, paramedics, ambulance, other).
3. Do not attempt to move a person who has fallen and who appears to be in pain.
4. Avoid unnecessary conversation with or about the ill or injured person. You might add to the person's distress or fears, increasing the risk of medical shock. Limit your conversation to quiet reassurances.
5. After the person has been taken care of and the incident is over, remain available to help the supervisor with pertinent information for a medical report or, if applicable, a Workers' Compensation report.
6. Contact Personnel for any questions concerning Workers' Compensation.

## **Medical Emergencies: Visitor**

When an employee or volunteer observes a visitor who appears to be ill or injured:

1. Notify your supervisor immediately.
2. Render the minimum first aid necessary and decide what additional treatment is required (call Fire Department, paramedics, ambulance, other).
3. Do not attempt to move a person who has fallen and who appears to be in pain.
4. Avoid unnecessary conversation with or about the ill or injured person or members of his/her party. You might add to the person's distress or fears, increasing the risk of medical shock. Limit your conversation to quiet reassurances.
5. Do not discuss the possible causes of an accident or any conditions that may have contributed to the cause.
6. Under no circumstances should an employee or volunteer discuss any insurance information with members of the public.
7. After the person has been taken care of and the incident is over, remain available to help the supervisor with pertinent information for a medical report.

## Phone Threat, Mail Threat, and Suspicious Object

If you receive a **telephone threat**:

1. Remain calm.
2. Listen carefully. Be polite and show interest. Try to keep the caller talking so you can gather more information.
3. If possible, signal a colleague to inform administration for you or call yourself as soon as the caller hangs up.
4. Call the police.
5. Promptly complete a telephone threat report, writing down as many details as you can remember. This information will be needed by security and police interviewers.
6. Do not discuss the threat with other staff.
7. If evacuation is ordered, go to a designated area (see map).

If you receive a **written threat** or a **suspicious package** or if you find a **suspicious object** anywhere on the premises:

1. Keep anyone from handling it or going near it.
2. Notify your supervisor immediately.
3. Call the police.
4. Promptly write down everything you can remember about receiving the letter or package, or finding the object. This information will be needed by security and police interviewers.
5. Remain calm. Do not discuss the threat with other staff members.
6. If evacuation is ordered, go to a designated area (see map).

## **Fire**

If a fire occurs in your area:

1. Remain calm.
2. Call the Fire Department.
3. If the fire is small, attempt to put it out with a fire extinguisher. Do not jeopardize your personal safety.
5. Never allow the fire to come between you and an exit.
6. Disconnect electrical equipment that is on fire if it is safe to do so (pull the plug or throw the circuit breaker).
7. Notify your supervisor of the location and extent of the fire.
8. Evacuate your area if you are unable to put out the fire. Close doors and windows behind you to confine the fire. Go to a designated area (see map).
9. Do not break windows. Oxygen feeds a fire.
10. Do not open hot doors. Before opening any door, touch near the top. If the door is hot or if smoke is visible, do not open the door.
11. Do not use elevators.
12. Do not attempt to save possessions at the risk of personal injury.
13. Do not return to the area until cleared by emergency personnel.

All fires, no matter how small, must be reported to a supervisor.

## Toxic Events, Chemical Spills and Fires

If a **chemical spill** occurs within the building:

1. If toxic chemicals come in contact with your skin, immediately flush the affected area with clear water. Use chemical shower if available.
2. Notify your supervisor of the extent and location of the spill.
3. If there is any possible danger, evacuate your area.

If a **chemical fire** occurs within the building:

1. Remain calm.
2. Call the Fire Department.
3. If the fire is small, attempt to put it out with a fire extinguisher. Do not jeopardize your personal safety.
5. Never allow the fire to come between you and an exit.
6. Notify your supervisor of the location and extent of the fire.
7. Evacuate your area if you are unable to put out the fire. Close doors and windows behind you to confine the fire. Go to a designated area (see map).
8. Do not break windows. Oxygen feeds a fire.
9. Do not attempt to save possessions at the risk of personal injury.
10. Do not return to the area until cleared by emergency personnel.

All chemical spills and fires, no matter how small, must be reported to a supervisor.

In the event of a **toxic spill** outside of the building, most likely caused by a train derailment or tanker truck accident:

1. Notify your supervisor immediately.
2. Call Police and Fire Departments, giving location of spill.
3. Evacuate the building only if instructed to do so.

## Earthquakes

In the event of an earthquake:

1. Remain calm.
2. Stay in the building. Take shelter within a doorway, in a narrow corridor, or under a heavy table, desk or bench.
3. Stay away from windows, mirrors, overhead fixtures, filing cabinets, bookcases, and electrical equipment
4. Do not attempt to leave the building, as exit stairwells may have collapsed or be jammed with people.

After the earthquake has stopped:

1. Remain alert for aftershocks.
2. Listen to local radio stations for instructions.
3. Assist those who have been trapped or injured by falling debris, glass, etc. Do not move seriously injured persons unless they are in obvious, immediate danger (of fire, building collapse, etc.).
4. Evacuate the building if safe to do so. Do not re-enter until the building has been declared structurally sound.
5. Check for broken water pipes or shorting electrical circuits. Do not use a match, candle or lighter to find your way, since there may be flammable gas in the air. Shut off utilities at main valves or meter boxes. Turn off appliances.
6. Do not use the telephone, except in a real emergency. The lines should be kept free for emergency rescue operations.
7. Ensure that sewage lines are intact before running water or flushing toilets.

