



DISASTER PLANNING MANUAL

**Office of Court Administration
Division of Court Operations
Office of Records Management**

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DISASTER PLANNING MANUAL

Why the need for disaster planning?

Disasters happen when we least expect them. Disasters can take many forms- fire, flood, earthquake, wiping out a computer file. Planning can help to minimize the damage to important records and materials. Planning also prevents minor disasters from turning into larger ones and increases the speed of recovery. Many problems can be avoided by good housekeeping practices, maintenance and awareness of potential problems. Court records are vital to personal lives and institutional operations and they provide documentation of the state's social and legal history; safeguarding them is an important responsibility.

The Disaster Planning Manual

Creating a disaster planning and recovery manual will assist court personnel in exercising their records custodial responsibilities and allow those who utilize our Court system to maintain a proper history of their Court actions. Once created the manual will describe procedures for disaster prevention, emergency response and recovery. The manual should allow personnel to deal with a disaster or potential disaster quickly and efficiently.

How to develop a plan

The materials have been developed in multiple sections to help each court/office create a comprehensive disaster plan for each court/office. When the workbook section is completed it will create a basic, comprehensive Disaster Planning Manual. The manual must be updated regularly as personnel changes, inventory grows, and storage locations change. It is also important to keep several copies on site and off site so it can be located immediately.

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WHAT IS A DISASTER?

A disaster is anything that can destroy or damage human life and materials. Disasters can occur in varying degrees and can be categorized as potentially life threatening or non-life threatening. Fire, smoke, flood (water), and building structural problems are examples of potentially life threatening situations. Non-life threatening disasters may include infestation by mold, insects and vermin, theft and vandalism. In life threatening situations evacuate quickly and safely. Secure the records only if time permits

There is more time to analyze and remedy the problem in non-life threatening situations: the problems can be isolated; solutions can be thought through; professionals can be consulted. These problems can range from a vermin's nest, a broken water pipe, an open or broken window to inadequate supervision of records' use. Insects and vermin can be brought under control by licensed pest control specialists, climate control, and freezing. Chemicals should be used sparingly and prior to use it should be investigated thoroughly about any potential impact on people and records. Mold and mildew are the results of high relative humidity, dampness, and water damage caused by leaky pipes and the aftermath of fires. Remove the non-infected materials to a safer location to limit contamination from infected materials. Theft and vandalism can be minimized by adequate user supervision, searching cases and bags upon entry and exit and reshelving materials properly and promptly. Local guidelines should be created addressing records security issues and where and when the records can be used.

Remember there should be copies of vital records, magnetic materials, micrographic materials, and photographic materials located off site to minimize their priority, for salvage. However, if the record/permanent copy is on site or if there is only one copy, time is crucial. Mold and mildew will start to grow in 48 hours, sooner if the humidity or heat is high. The film emulsion on micrographic and photographic media will separate from the base after 60 hours.

If there are any questions or problems consult the Office of Records Management as to the base way to proceed.

HOW TO USE THIS MANUAL

This discussion is divided into sections: 1) disaster prevention and housekeeping; 2) emergency response and recovery and salvage; 3) how disasters effect records; 4) additional information; 5) charts; 6) disaster salvage techniques; and 7) a workbook to design a local plan. The first part provides details on preventing or minimizing disasters. It addresses how to identify and improve the current condition of records' storage by detailing housekeeping and maintenance standards. The second part discusses the emergency response and recovery and salvage procedures. The third part briefly discusses how different disaster can effect records.

In Section 5 there are summary charts which summarize all the information needed when facing a disaster. The charts can be used as a learning tool, a reference tool during a disaster, a quick look up information tool, or as a guide during the planning and recovery and salvage phases of a disaster. The four different charts are arranged to present the different aspects or disaster planning and recovery covered by the manual. Additionally, there is a list identifying additional readings on Disaster Planning.

HOW TO CREATE THE DISASTER PLAN

Before starting to create the plan, assemble the personnel assigned the responsibility for creating and carrying out the plan and designate a team leader. The team leader is responsible for coordinating all the resources needed to effectively carry out the preventative measures of the Disaster Plan, the pre-planning in the event of a disaster, and the emergency and recover responses of a disaster. If the people designated to prepare the disaster plan are not the same people involved in the recovery and salvage efforts, it is important that all personnel involved are aware of the contents of the manual. All recovery team members should also have a backup person. The plan should be tested to determine if it meets the needs of the court/office and any problems should be corrected.

Disaster planning is divided into 4 phases: 1) disaster prevention and pre-disaster preparation; 2) emergency response; 3) recovery and salvage operations; and 4) post disaster documentation. The first phase of disaster prevention and pre-disaster preparation is the most important part of Disaster Planning. It is here that all the information about the building, environment, staff and records is gathered. This information will be used to evaluate current conditions and correct any potential disaster problems. Once the pre-disaster worksheets are prepared they will be used as a reference tool for any disaster emergency response and recovery/salvage operations that need to take place.

Use the disaster recovery and salvage operation worksheets located in the Disaster Recovery Workbook to organize and prioritize any disaster recovery and salvage efforts. By organizing and prioritizing work a complete cleanup can be accomplished with minimum stress on personnel and records.

After the recovery and salvage operation are completed, document the disaster in the Disaster Log. Include any problems that hindered the operations or good points that helped the recovery effort. Also include how the disaster could have been avoided. Use this log as a learning tool for future disaster recovery and salvage efforts and to document any losses. Update the pre-disaster preparation worksheets to reflect any changes and improvements made.

HOUSEKEEPING & MAINTENANCE INFORMATION

The best way to deal with any disaster is to prevent it or minimize it before it happens. Records are effected by the conditions in the building. Reviewing the conditions from a records perspective helps focus on the problems and provides a basis for solutions. Daily housekeeping, maintenance and surveillance prevent many potential problems from turning into disasters. The preventive maintenance section of the manual deals with the building and the records environment and includes the details on how to maintain the records collection. The Team Leader should be responsible for gathering the information, a process that begins by completing the Hazards Survey Worksheet (see Disaster Recovery Workbook) to identify existing and potential problems. Then complete all the Pre-Disaster Preparation Worksheets.

I. BUILDING AND ENVIRONMENT CONDITIONS

A. Records Environment

A stable environment is essential for records preservation. Fluctuating environmental conditions (heat/cold and humidity) cause record materials to age more rapidly. Paper, micrographics and electronic materials dry out and become brittle in high heat; high humidity encourages the growth of mold; fluctuating heat and humidity accelerates the break down of the materials. Paper records require a temperature of 70°F +/- 2°F with a Relative Humidity (RH) between 45-55%. The off site security copy and on site user copy of micrographic records require a temperature of 65°F +/- 5°F with a RH of 40%. Electronic records stored on magnetic media have storage requirements of 63°F +/- 5°F with a RH of 35-45%. Electronic records stored on optical media have been designed to work under office environments. Hardware equipment for electronic records should meet manufacturers' specifications. During seasonal changes the RH fluctuations should not exceed 5%. Daily fluctuations of temperature and humidity should be minimal and should not exceed +/- 2.7°F, or +/- 2% RH. Night and holiday settings conserve energy in the short term but speed up records disintegration.

Unfortunately, many courts/offices are unable to store paper, micrographic and electronic records in separate on site locations and must compromise on the different environmental storage requirements. The environment where paper and non-security copies (user copies) of micrographic records are stored together should have a temperature between 68-70° with a relative humidity of 40-50%. Daily variations should be no more than +/-2°F and +/- 2% RH. Store paper and micrographic records in different locations in the records area. Although most courts and offices are unable to reach these ideal conditions every attempt should be made to work toward them.

B. Light

Light damages materials by making them dry and fragile. It causes discoloration, bleaching, darkening, and fading of the paper and inks. Ultraviolet (UV) filters should be used on lights to filter out damaging ultraviolet light rays. Blinds or other window coverings should be operational to protect records from direct sunlight.

C. Electrical Systems

Faulty wiring is a fire hazard. Look for exposed wires, broken outlets, faulty switches. Note any unusual occurrence in operation of electrical equipment.

D. Fire Doors, Exits, Aisles and Stairways

Fire doors should be shut to prevent the spread of fire to records areas. Exits, aisles and stairways should be unobstructed to prevent injury and ease egress during a disaster.

E. Dust and Dirt

Make sure the room is cleaned on a regular basis. Dust and dirt are breeding grounds for insects and vermin. Insects and vermin eat paper and speed destruction. When dust settles into paper it causes disintegration.

F. No Smoking & No Food

Food attracts insects and vermin. Smoking coats materials with a destructive film causing premature aging, rendering the information unreadable.

G. Hazards Survey

Survey the area for any potential hazards/dangers that may lead to disasters that will destroy or damage the records - exposed wires, broken or leaky windows, water pipes or water sprinklers, cracks in the wall, chipping paint, poor drainage systems, damaged roof tiles or leaky roofs, damaged masonry or anything else that could adversely affect the records, and request repair. This includes the records area, as well as adjacent areas, the attic and basement and the exterior of the building.

II. Records Storage Areas

A. Make sure all emergency supplies and equipment are stocked, working, and checked monthly. (See Basic Emergency Supply List in Disaster Recovery Workbook.) Supplies and equipment should be ready to go when a problem arises.

B. Shelving, file cabinets and record boxes should not be overstuffed or warped. Shelving should be adequate to house the weight of the materials to prevent collapsing. Overstuffed file drawers and record boxes collect dirt and dust, creating a favorable environment for insect and vermin to breed. Materials housed under these conditions crumble and disintegrate.

C. Non-record material, such as office supplies and cleaning supplies, should be housed in another location away from the records. These materials cause contamination of paper, magnetic and micrographic records, obstruct walkways, and can lead to salvage problems if they are in the way when a disaster strikes.

D. Records should never be left on or near heaters and air conditioners, on window sills, or on the floor. Changes in air temperature and humidity damage the materials. Heat from the motors of heaters and air conditioners cause charring. Materials on the floor are susceptible to water damage and abuse.

E. Store records away from water pipes, sprinkler systems, windows, and off the floor (especially in below ground areas). These areas are prone to water accumulation that will cause unnecessary damage. Keep the materials off the floor (four inches is recommended) by using pallets or shelving. Cover wooden pallets with plastic to prevent any migration of contaminants. Have non-flammable plastic sheeting available to cover materials.

F. Records defined as archival (designated as “permanent” or “permanent for research purposes” in the Records Retention and Disposition Schedule) should be stored in a closely monitored stable environment and be placed in acid free file folders and boxes to slow down the deterioration process. When handling archival materials white cotton gloves should be used to prohibit the transfer of acid from human fingers.

G. All records should be protected from theft and vandalism. This can be kept at a minimum by adequate user supervision, searching cases and bags upon entry and exit and reshelving and refiling materials promptly after use. A guideline should be created establishing the local parameters of records’ use. (See Sample Patron Rules in Section 4 to aid in creating local guidelines.)