## **Explosion**

1. Remain calm.
2. Be prepared for possible further explosion.
3. Crawl under a table or desk.
4. Stay away from windows, mirrors, overhead fixtures, filing cabinets, bookcases, and electrical equipment.
5. Be guided by the administration. If evacuation is ordered, go to a designated area (see map).
6. Do not move seriously injured persons unless they are in obvious, immediate danger (of fire, building collapse, etc.).
7. Open doors carefully. Watch for falling objects.
8. Do not use elevators.
9. Do not use matches or lighters.
10. Avoid using telephones.
11. Do not spread rumors.

## **Power Outage**

If a power outage occurs:

1. Remain calm.
2. Provide assistance to visitors and staff in your immediate area.
3. If you are in an unlighted area, proceed cautiously to an area that has emergency lights.
4. If you are in an elevator, stay calm. Use the intercom or the emergency button to notify building security.
5. If instructed to evacuate, go to a designated area (see map).
6. Secure the building from vandalism, intrusion, and fire.

## **Flooding and Water Damage**

If a water leak or flooding occurs:

1. Remain calm.
2. Notify building maintenance and your supervisor. Give the exact location and severity of the leak. Indicate whether any part of the collections is involved or is in imminent danger.
3. Do not walk in standing water which may have contact with wiring and may be electrified. If there are electrical appliances or electrical outlets near the leak, use extreme caution. If there is any possible danger, evacuate the area.
4. If you know the source of the water and are confident of your ability to stop it (unclog the drain, turn off the water, etc.), do so cautiously.
5. Be prepared to help as directed in protecting collection materials that are in jeopardy. Take only those steps needed to avoid or reduce immediate water damage: cover shelf ranges with plastic sheeting; carefully move materials out of the emergency area. Do not remove already wet books from shelves.

## **Employee Evacuation Procedure**

In advance, each staff person and volunteer should:

1. Understand the evacuation plan.
2. Recognize the sound of the evacuation alarm.
3. Know at least two ways out of the building from your regular work space.

When you hear the evacuation alarm or are told to evacuate the building:

1. Remain calm.
2. Immediately shut down any hazardous operations.
3. Leave quickly.
4. The highest ranking person who is physically present in each department is responsible for insuring all members of his/her department evacuate the area. In addition, employees should check that all others in the work space are leaving as instructed.
5. As you exit, quickly check nearby rest rooms, copier rooms, closets, etc.
6. Accompany and help handicapped personnel, visitors, and any co-workers who appear to need direction or assistance.
7. Take with you: your car keys, purse, briefcase, etc. Do not attempt to take large or heavy objects.
8. Shut all doors behind you as you go. Closed doors can slow the spread of fire, smoke, and water.
9. Proceed as quickly as possible, but in an orderly manner. Do not push or shove. Hold handrails when you are walking on stairs.
10. Once out of the building, move away from the structure.

# EMERGENCY PLANNING & RECOVERY DOCUMENTS

# Salvage of Water Damaged Collections

## Books: Cloth or Paper Covers

### Priority

Freeze or dry within 48 hours. **Coated paper** must not be allowed to air dry in a clump or it will permanently block together. If slightly damp and the pages are separable, air dry interleaved pages before items have an opportunity to dry. If saturated, coated paper must be frozen as soon as possible for subsequent vacuum freeze-drying.

### Handling Precautions

Do not move items until a place has been prepared to receive them. Do not open or close books or separate covers. Oversized books need to be fully supported, it may only be possible to move one at a time.

### Preparation for Drying

Closed books that are muddy should be rinsed before freezing. If air drying is not possible, books should be frozen within 48 hours. Separate with freezer paper, pack spine down in milk crates, plastic boxes, or cardboard boxes lined with plastic sheeting.

**Coated paper** requires that each and every page be interleaved with a non-stick material such as silicone release paper, Holytex, or wax paper. If the leaves cannot be separated without further damage, the book cannot be air dried successfully and must be prepared for vacuum freeze drying.

### Drying Methods

*Air Drying* is suitable for small quantities for books (less than 100 volumes) that are not thoroughly soaked. Requires space in an area away from the disaster to spread the books out. Books are stood upright and gently fanned open to dry. Keep air moving at all times using fans. Direct fans into the air and away from the drying volumes. Use dehumidifiers as needed to maintain humidity at or below 50 percent RH.

**Oversize volumes** must lay flat and should be turned when the blotter is changed. Pages should be interleaved with sheets of uninked newsprint or blotting paper that is changed as it becomes saturated.

*Freeze Drying* (not vacuum thermal drying) is suitable for large quantities of books and books that are very wet. Pack as described above and ship to drying facility.

*Vacuum Freeze Drying* is suitable for large quantities of books. Wet *coated* paper can only be dried by this method. Pack as described above and ship to drying facility. Pack carefully, as volumes packed with distortions will retain that distortion permanently after vacuum freeze drying.

## **Books: Leather or Vellum Covers**

### Priority

Freeze as soon as possible; vellum will distort and disintegrate in water.

### Handling Precautions

Do not move items until a place has been prepared to receive them. Do not open or close books or separate covers. Oversized books need to be fully supported; it may only be possible to move one at a time.