III. Record Specifics

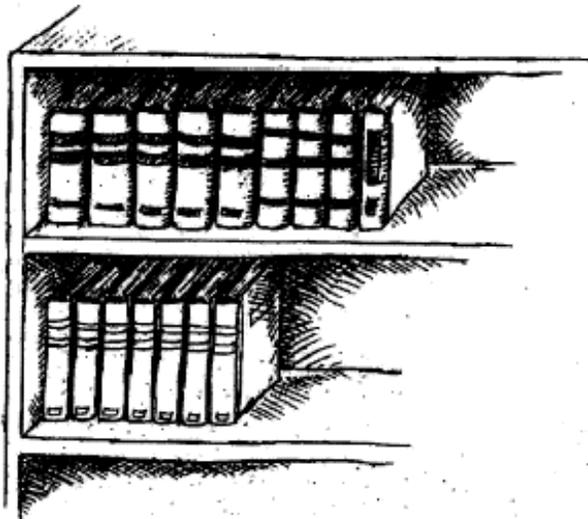
A. PAPER-BASED RECORDS

1. **Make sure all records (files/books) are returned to their appropriate location at the end of the day and that all file cabinets are shut when they are not in use. All books should be shelved and all files should be filed. This makes salvage attempts easier by accounting for all records and protecting the files from unnecessary damage.**

2. **Books should be shelved leaving some airspace between each book and on each shelf. (See Diagram A) If books are shelved too tightly, they will be hard to remove. Any damage by water swells the books, bursting the shelves. If the shelf is housing active materials, then it is considered full when three quarters of the available space is occupied.**

3. **Books should be set back from the front edge of the shelf to prevent wear and to prevent fire from spreading from shelf to shelf. (See Diagram A)**

Diagram A



4. File drawers should not be over-packed and should be able to close easily without tearing file contents. If the drawer is housing active files, then the drawer is considered full when three quarters of the space is occupied.

5. Records boxes should be one cubic foot in size with a shoe box type lid. (12" wide x 15" deep x 10" high) These boxes hold either letter or legal size materials. When filled the boxes weigh from 30 to 50 pounds. The box must be durable in order to accommodate the weight and the handling stress. Boxes should be clearly marked for identification. Active boxes are considered full when they are three quarters occupied. Oversized items should be boxed in housing that fits the material.

B. ELECTRONIC RECORDS

Although there are labs specializing in data recover techniques it is not always possible to recover the data and the process is costly. It is advisable, therefore, to have two backup copies of all important documents and databases as well as the operation/application system. Create a schedule to backup computer information. Indicate the files to be backed up, when the files are to be backed up, and who is responsible. One backup should be maintained off site. An office backup copy is advisable for ordinary disasters: accidental erasure, system crashes, data corruption. Backup should be done regularly to keep information current. Electronic records and their backups should be part of the office records inventory.

Magnetic media is subject to deterioration of the binder and media substrates as well as the deterioration of the electronic signal. Store magnetic media in a place not susceptible to water damage, dust, heat, light and magnetic fields. Use waterproof and fireproof housing and storage containers specially designed for magnetic media. Media storage areas should also be cleaned, using non abrasive materials, to minimize potential contaminants. Additionally, prepare an inventory of the computer records including the location of all backup copies. Vital records need to be identified in order to get them up and running for the next day's business. Confidential records need to be flagged. Determine if the records are managed by the Data Processing Unit or if they are localized PC and network systems and who is responsible for the records.

The plans need to include alternatives for running the existing software. Locate other sites where installation of the current computer system can be run and where business can be conducted. Establish priorities ahead of time for establishing and setting up a computer backup site and for fully restoring the system at the disaster site. What are acceptable down-times for parts of the system? How much of a backlog will data entry have? Are there paper copies available? At the backup site, as well as the disaster site, establish procedures for setting up the equipment, staffing, and obtaining backup copies. The backup site staff should not be the same people that are involved in the restoration and recovery of the disaster site. Alternatives should be set up for support of end users, such as alternative phone numbers. (Note: For specifics, please see OCA Electronic Records Guideline #9)

C. MICROGRAPHIC RECORDS

Micrographic materials should be kept separate from paper and electronic records. Over a period of time the chemical emulsion on micrographic materials can influence the viability of nearby paper or magnetic materials. Micrographic materials should be stored away from outside walls and away from heat and air conditioning. Use waterproof and fireproof cabinets and containers designed for micrographic materials. The chemical emulsion is very sensitive to climate conditions and the film will be damaged if it is stored in an improper environment. Always keep a safety copy of archival quality film off site in a controlled and stable environment.

White cotton gloves should be used to handle any copy prints or negatives to prohibit the transfer of acid from human fingers.

The Micrographic Guidelines - Records Management Policy #3.0 - Rev. January 4, 1995, details the standards and handling of micrographic materials.

D. PHOTOGRAPHIC RECORDS

It is important to identify the types of photographic materials that are in the collection. Different types of photographic negatives cannot be housed in the same enclosures. The gases each emits can destroy the others. Photographic materials should be kept separate from paper and magnetic records. The negative should be kept separate from the copy prints. During the aging process the different types of negatives and copy prints emit different gases that cause rapid aging when mixed. Each copy print and negative should be kept in its own acid free or Mylar type-D folder or envelope. Each folder or envelope should be labeled clearly in pencil on the outside prior to enclosing the photograph or negative. This minimizes handling the photograph or negative. White cotton gloves should be used to handle any copy prints or negatives to prohibit the transfer of acid from human fingers.

The photographs and negatives should be housed in different waterproof and fireproof cabinets. Where possible, the negatives should be stored off site.

If the photographs have become part of the court record as “evidence”, they should be returned to the respective parties. Courts within New York City should comply with the Records Retention and Disposition Schedules. All other courts should comply with the June 23, 1992 Directive of the Deputy Chief Administrative Judge for the Courts Outside New York City.

E. VITAL RECORDS

Vital Records need to be identified and placed in secured areas. Vital records are records that are essential to the continued functioning of the court/office during and after an emergency. Duplicate copies of these records should be made immediately at the time of creation and stored off site. This ensures their safety and expedites immediate salvage in the event of a disaster.

F. CONFIDENTIAL/SEALED RECORDS

Confidential and sealed records should be identified and maintained in secured areas. Confidential/sealed records are those records having restricted access placed on them by the court. Preplanning needs to be done to maintain confidentiality and security even during the confusion surrounding disasters. During the recovery and salvage operation make sure that access restrictions are maintained and that the records are in a secured environment.

EMERGENCY RESPONSE, RECOVERY AND SALVAGE

Disaster Emergency Response, Recovery and Salvage Procedures need to be preplanned so that the salvage efforts can be carried out effectively and efficiently and the needed supplies are available. Prior planning reduces stress on materials and personnel and identifies local resources to speed recovery. Prior to any disaster a recovery team and team leader should be selected and the Pre-Disaster Preparation Worksheets¹ completed. The Team Leader has the authority to make decisions and is responsible for the maintenance of the emergency supplies and recovery procedures. The completed Pre-Disaster Preparation Worksheets supply information crucial for the decisions faced during and after the emergency and the recovery and salvage of the records. When the forms are complete, each team member should have a copy of the entire Disaster Recovery Plan. Additionally, keep one manual readily available on site and another at a safe location off site. Update the manual whenever changes occur and review it at least once a year.

After the recovery team and team leader have been identified an emergency plan specifically identifying each persons assignments should be developed. The Basic Emergency Checklist* is designed to include the first steps of most emergencies. After the initial emergency situation has been resolved, the next step is to analyze the situation to determine the appropriate plan of salvage and recovery. Each situation is different; it is necessary, therefore, to do a Damage Assessment Report* and a Priority/Action List* to determine which course of action should be taken. The following questions should be addressed when deciding the course of action. If necessary, consult with the OCA for help in setting priorities and selecting salvage methods.

- 1) What is the location and the extent of the damage?**
- 2) What is the damage to the records - which records suffered the most damage, the least damage?**
- 3) What is the volume of records damaged?**

¹Worksheets are located in the Disaster Recovery Workbook.

- 4) **What type of materials are effected (vital records, confidential records, micrographic materials, electronic computer tapes/disks, paper-based records)?**
- 5) **What are the informational and intrinsic value of the records?**
- 6) **What are the retention requirements for the records involved?**
- 7) **Where are the duplicate copies of the damaged records?**
- 8) **What records need to be dealt with immediately? What records can wait?**
- 9) **Which method of salvage should be used on the records?**
- 10) **What measures are being taken for the vital records? Are there duplicates off site? Can the court/office be back in operation tomorrow? Does the copy need to be ordered from off site or are the originals in working condition?**
- 11) **What precautions are being taken for the confidential/sealed records? Is the information being protected? Are the people handling the recovery and salvage qualified to deal with these records?**

The key to long term recovery is to quickly stabilize the damage to prevent further deterioration of the records. Once the building is safe to enter, reduce the heat and the humidity in the area to inhibit mold/mildew growth. Materials can be damaged from a combination of factors: fire, water, insects/vermin, and mold and mildew. One or more of these disaster can happen at the same time. The after effects of a fire or flood can cause water damage and can induce both the growth and spread of insect/vermin and mold and mildew.

Summertime: Use an air conditioner, if possible, and fans to increase circulation.

Wintertime: Alert building maintenance to leave heat turned off until humidity has been moderated.

Once the situation has been analyzed and a plan of action has been determined, recovery and salvage procedures can begin.

HOW DISASTERS EFFECT RECORDS

I. WATER

Water causes paper to swell. Extreme care should be taken when removing files from drawers and books from shelves. Wet paper tears easily, causes inks to run and becomes heavy. Mold and mildew start growing on wet paper records between 48-60 hours; therefore, it is important to inhibit the growth before it starts. Mold and mildew also stain the paper. It is harder to restore the paper from mold and mildew than it is from wetness. The methods employed to salvage and restore wet paper files depend on the quantity of records damaged, value of the records, severity of the damage and cost of the treatment. The methods currently used to dry wet records are air drying, freeze drying or vacuum freeze drying. Photocopying maybe used in some instances. It may not always be easy to determine which method is the best to use. Pre-disaster knowledge about who to consult in a geographical area speeds up the decision process. Identify the location of a large freezer to freeze the records that cannot be restored immediately as part of the planning process. Good sources to contact are supermarkets, warehouses, hospitals and restaurants. Health laws apply to food storage areas so discussions before any disaster is beneficial in identifying freezer space and assuring its availability.

Document all records reformatted for legal obligations. This should be done in the Damage Assessment Report² and the Priority Action List*. Keep this documentation permanently. If reformatting paper records to paper and discarding the contaminated paper, indicate why the record was reformatted, the date, and the work "COPY" directly on each reformatted record.

Use air drying for records that are not totally soaked. Locate a large, flat, dry and clean environment away from existing records. You do not want to expose dry records to the additional moisture and possibly mold in the air from the drying wet records. This method is the simplest when small amounts of records are involved. Spread out the wet materials so air circulates around them and let them dry naturally. It is important to keep the air moving for circulation and to reduce the added humidity in the air from the drying materials. Fans and dehumidifiers can be used. Do not lay the materials in the sunlight as this makes the materials brittle by drying them too quickly. Sunlight also fades paper and inks.

²Worksheets are located in the Disaster Recovery Workbook.

Freeze drying or vacuum freeze drying may be more efficient and cost effective for large amounts of materials or materials that cannot be salvaged immediately. The records are first frozen in a frost-free facility and then placed in chambers with heat. (For vacuum freeze drying a vacuum is added in the heating process.) The water crystals do not go through the liquid stage (water) thus preventing further water damage to the paper. As part of the preplanning process contact facilities that freeze materials. Discuss rates, freezer capacity, transportation services to and from the disaster site, ability to handle confidential and sealed records, turn around time, and speed of service, once they are notified. This information helps determine the volume of records that is frozen.

The decision for which method of drying to use is based on the following factors: the volume of records, the cost of the drying method, available resources and the required retention period per the Records Retention and Disposition Schedule. It is important to know as many factors as possible before a disaster occurs. Local resources and costs should be researched as part of the Disaster Recovery Plan.

If the drying process can not be started within 48 hours it is recommended that the records are frozen (stabilized) until the drying can begin. This will inhibit mold and mildew growth and buy time until a drying plan can be implemented.