### Preparation for Drying

Closed books that are muddy should be rinsed before freezing. If air drying is not possible, books should be frozen, preferably blast frozen, as soon as possible. Separate with freezer paper, pack spine down in milk crates, plastic boxes, or cardboard boxes lined with plastic sheeting.

### Drying Procedure

*Freeze drying* is the preferred method. Books should be separated with freezer paper and packed spine down in milk crates, plastic boxes, or cardboard boxes lined with plastic sheeting.

*Air Drying* may be used for items that are not very wet. This requires space in an area away from the disaster to spread the books out. Books are stood upright and gently fanned open to dry.

**Coated paper** requires that each and every page be interleaved with a non-stick materials such as silicone release paper, Holytex, or wax paper.

**Oversize volumes** must lay flat and should be turned when the blotter is changed. Pages should be interleaved with sheets of uninked newsprint or blotting paper that is changed as it becomes saturated.

Keep the air moving at all times using fans. Direct fans into the air and away from the drying records. Use dehumidifiers as needed to maintain humidity at or below 50 percent RH.

## Paper: Uncoated

### Priority

Air dry or freeze within 48 hours. Records with water-soluble inks should be frozen immediately to arrest the migration of moisture that will feather and blur inks. Records that show signs of previous bacterial growth should also be frozen immediately if they cannot be air dried.

### Handling Precautions

Paper is very weak when wet and can easily tear if unsupported while handling.

### Preparations for Drying

Pack flat sheets in bread trays, flat boxes, or on plywood sheets covered with polyethylene. Bundle rolled items loosely and place horizontally in boxes lined with a release layer. Remove drawers from flat files; ship and freeze stacked with 1" x 2" strips of wood between each drawer. Framed or matted items must be removed from frames and mats prior to air or freeze drying. See Section: *Paper: Framed or Matted, Preparation for Drying*.

*Air Drying* — secure a clean, dry environment where the temperature and humidity are as low as possible. Cover tables, floors, or other flat surfaces with sheets for blotter or uninked newsprint.

*Freezing* — Work space and work surfaces and the following equipment: milk crates and/or cardboard boxes, bread trays, sheets of plywood, and rolls/sheets of freezer or waxed paper.

### Drying Methods

*Air Drying* — This technique is most suitable for small numbers of records which are damp or water-damaged around the edges. Keep the air moving at all times using fans. Direct fans into the air and away from the drying records. Use dehumidifiers as needed to maintain 50 percent RH.

*Damp material* — Single sheets or small groups of records are to be laid out on paper-covered flat surfaces. If small clumps of records are fanned out to dry, they should be turned at regular intervals to encourage evaporation from both sides. As a last resort to maximize space utilization, clothesline may be strung for the records to be laid across.

If an item exhibits water-soluble media, allow it to dry face up. Do not attempt to blot the item since blotting may result in offsetting water-soluble components. Wet blotter or newsprint should be changed and removed from the drying area.

*Wet material* — When separating saturated paper, use extra caution to support large sheets. If sheets are contained in flat files, standing water should be sponged out first. If items are in L-sleeves the polyester must be removed to allow drying. Cut the two sealed edges of the film in the boarder between the item and the seal. Roll back the top piece of polyester in a diagonal direction. If there are any apparent problems with the paper support or media, stop and seek the assistance of a Conservator. Support can be given to single sheets by placing a piece of polyester film on top of the document. Rub the film gently and then slowly lift the film while at the same time peeling off the top sheet in a diagonal direction. Lay the sheet flat; as it dries, it will separate from the surface of the film.

*Freezing* — This option is best if there are large quantities or if the water damage is extensive. Place manuscript boxes in milk crates or cardboard boxes. If time permits, interleave each manuscript box with freezer or waxed paper. If the boxes have been discarded, interleave every two inches of foldered material with freezer or waxed paper.

Do not freeze framed items. Remove frame assemblage before freezing. See Section: *Paper: Framed or Matted, Preparation for Drying*.

## **Paper: Coated**

### **(Including linen drawings (Drafting Cloth) and paper with sensitized coatings such as thermofax and fax copies)**

#### Priority

Coated paper must not be allowed to air dry in a clump or it will permanently block together. If saturated, freeze within six hours for subsequent vacuum freezing-drying. If damp, separate and air dry before items have an opportunity to dry.

#### Handling Precautions

Physical manipulation should be kept to a minimum to avoid disruption of the water-soluble coating and media which may cause obliteration of the information.

#### Preparation for Drying

*Air Drying* — Secure a clean, dry environment where the temperature and humidity are as low as possible. Equipment needed: flat surfaces for drying; fans and extension cords; dehumidifier; moisture meter; sheets of polyester film, non-stick interleaving material such as freezer, waxed or silicone release paper, or polyester non-woven fabric.

*Freezing* — Equipment needed: milk crates; cardboard boxes for large items; large flat supports such as bread trays or pieces for plywood; freezer, waxed or silicone release paper, or polyester non-woven fabric.

Remove drawers from flat files; ship and freeze stacked with 1" x 2" strips of wood between each drawer. Framed or matted items must be removed from frames and mats prior to drying. See Section: *Paper: Framed or Matted, Preparation for Drying*.