II. MOLD, MILDEW, INSECTS, VERMIN

Mold and mildew can be minimized by controlling the climate of the record storage area. High temperature and high humidity encourage their growth. The discussions on the building and the records environment in the prevention and maintenance section describe the conditions needed to prevent mold and mildew.

For pest removal and insect consult specialists that can identify the type of infestation. Insects/bugs, including cockroaches eat the glue and other cellulose materials found in books and paper. Insect and vermin droppings are very acidic and damage materials. The physical container as well as the information are at risk. In micrographic materials look for changes in the container, film and reel. Climate control, freezing records, and fumigation are the main methods used to inhibit and remove mold, mildew, insects, and vermin. These methods are usually used in different proportions depending on the extent of the contamination. Fumigation is only used on rare occasions and is to be avoided because the residue it leaves may be a health hazard.

III. FIRE-CHARRED, SMOKE, DUST, DIRT, DEBRIS

Fire damage is usually irreversible, but materials damaged from the effects of fire may be treatable. The temperatures that fires reach are high enough to physically destroy photographic, micrographic and magnetic materials. If magnetic materials, photographic negatives and micrographic materials survive the heat, check for residue and readability. Materials that have been exposed to smoke and debris may be able to be treated by a conservator. Fire and charred materials are usually very brittle and should be handled with extreme care to avoid further disintegration. Paper records may be able to be photocopied. If the informational content of the record is important and the document can be handled, try to salvage the information.

Remove the infected materials to an isolated area until they can be treated. Dusty, dirty materials need to be cleaned. A wipe down with a clean natural rubber sponge is usually the best treatment. Do not use any commercial cleansers on the materials as their chemicals are destructive.

If further information is needed on how to recover and salvage specific records types, consult the step-by-step instruction in Disaster Salvage Techniques. It describes a step by step approach for recover and salvage of damaged records as well as general information about different types of disaster.

IV. FOREIGN SUBSTANCES

Foreign substances can be hard to identify. It is best to isolate the records before they contaminate other records. When dealing with an unknown substance wear appropriate protective gear and remove the gear immediately after working with the records. Dispose of any gear or materials used to retrieve the records so not to contaminate other records or environments. If there is believed to be a hazard, consult professionals in the field. It is very important to know what substance(s) you are dealing with. Each substance will have its own set of “rules” for dealing with cleanup and removal. Examples for foreign substances include asbestos, fire extinguisher fluid, chemicals and gases.

SAMPLE PATRONS RULES

- 1) Only pencil and paper are allowed in the Research Ares. (Reading Room)**
- 2) All coats and bags must be left in the Coat Room. (Closet)**
- 3) No Smoking.**
- 4) No Food or Drink Allowed.**
- 5) All bags and brief cases are subject to entry and exit search.**
- 6) Room is subject to surveillance. Anyone caught stealing, defacing or destroying public property will b prosecuted to the full extent of the law.**
- 7) All patrons must sign in, register at desk upon entering and existing.**
- 8) Photocopying is permitted. Check at desk for details.**
- 9) Request all materials from clerk using form number X.**
- 10) Return all materials to clerk when finished. Do not leave materials on table.**

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MATERIALS DISASTER PREVENTION SUMMARY CHART

RECORD FORMATS	PREVENTION	SPECIFIC INFORMATION
PAPER-BASED MATERIALS	<ol style="list-style-type: none"> 1) store books, files, libers away from hazards 2) store archival & permanent records under environmentally controlled conditions 	page 9
ELECTRONIC MATERIALS	<ol style="list-style-type: none"> 1) backup copies of all databases, applications and system software and 2) store backup copies off site 3) make daily backups of all working materials 	page 11
MICROGRAPHIC MATERIALS	<ol style="list-style-type: none"> 1) store away from hazards 2) store archival copy (silver halide) under environmentally controlled conditions 	page 12
PHOTOGRAPHIC MATERIALS	Store negatives separately from prints	page 13

MATERIALS DISASTER RECOVERY AND SALVAGE SUMMARY CHART

RECORD FORMATS	RECOVERY TIME	RECOVERY METHODS		
		WATER	FIRE	MOLD
PAPER-BASED MATERIALS	<ul style="list-style-type: none"> - within 48 hours OR - immediately for coated papers OR - over 48 hours then freeze 	<ul style="list-style-type: none"> - If can not dry material immediately then Freeze - Drying methods Air Drying Freeze Drying Vacuum Freeze Drying - Determine Paper Type - Watch for running/blurring inks - Watch for mold growth 	<ul style="list-style-type: none"> - Dry materials first if wet use appropriate drying method - Charred materials - use a soft rubber sponge to gently brush off soot and dirt - Copy if information is not obliterated 	<ul style="list-style-type: none"> - Can be caused by water and fire damage and poor environment conditions - Freeze the materials to kill infestation - Avoid fumigation (health hazard) - Stabilize and clean damaged location before returning treated materials

RECORD FORMATS	RECOVERY TIME	RECOVERY METHODS		
		WATER	FIRE	MOLD
ELECTRONIC MATERIALS	- immediately	<ul style="list-style-type: none"> - If can not dry material immediately then Freeze - Drying methods Air Drying Freeze Drying Vacuum Freeze Drying - Contact a professional lab dealing with electronic/ magnetic media recovery - Check computer hardware and electrical systems before restarting the system or running any tapes 	<ul style="list-style-type: none"> - Dry materials first if wet use appropriate drying method - Charred materials - use a soft rubber sponge to gently brush off soot and dirt - Copy if information is not obliterated 	<ul style="list-style-type: none"> - Can be caused by water and fire damage and poor environment conditions - Freeze the materials to kill infestation - Avoid fumigation (health hazard) - Stabilize and clean damaged location before returning treated materials

RECORD FORMATS	RECOVERY TIME	RECOVERY METHODS		
		WATER	FIRE	MOLD
MICROGRAPHIC MATERIALS	<ul style="list-style-type: none"> - immediately for silver halide films - last for vesicular and diazo - over 48 hours then freeze 	<ul style="list-style-type: none"> - If can not dry material immediately then Freeze - Drying methods Air Drying Freeze Drying Vacuum Freeze Drying - Contact professional film lab for restoration - Check enclosures for rust and mold - Check for readability before returning item to collection 	<ul style="list-style-type: none"> - Dry materials first if wet use appropriate drying method - Charred materials - use a soft rubber sponge to gently brush off soot and dirt - Copy if information is not obliterated 	<ul style="list-style-type: none"> - Can be caused by water and fire damage and poor environment conditions - Freeze the materials to kill infestation - Avoid fumigation (health hazard) - Stabilize and clean damaged location before returning treated materials

RECORD FORMATS	RECOVERY TIME	RECOVERY METHODS		
		WATER	FIRE	MOLD
PHOTOGRAPHIC MATERIALS	<ul style="list-style-type: none"> - within 24 hours <ol style="list-style-type: none"> 1) negatives (color/b&w) 2) color prints 3) black & white prints - over 48 hours - freeze 	<ul style="list-style-type: none"> - If can not dry material immediately then Freeze - Drying methods Air Drying Freeze Drying Vacuum Freeze Drying - Check that emulsions have not stuck together then dry emulsion side up - Know the type of photographic materials being salvaged - Watch for mold growth 	<ul style="list-style-type: none"> - Dry materials first if wet using appropriate drying method - Charred materials - used a soft rubber sponge to gently brush off soot and dirt - Copy if information is not obliterated 	<ul style="list-style-type: none"> - Can be caused by water and fire damage and poor environment conditions - Freeze the materials to kill infestation - Avoid fumigation (health hazard) - Stabilize and clean damaged location before returning treated materials

DISASTER TYPES AND RECOVERY METHODS SUMMARY CHART

DISASTER TYPE	CAUSE	RECOVERY METHODS	LOOK OUTS
WATER	<ul style="list-style-type: none"> - Aftermath of Fires - Hurricanes - Broken Pipes - Leaky Roofs - Wet Basements 	<ul style="list-style-type: none"> - Air Dry - Freeze Drying - Vacuum Freeze Drying 	<ul style="list-style-type: none"> - Type of paper or film - Running/blurring inks - Mold growth
FIRE	<ul style="list-style-type: none"> - Arson - Faulty Wires and Wiring - Carelessness - Smoking 	<ul style="list-style-type: none"> - Dry materials first - Remove soot and dirt with soft rubber sponge - Reformat to another medium 	<ul style="list-style-type: none"> - Check all electrical equipment before using (including computers)
MOLD	<ul style="list-style-type: none"> - Water Damage - Fire Damage - Poor Environmental Conditions 	<ul style="list-style-type: none"> - Freeze the materials to kill infestation - Avoid fumigation if at all possible (health hazard) - Stabilize and clean damaged location before returning treated materials 	<ul style="list-style-type: none"> - Remove contaminated materials from uncontaminated materials

I.		GENERAL RECOVERY AND SALVAGE PROCEDURES
	1.	Notify all personnel that need to be involved in the recovery process. This includes the disaster team, local government offices, local facilities people, court administrative offices, and adjacent facilities and the OCA Office of Records Management and Library Services.
	2.	Do a Damage Assessment Report to determine the damage to the structure and to the materials.
	3.	Do Not remove the materials from the area until a plan of attack (Priority/Action List) has been developed.
	4.	Create Priority/Action List.
	5.	Select a recovery area that is free from damage and has the security needed for the records. Do not put the records into additional jeopardy.
	6.	Do not repair the records in the disaster area. All records should be removed from the site of the disaster to avoid further damage and contamination.
	7.	Remove materials from damaged area efficiently and quickly without exacerbating the damage.
	8.	Start to salvage the damaged materials by using the appropriate methods.
	9.	When reformatting materials indicate on the reformatted material why the reformatting was done, the date it was reformatted, and the word "COPY". Also document this in the Priority/Action List.
	10.	Repair damage to location.
	11.	Make sure all damage to the location is repaired and meets all specifications before materials are returned.
	12.	Return treated materials to location.
	13.	Continue to survey the area for additional or overlooked problems.
	14.	Record the disaster, outcome and comments in the Disaster Log for future reference. Keep the Control List, Damage Assessment Report and Priority/Action List permanently to document record treatments and loss.

II.		WATER RECOVERY
A.		GENERAL PROCEDURES (to be done after General Recovery Procedures)
	1.	Do not remove any identifying marks from the records
	2.	Minimize damage to materials by removing them efficiently and quickly from the disaster site. Do not attempt repairs, filing, reorganization or salvage at this time. The only objective is to remove the materials from the damaged site in an orderly manner. Mold and mildew starts growing on wet paper records between 48-60 hours. It is important to inhibit the growth before it starts. Mold and mildew stain the paper creating additional problems.
	3.	Use a Human Chain or Book Carts/Trucks to remove the materials from the disaster area to the salvage/recovery area. If boxes are wet but are not falling apart, remove them from the disaster area “as is” and immediately rebox the materials in the recovery area. Transfer all markings from the old box to the new box and immediately remove the wet box from the recovery area. If the boxes are wet and falling apart rebox the materials at the disaster site or use cotton tying cord to bundle the files and remove them to the recovery area. Transfer all markings from the wet box to the new box or attach a piece of paper with the markings to the bundled files.
	4.	Create a Control List while removing the materials to a prepared undamaged area, indicating the damaged location, new location and name of the item. Retag the materials if the existing label is hard to read.
	5.	Refolder, rebox and retag the materials wherever possible to avoid more damage. If the original titles have been lost, rewrite the name in pencil on a separate slip of paper to tag the record. Most markers and ink pens bleed from the wet records.
	6.	Freeze wet materials that can not be recovered immediately. This stabilizes the materials and buys time for a thought out salvaging plan. If it has been determined that the records will be frozen, the records can be wrapped while boxing and removed from the disaster site.
		FREEZE DRYING OR VACUUM FREEZE DRYING - GENERAL PROCEDURES
		a. Wrap each item loosely with freezer paper (or wax paper).
		b. Place wrapped records loosely in a records box/crate (plastic milk crate is preferable) for shipping.
		c. Take an inventory of the materials sent.
		d. Plan the treatment schedule.