#### Drying Methods

*Air Drying* — This technique is most suitable for small numbers of records which are damp or water-damaged around the edges. Coated paper requires that each and every page be interleaved with a non-stick material such as silicone release paper, Holytex, or wax paper.

*Damp material* — Lay single sheets or small groups of interleaved records on paper covered flat surfaces. If small clumps of records are fanned out to dry, they should be turned at regular intervals to encourage evaporation from both sides.

If an item exhibits water-soluble media, allow it to dry face up. Do not attempt to blot the item since blotting may result in offsetting water-soluble components. Wet blotter or uninked newsprint should be changed and removed from the drying area.

*Wet material* — When separating saturated paper, use extra caution to support large sheets. If sheets are contained in flat files, standing water should be sponged out first. If items are in L-sleeves the polyester must be removed to allow drying. Cut the two sealed edges of the film between the item and the seal. Roll back the top piece of polyester in a diagonal direction. If there are any apparent problems with the paper support or media, *stop* and seek the assistance of a Conservator. Support can be given to single sheets by placing a piece of polyester film on top of the document. Rub the film gently and then slowly lift the film while at the same time peeling off the top sheet in a diagonal direction. Lay the sheet flat; as it dries, it will separate from the surface of the film.

Keep the air moving at all times using fans. Direct fans into the air and away from the drying records. Use dehumidifiers as needed to maintain humidity at or below 50 percent RH.

*Freezing* — Freezing is best if there are large quantities or if the water damage is extensive. Place manuscript boxes in milk crates or cardboard boxes. If time permits, interleave each manuscript box with freezer or waxed paper. If the boxes have been discarded, interleave every two inches of foldered material with freezer or waxed paper.

Specify vacuum *freeze* drying for coated paper and linen drawings; do not use vacuum thermal drying.

Pack flat sheets in bread trays, flat boxes, or on plywood sheets covered with polyethylene. Bundled rolled items loosely and place horizontally in boxes lined with a release layer.

Do not freeze framed items. Remove frame assemblage before freezing. See Section: *Paper: Framed or Matted, Preparation for Drying*.

## **Paper: Framed or Matted, Preparation for Drying**

### Priority

Wet paper must be frozen or air dried within 48 hours. Framed and matted items must be disassembled prior to air drying or freezing.

### Handling Precautions

Caution must be exercised so as to not puncture or tear the wet paper artifact in the process of removing the frame, glazing, and mounting materials.

### Preparation for Drying

Place frame face down on a smooth, flat surface covered with blotter paper or plastic bubble pack. Carefully remove dust seal and hardware (place these metal pieces in container so that they do not come in contact with the wet paper and inadvertently cause damage). Check if the paper object is adhered to rabbet of frame by gently pushing up on the glazing to see that the assemblage will release without resistance. Place a piece of board (mat board, masonite, or plexiglass) over the back of the frame with all contents still in place. Using two hands, invert frame assemblage as that the glass and image are facing up. Lift off the frame then lift off the glass.

When the paper is in direct contact with the glass, carefully remove them together and lay face down on a flat surface. Consult a Conservator if the paper is sticking to the glazing.

If the glass is broken, the pieces may be held together with tape applied lightly over the breaks. The frame may then be laid face down and the paper removed from the back. If pieces of glass have dropped behind the remaining glass, hold the frame in a vertical position to remove the mat and/or paper.

To remove the item from its mat, place the image facing up. Lift window mat board carefully and detach paper object from back mat by carefully cutting hinges. If the object is attached firmly and directly to mat or backing board, do not attempt to remove. Proceed to air dry paper object as recommended in Sections: *Paper: Uncoated* or *Paper: Coated*, as appropriate.

If difficulty is encountered at any point, consult a Conservator for assistance.

## **Microfiche**

### Priority

Freeze or dry within 72 hours.

### Handling Precautions

Do not move items until a place has been prepared to receive them and you have been instructed to do so. If the fiche cannot be air dried immediately, keep them wet inside a container lined with garbage bags until they are frozen.

### Drying Methods

Freeze if arrangements cannot be made to air dry the fiche quickly. Fiche should be removed from the paper jackets to dry. Jackets should be retained to preserve any information printed on them, but this information should be transferred to new jackets once the fiche is dry and ready to be stored again. The best air drying method is to clip the fiche to clotheslines with rust-proof clips.

Fiche has been successfully vacuum freeze-dried, though freeze-drying of photographic materials is not widely recommended. If dealing with large quantities of fiche this option should be investigated.

## **Microfilm and Motion Picture Film**

### **Priority**

Rewash and dry within 72 hours. Wet film must be kept wet until it can be reprocessed.

### **Handling Precautions**

Wipe outside of film cans or boxes before opening. Cans that are wet on the outside may contain dry film that should be separated from wet material. Do not remove wet microfilm from boxes; hold cartons together with rubber bands. Dry film in damp or wet boxes should be removed and kept together with the box. Do not move items until a place has been prepared to receive them.

### **Packing Methods**

Wet microfilm in plastic trays in the microfilm vault should be filled with water until reprocessed. Pack wet motion picture film in a container lined with plastic garbage bags.

### **Preparation for Drying**

Contact a microfilm lab or film processor to rewash.

### **Drying Methods**

Contact a disaster recovery service or microfilm lab to rewash and dry film. The manufacturer or other professional processor should be contacted to rewash and dry motion picture film.

## Magnetic Media: Computer Diskettes

### Priority

Prolonged storage in water causes leaching of chemicals from the support. *If a back-up copy is available, it is better to discard the water-soaked original.*

### Handling Precautions

Store diskettes upright without crowding, in cool, distilled water until you are ready to attempt data recovery. Exposure to water should not extend beyond 72 hours. If disks cannot be dried and copied within three days, the disks should be placed wet in plastic bags and frozen until drying and data recovery is possible.

### Preparation for Drying

*3½" disks* — Pack wet disks in plastic bags and ship overnight to a computer media recovery service vendor for data recovery. Do not dry disks first; dried impurities can etch magnetic coating.

*5¼" disks* — Remove the disk by cutting with scissors along the edge of the jacket. Carefully remove the diskette and agitate the exposed disks in multiple baths of cool deionized water or distilled water to remove all visible dirt.

### Drying Methods

*3½" disks* — It is safest to send disks to a professional data recovery vendor for data recovery. *Damage to your hardware could result.* Gently blot surface with lint-free cloth or lay on clean cloth to air dry.

*5¼" disks* — Dry with lint-free toweling or cheese cloth.

### Data Recovery

In order to ensure the preservation of data on disks that have been wet, it is prudent to copy it to a new disk. Insert the disk which has been dried into an empty jacket made by removing a new disk. The water damaged disk which has been placed in the new jacket is inserted into a disk drive. Copy and verify that the information has transferred, then discard the damaged disk. You need only prepare one new jacket for each five to ten disks since the same jacket can be reused several times. Most diskettes can be salvaged unless the diskette itself is magnetically damaged or warped. If copying is not successful, consult a computer recovery service.

## **Magnetic Media: Video and Audio Cassettes**

### Priority

Air dry within 72 hours.

### Handling Precautions

Pack cassettes vertically into plastic crates or cardboard boxes.

### Preparation for Drying

Often the casings will keep tape clean and dry. If the tape is damaged, disassemble the case and remove tape. Rinse dirty tapes, still wound on reel, in clean deionized or distilled water.

### Drying Methods

*Air dry* by supporting the reels vertically or by laying the reels on sheets of clean blotter. Leave tapes next to their original cases. Use fans to keep air moving without blowing directly on the items.

Use dehumidifiers as needed to maintain humidity at or below 50% RH.

### Additional Steps

Once dry, the tapes can be assessed for further cleaning and duplication by a specialized recovery service.

## **Magnetic Media: Reel-To-Reel Tapes**

### Priority

Air dry within 72 hours.

### Handling Precautions

Pack vertically into plastic crates or cardboard cartons. Don't put heavy weight or pressure on the sides of the reels.

### Preparation for Drying

Often contamination by water and other substances is mainly confined to the outermost layers of tape. Do not unwind tapes or remove from the reel. In these cases, wash the exposed edges with deionized water or with distilled water.

### Drying Methods

*Air dry* by supporting the reels vertically or by laying the reels on sheets of clean blotter. Leave the tapes to dry next to their original boxes. Use fans to keep air moving without blowing directly on the items.

Use portable dehumidifiers to slowly remove moisture from the area/objects. Bring relative humidity down to 50 percent.

### Additional Steps

Once dry, the tapes can be assessed for further cleaning and duplication. This procedure is done by specialized professional vendors.

## **Compact Discs and CD-ROMs**

### **Priority**

Immediately air dry discs. Dry paper enclosures within 48 hours.

### **Handling Precautions**

Do not scratch surfaces.

### **Preparations for Drying**

Remove discs from cases. Rinse discs with distilled water. Do not rub the discs because dirt could scratch. If necessary, blot, do not rub, with a soft lint-free cloth.

### **Drying Methods**

Case and paper enclosures may be freeze dried. Do not freeze dry the discs. Air dry vertically in a rack.

## Record Albums (Vinyl, Shellac, and Acetate Disks)

### Priority

Dry within 48 hours. Freezing is untested; if there are not options, freeze at above 0 degrees F.

### Handling Precautions

Hold disks by their edges. Avoid shocks.

### Packing Methods

Pack vertically in padded plastic crates.

### Preparation for Drying

Remove the disks from their sleeves and jackets. If labels have separated, mark label information on the center of the disk with a grease pencil and keep track of the label.

Separate shellac, acetate, and vinyl disks. If dirt has been deposited on the disks, they may be washed in a 1 percent solution of Kodak Photo Flo in distilled water. Each disk media should be washed in its own container (i.e., do not wash shellac disks with vinyl disks). Rinse each disk thoroughly with distilled water.

### Drying Methods

Jackets, sleeves, and labels may be air dried like other paper materials. See Sections: *Paper: Coated* and *Paper: Uncoated*, as appropriate.

Air dry disks vertically in a rack that allows for the free circulation of air. Dry slowly at ambient temperature away from direct heat and sources of dust.

## Photographs and Transparencies

### Priority

Salvage Priorities. *Within 24 hours:* 1) ambrotypes, daguerreotypes, tintypes, silver gelatin glass plate negatives, wet collodion glass plate negatives; *Within 48 hours:* 2) color prints and film, silver gelatin prints and negatives; 3) albumen prints and salted paper prints. Cyanotypes in alkaline water must be dried as soon as possible; in acidic water they drop to priority 3.