	7.	Separate confidential and sealed records from other records before sending both out for treatment. Make sure that the sealed records are treated under conditions that insure their confidentiality, including restricted access.
	8.	Wet paper is heavy. Beware of sagging and weakening shelves and expanding file cabinets. A wet records center box can weigh up to 90 pounds. Remove files from the file cabinet from the top down to balance the file cabinet. Box the material and identify the contents on the box and on the Control List.
	9.	Do not stack the materials or boxes. This encourages water transfer between the materials. Wet boxes may collapse.
	10.	Mop up the excess water in the area. Remove furniture and carpets, carpet lines, trash etc. to decrease the humidity.
	11.	Set up emergency electrical equipment. Make sure all wiring is grounded and that a professional electrician is called.
	12.	Keep air moving to decrease humidity and temperature to dry out the damage site. Use fans, air conditioners and dehumidifiers. Environmental conditions after the cleanup should have a temperature of 70°F and a relative humidity of 40%.
	13.	If the material has been exposed to mud, allow the mud to dry before trying to remove it from the material. It can then be dusted or vacuumed off. It may be possible to sponge off excess water and mud, but do not rub the mud into the material. Only use natural rubber sponges (see Resource Supply List on page 31). They will not leave a residue deposit on the materials nor cause severe abrasion. Vacuum up the removed material.
	14.	Mold/mildew, insects/vermin, and weather can hinder cleanup. Before returning the materials to their location make sure the building has been restored according to specifications. This would include water and sprinkler systems, fire extinguishers, shelving etc. Make sure damage has been repaired and all obstructions to file areas removed. Have the area cleaned and sterilized to avoid fungus growth and mold/mildew. This should be done prior to returning any materials.
	15.	Clean all storage units, shelves, file cabinets, etc. thoroughly before returning materials. Use a damp cloth (with water) to remove grime and allow the unit to completely dry. If a chemical was used for cleaning, make sure there is no film deposit remaining and that the room is aired out to remove all odors. Film deposits and fumes from cleansers damage the materials.
	16.	When returning treated materials to the site, remember that dried records occupy more space than undamaged records.
	17.	Choose a method to dry wet records based on the quantity of damaged materials and the informational and intrinsic value of the materials. Contact the OCA Records Management Office if additional assistance is needed in determining the most appropriate method.

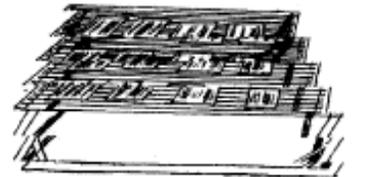
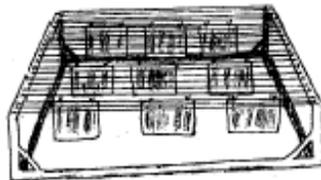
II. B.		SPECIAL CONSIDERATIONS
1.		PAPER-BASED MATERIALS
	1.	Water soluble inks run and blur. These materials should be frozen immediately and dried either by freeze drying or vacuum freeze drying.
	2.	Coated or shiny paper needs to be separated. The documents stick together if allowed to dry. Place a sheet of polyester film on top of the shiny paper. Gently rub the polyester sheet onto the paper. Then lift the polyester sheet from the paper. The shiny paper should adhere to the polyester sheet. Hang the polyester sheet along with the shiny paper on a clothes line to dry. The shiny paper de-adheres from the paper as it dries. As the shiny paper dries and becomes less tacky, it can be laid flat to finish drying. If there is a large volume of paper, use the freeze drying method.
	3.	Damp loose paper (NOT WET PAPER) can be photocopied if it is not necessary to keep the original. Place the document in a plastic sleeve first. Document that the material is a copy and record why the original was disposed.
2.		ELECTRONIC MATERIALS
	1.	All electronic materials should have backup copies, and therefore a low priority for salvage.
	2.	Partial restoration may still be possible if the information is needed.
	3.	If the tapes cannot be cleaned and dried within 48 hours, then freeze them.
	4.	Drain excess water out of reels/tapes/disks keeping tapes tightly wound.
	5.	Gently wash off mud using clear water.
	6.	Remove the tapes/disks to a dry, cool environment away from any magnetic fields and heat and allow them to dry naturally. Consult a professional as to the best treatment method.
	7.	If warranted, initiate the procedures for obtaining backup copies, starting up the backup site and running backup computer operations.
	8.	Have the computer equipment and electrical supply checked before restarting the system and rerunning any tapes/disks.

3.		MICROGRAPHIC AND PHOTOGRAPHIC MATERIALS
	1.	Order of salvage: Color films (negatives) Silver or Emulsion films (negatives) Diazo and Vesicular films Copy prints
	2.	Check for duplicates. If the archival copy is on site or there is only one copy, time is critical. After a few hours the film emulsion start to separate from the base. If restoration can not begin with 24 hours, then freeze the material.
	3.	Notify and send the materials directly to the professional film lab that will deal with the restoration. Prepare the materials as the lab specifies.
	4.	If unable to send the film out to a professional film lab, place the wet material in clean cans of cold water to rinse off contamination. They lay the materials to dry emulsion side up or hang on clothes line. If possible to remove the jacket, transfer the old jacket information onto new labels. Establish a procedure that will not mix up the materials from the information on their jackets. After the materials have dried, place them in the new jackets. If uncertain on how to proceed, contact the OCA Records Management Office.
	5.	Clean and dry the containers. Check metal containers and reels for rust.
	6.	Diazo and Vesicular film must be checked for readability before attempting salvage. Look for water spots and surface contamination. If possible check the film frame by frame; if not, look at a sampling of frames from each film.