### Handling Precautions

Do not touch emulsion, hold by the edges or margins. Always lay with emulsion side up.

### Preparations for Drying

Secure a clean area to work, free from particulates. Keep the photos and/or negatives in containers of fresh cold water until they are either air dried or frozen. *If allowed to partially dry in contact with each other, they will stick together.* To maintain wetness until the drying process can take place, pack photos inside plastic garbage pails or boxes lined with garbage bags.

Equipment and materials needed: plastic trays, cold water, clothesline, clothespins and/or photo clips, soft bristle brushes, Kodak Photo Flo Solution, Holytex and clean photographic blotter paper, Falcon squeegee and drying racks for resin-coated prints; and Salthill dryer for recent fiver based prints.

Carefully remove prints and film positives and negatives from the enclosures. Keep the enclosure or the file number with each film item as it contains vital information to maintain intellectual control.

*Daguerreotypes, Glass , and Metal-based Collodion Emulsions* such as ambrotypes, tintypes, wet collodion glass plates (which include some negatives, lantern slides, and stereo graphs on glass):

*Cased photographs* — Carefully open the case and place the photograph face up on blotters. Do not attempt to disassemble the components, remove debris, or wash the photograph. If the affected photo has water or debris trapped within the assemblage, contact a conservator for proper disassembly.

*Uncased images* — Air dry side up on clean absorbent blotters. Remove and retain cover slips from glass lantern slides if present. Do not attempt to clean debris or wash these images. These procedures should only be performed by a conservator.

*Black and white prints* — Place the prints in a tray and fill with cold water. Agitate the tray and change the water several times. After 15 minutes, drain the water and air dry. Reduce washing time for deteriorated and card mounted prints.

*Color prints* — Use the same procedure as for black and white prints but with decreased washing time: ten minutes. Reduce washing time further for deteriorated prints.

*Negatives (glass and film) - silver gelatin* — Soak the films in clean, cold water for 30 minutes. If there are particulates on the film, rinse for 10-15 minutes while gently brushing surfaces under water with a soft bristle brush, then continue washing for an additional 15 minutes. Rinse with Kodak Photo Flo Solution.

*Glass plate negatives - collodion* — Do not wash or expose plates to further moisture; if any image remains, air dry immediately, emulsion side up.

*Kodachrome transparencies* — Wash as described above for negatives C silver gelatin.

*Ektachrome transparencies* — Wash as described above for negatives C silver gelatin, omitting the Photo Flo, then dry. Consult a photo conservator after transparencies have dried, as some may require stabilization.

*Color negatives* — Wash as described above for negatives C silver gelatin, omitting Photo Flo, then dry. Consult a photo conservator after negatives have dried, as some may require stabilization.

#### Drying Method

Order of preference: 1) air dry; 2) freeze/thaw and air dry; 3) vacuum freeze dry. *Do not vacuum thermal dry or freeze dry.*

*Prints and Films* — Dry film by hanging on a clothesline at room temperature in a dust free area. Lay glass plates and prints emulsion side up on a clean absorbent blotter.

*Photo Albums* — To air dry, place sheets of blotter covered with Holytex between each leaf. Change the blotter paper as it becomes damp or wet. If the binding structure is no longer intact or the album can be dismantled, separate the leaves and air dry on clean blotters covered with Holytex; periodically turn from recto to verso to promote even drying. If drying cannot proceed immediately, wrap the volume in plastic and freeze. The volume can then be thawed and air dried at a later date.

Keep the air moving at all times using fans. Direct fans into the air and away from the drying records. Use dehumidifiers as needed to maintain humidity at or below 50 percent RH.

If air drying is not possible due to media solubility or unacceptable disruption to the structural integrity of the volume, vacuum freeze drying is recommended.

If difficulty is encountered, consult a conservator for assistance.

## Scrapbooks

### Priority

Freeze immediately.

### Handling Precautions

Do not move items until a place has been prepared to receive them. Large scrapbooks should be supported with boards.

### Preparation for Drying

If the scrapbook is not boxed and the binding is no longer intact, wrap in freezer paper. Freeze as quickly as possible, using a blast freezer if available.

*Freezing* — Equipment needed: milk crates; cardboard boxes for large items; large flat supports such as bread trays or pieces of plywood; freezer, waxed, or silicone release paper, or polyester non-woven fabric.

*Air Drying* — Secure a clean, dry environment where the temperature and humidity are as low as possible. Equipment needed; flat surfaces for drying; fans and extension cords; dehumidifier; moisture meter; sheets of polyester film, non-stick interleaving materials such as freezer, waxed, or silicone release paper, or polyester non-woven fabric.

### Drying Methods

*Vacuum freeze* drying is the preferred method, although this should not be used for photographs. See Section: *Photographs and Transparencies*. If the book is to be vacuum freeze dried, the photographs should first be removed. Wrapped scrapbooks should be packed laying flat in shallow boxes or trays lined with freezer paper.

*Air drying* may be used for small quantities which are only damp or water-damaged around the edges. The books should not have large amounts of coated paper or soluble adhesives.

Pages should be interleaved with uninked newsprint or blotter and the books placed on tables. The interleaving and page opening should be changes regularly and often to speed the drying. If the binding has failed, it may be advisable to separate the pages and lay them out individually to dry. Care must be taken to maintain page order.

Keep the air moving at all times using fans. Direct fans into the air and away from the items. Use dehumidifiers as needed to maintain humidity at or below 50 percent RH.

## **Vellum and Parchment: Bindings and Documents**

### **Priority**

If the textblock of the book is wet, priority should be placed on getting it dry over saving the binding, unless the binding has been assigned the higher priority by a curator. If the item has gotten wet, successful salvage will probably not be possible, so other high priority items should be treated first.

### **Handling Precautions**

Do not move items until a place has been prepared to receive them.

### **Drying Procedures**

Drying must take place slowly and be carefully controlled. The item needs to be restrained as it dries for it to retain its shape.

Documents that have only been exposed to high humidity should be interleaved with dry blotters and placed under weights. Blotters should be checked after about a half hour to see if they need to be exchanged for drier ones.

For drying of slightly damp documents, the edges should be clipped and pinned or at least weighted. As the item dries, it should be checked at least every 15 minutes and the tension adjusted as necessary. Once the item is almost dry, the clips or weights can be removed and the item should be placed between blotters and weighted overall to complete drying.

Vellum bindings need to be watched carefully. Blotters should be placed between the covers and text, and on the outside of the cover. The book should then be weighted or put in a press. As the binding dries, it may shrink and cause damage to the text block, in which case it should be carefully removed before more damage is caused.

Freeze drying can be used as a last resort for drying vellum and parchment, but the limited experience with these procedures shows there will be much distortion and change in the object.

## Leather and Rawhide

### Priority

Begin drying within 48 hours to prevent mold growth. Leather with the condition known as "red rot" will be irreversibly stiffened and darkened by exposure to water if not treated quickly.

### Handling Precautions

Wet leather may be fragile; leather with red rot or which is torn will require support to transport safely. Move items only after a place has been prepared to receive them.

### Packing Method

Wrap items with freezer paper or plastic sheeting to prevent red-rotted leather from coming in contact with and soiling adjacent items and to keep it from drying before it can be treated. Support complex- shaped objects with uninked newsprint or other absorbent material.

### Preparation for Drying

Rinse or sponge with clear water to remove mud or dirt before drying. Be careful in rinsing red-rotted or painted/gilded surfaces. Keep red-rotted leather damp, if it is still in that condition, until proper consolidation can be done.

### Drying Procedure

Some leather was intended to be flexible (e.g., much native tanned "buckskin," harness leather, and some rawhide) and will need to be manipulated during drying in order to retain its' flexibility. Other leather was either not intended to flex (e.g., shields, fire buckets) or no longer needs to be flexible and may be padded out and allowed to dry slowly.

Sponges, clean towels, paper towels, or uninked newsprint may be used to absorb excess moisture. Pad out to correct shape using uninked newsprint or other absorbent material. Change padding material as it becomes saturated.

Air dry, using fans to keep air moving without blowing directly on the pieces. Raise items off the floor on trestles, 2x4 lumber, or screens to allow air to circulate on all sides.

Use portable dehumidifiers to slowly remove moisture from the area and objects. Bring the relative humidity down to as close to 50 percent as is practical. Check daily for mold.

## Paintings: On Canvas

### Priority

Begin drying within 48 hours to prevent mold growth.

### Handling Precautions

Move items only after a place has been prepared to receive them. If the frame is unstable, remove from painting, pad corners with corrugated cardboard, bubble wrap, or unused newsprint and transport to area dealing with wood objects.

### Packing Method

Pad corners of frame or painting with corrugated cardboard, bubble wrap, or newsprint. Transport paintings vertically; stand upright with corrugated cardboard between paintings so painted surfaces do not touch another painted or any rough surface.

### Preparation for Drying

Remove painting from frame. Contact a paintings conservator to discuss. See Section: *Paper: Framed or Matted, Preparation for Drying.*

### Drying Procedure

Prepare a horizontal bed of blotter paper and unused newsprint, equal in thickness to the paint layer, with top-most layer of strong clean tissue. Lay painting, still on stretcher/strainer, face down on this surface. Remove any remaining backing or labels from the painting to expose wet canvas. Retain and tag all associated labels, parts and/or components that are removed or detached from the painting or frame.

Place cut-to-fit blotters or unused newsprint against this back and apply a slight amount of pressure so the blotter makes good contact with the entire exposed canvas surface. Repeatedly change backing blotter, being careful not to create impressions in the canvas. *Do not change facing materials.*

When dry to the touch, remove backing blotter and pick up painting. If front facing tissue is still attached to painting front, do not attempt to remove it, since it will hold the painting surface together until it can be consolidated by a conservator.

Consult with a paintings conservator for any questions or problems and all circumstances not adequately covered by the above instructions.

Use fans to keep air moving in the room without blowing directly on the paintings. Use portable dehumidifiers to *slowly* remove moisture from the area/objects. Bring relative humidity down to 50 percent.

## Wood

### Priority

Begin drying within 48 hours to prevent mold growth. Polychromed objects require immediate attention; notify a conservator.

### Handling Precautions

Move items only after a place has been prepared to receive them. Lift from the bottom of an object; tables from the apron; chairs by the seat rails, not by the arms, stretchers, slats, headpiece, or crest rails; trunks from the bottom, etc.

### Packing Methods

Partially wetted objects can be packed with dry blotting materials such as uninked newsprint or acid free blotters to remove as much moisture as possible. Thoroughly wetted, unpainted objects should be wrapped with blotting materials, then wrapped in polyethylene sheeting to retain as much moisture as possible, since fast drying will cause irreversible damage.

### Preparation for Drying

Rinse or sponge with clear water to remove mud or dirt before drying. Be careful not to wipe or scour as grit will damage remaining finish. Use a soft bristle brush to clean carvings and crevices. If mud has dried, dampen with a sponge and remove with a wooded spatula; rinse. Remove wet contents and paper liners from drawers and shelves.

### Drying Procedure

Absorb excess moisture with sponges, clean towels, paper towels, or uninked newsprint. Blot, do not wipe, to avoid scratching the surface.

Air dry, using fans to keep air moving without blowing directly on the pieces. Tent the objects with polyethylene sheeting to slow the drying. Raise items off the floor on trestle or 2x4 lumber to allow air to circulate on all sides. Open doors and drawers *slightly* to allow air to circulate inside the items.

Use portable dehumidifiers to slowly remove moisture from the area and objects. Drying quickly will cause warping and cracking. Bring relative humidity down to 50-55 percent.

## **Inorganics: Ceramics, Glass, Metals, Stone (Decorative/Historic)**

### Priority

These materials can be dealt with last since they generally will suffer little damage from short term exposure to water.

### Handling Precautions

Move items only after a place has been prepared to receive them.

### Packing Method

Varies with the fragility of the material; water/wetness has no bearing.

### Preparation for Drying

Rinse or sponge with clear water to remove mud or dirt before drying.

### Drying Procedure

Sponges, clean towels, paper towels, or unused newsprint may be used to absorb excess moisture. Exchange wet for dry blotting material at least daily until items are dry. Check daily for mold growth.

Air dry, using fans to keep air moving without blowing directly on the pieces. Raise items off the floor on trestles or 2x4 lumber to allow air to circulate underneath.

Metal objects can be dried with moderate heat (90-100° F in an oven or using a heater or hair dryer).

Use portable dehumidifiers to *slowly* remove moisture from the area/objects. Bring relative humidity down to 50 percent.

# Salvage Glossary

## **AIR DRYING**

Use a cool, low-humidity area with good air circulation. Place absorbent material (see interleaving) under objects; replace as it becomes wet. If possible, air-dry materials on plastic racks (e.g., commercial bread trays or rust-proof screens) to allow more evaporation. Exposure to light may reduce the threat of mold. Bright sunlight can cause fading.

## **INTERLEAVING**

Interleaving will keep items from sticking together and prevent dye transfer. Blotter paper, uninked newsprint, or paper towels may be used, except in cases waxed paper or freezer paper is called for.

## **FREEZING**

If objects cannot be dried within 48 hours, freeze them until action can be taken. Freezing is an effective way to stabilize collections for days or even months; it stops mold growth, ink running, dye transfer, and swelling. If possible, use a commercial freezer that provides sub-zero freezing or a home freezer. A refrigerated truck may at least keep materials cool enough to prevent mold growth.

## **ON-SITE DEHUMIDIFICATION**

A useful technique for drying damp library and archival collections without the need to move them. Available from several companies in the U.S. Super-dry air is pumped into the building and moist air drawn out.

## **RINSING**

Mud or dirt: rinse items under a gentle stream of clean running water or gently agitate them in containers filled with water, before drying. Never scrub items in a way that might drive dirt in deeper. Use a sponge/soft cloth to blot off mud and debris. Hold books and file folders closed while rinsing.

## **VACUUM DRYING**

Also called "thermal drying." Available from many companies in the U.S. Items are dried in a vacuum chamber, often at temperatures above 100°F. Slower than vacuum freeze drying, but generally less expensive. Because high temperatures accelerate aging, THIS METHOD SHOULD NOT BE USED FOR LIBRARY AND ARCHIVAL MATERIALS.

## **VACUUM FREEZE DRYING**

Frozen items are placed in a vacuum chamber and dried at below-freezing temperatures to minimize swelling and distortion. Generally provides the most satisfactory results and is recommended for library and archival materials. This service is available throughout the U.S.



## Locations Where This Plan Is On File

Location

Responsible for Updates

**In-House:**

---

---

---

---

---

**Off-Site:**

---

---

---

---

---

## Acknowledgements

This *Library Disaster Plan* template was prepared by The California Preservation Program and supported by the U.S. Institute of Museum & Library Services under the provisions of the Library Services & Technology Act, administered by the California State Library.

Elements of the plan were developed by Sheryl Davis, (UC Riverside), Julie Page, (UC San Diego), and the Amigos Preservation Service (APS), with information gathered from the following sources:

John P. Barton and Johanna G. Wellheiser, eds. *An Ounce of Prevention: A Handbook on Disaster Contingency Planning for Archives, Libraries and Record Centers*. Toronto: Toronto Area Archivists Group Education Foundation, 1985.

Minnesota Historical Society. *Disaster Preparedness Plan: Recovery Procedures for the Minnesota History Center* (revised for outside distribution). Saint Paul: Minnesota Historical Society, January 1, 1994.

National Institute for the Conservation of Cultural Property. *Emergency Response and Salvage Wheel*, June 1997.