II. C.		AIR DRYING WET RECORDS
1.		GENERAL PROCEDURES
	1.	Find an environment that is large, flat, dry, and clean.
	2.	To protect drying surfaces, cover them with plastic sheeting.
	3.	Use fans in the drying area to keep air moving. Position fans in a manner not to blow drying documents around. Use a dehumidifier to remove the excess moisture in the air created by drying records.
	4.	Do not lay records in the sunlight. Sunlight causes premature aging and fades inks and paper. The materials dry too quickly making them brittle.
	5.	Do not use forced dry heat (i.e.: hair dryers) to dry the records. This makes the records brittle.
	6.	Remove dried materials from the drying area s they dry.
	7.	Look for early signs of mold/mildew as the materials dry. Early signs are a stale smell, discoloration, and spotting. Separate the infected materials from the others to avoid contamination.
	8.	Check for running or blurred ink. If this is happening, freeze the documents for restoration at a later time. If additional information is needed consult the OCA Records Management Office.
	9.	Do not stack materials.

II. C.		AIR DRYING WET RECORDS
2.		LOOSE PAPERS
	1.	Lay out loose papers so the file can be recreated easily and the papers do not blow away.
	2.	Remove clips and metal fasteners from the documents without tearing the documents to prevent rust from damaging the paper. As a alternative, slip an absorbent paper under the clip to inhibit the rust from seeping into the documents.
	3.	Put documents on absorbent unprinted paper (unprinted newsprint, paper toweling) and turn the documents every few hours. Replace wet absorbent paper every few hours so moisture does not reattach the dry areas. Remove the use paper from the drying area.
	4.	String up tight parallel rungs of clothes line. (See Diagram B.) This allows air to circulate above and below the materials. Turn the materials every few hours. If the document is not too wet/damp and the ink does not run or blur, the document can be clipped to the line. The pages need to be turned (top/bottom, bottom/top) every few hours for equal drying.
	5.	Check for running or blurred ink. If this is happening do not blot the ink, lay the documents down and freeze them for restoration at a later time. If additional information is needed consult the OCA Records Management Office.

Diagram B



II. C.		AIR DRYING WET RECORDS
3.		FILE FOLDERS
	1.	Remove the file folders from their box/drawer carefully. Wet paper is heavy. Remove the files from the file cabinet from the top first and work down to balance the file cabinet. Transfer the material into dry file folders. Box the folders and label the contents on the box.
	2.	Indicate the place and the order of the file on the folder and add it to the Control List.
	3.	If the file folder needs to be discarded, transfer the information on the folder to a new folder along with the location and order of the file.
	4.	Remove clips and metal fasteners from the documents without tearing the documents to prevent rust from damaging the paper. If time permits, number the pages on the top left hand corner in pencil to recreate the order later.
	5.	To dry out the file, interleave the folder with absorbent paper every 5 - 25 pages. Replace wet absorbent paper every few hours so moisture does not reattach the dry areas. Remove the used paper from the drying area.
	6.	If the file is small (under 10 pages), remove the contents and put the documents on absorbent unprinted paper (unprinted newsprint, paper toweling) and turn the documents every few hours.
	7.	Check for running or blurred ink. If this is happening, lay the documents down and freeze the documents for restoration at a later time. If additional information is needed, consult the OCA Records Management Office.

II. C		AIR DRYING WET RECORDS
4.		BOOKS
	1.	Interleave the pages with absorbent unprinted paper every 5 to 25 pages without forcing the book open. With each subsequent interleaving more of the binding should open. Interleave from the back to the front of the book.
	2.	Do not overstuff the binding. The binding swelling goes down while drying and the interleaf paper can damage the binding. No more than a third of the book should be interleaved at one time.
	3.	The cover and the spine are usually the last part to dry. To prevent moisture from reattacking the dried pages put a plastic/polyester sheet between the covers and the end leaves of the book.
	4.	Stand the book up and open the covers slightly to allow the air to circulate around the pages. Place a toothpick (or cotton swap) halfway under each cover to keep the covers in an open position. For additional support a small block can be placed against the spine to keep the book from falling over backwards. (See Diagram C)
	5.	Check for running or blurred ink. If this is happening, lay the book down and freeze the book for restoration at a later time. If additional information is needed consult the OCA Records Management Office.
	6.	Replace wet absorbent paper every few hours so moisture does not re-attack the dried areas. Remove the use paper from the drying area.
	7.	Check for mold as the materials dry. Do not return the books to the shelf until they are thoroughly dry. Check materials regularly after they have been returned to the shelf for signs of mold and mildew.
	8.	The books are dry when they are no longer cool to the touch.

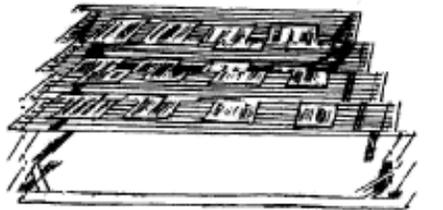
Diagram C



II. C.		AIR DRYING WET RECORDS
5.		ELECTRONIC MATERIALS
	1.	Electronic materials can be dried if the plastics have not stuck together.
	2.	Do not unwind reeled tapes or cassette tapes. Drain off excess water and place on absorbent surface to dry. Turn tapes over during drying to ensure even drying.
	3.	For floppy disks and magnetic tapes drain off excess water and place on absorbent surface to dry. Turn disks and tapes as necessary.
	4.	Disks, tapes and computer drives need to be thoroughly dry before using them.

II. C		AIR DRYING WET RECORDS
6.		MICROGRAPHIC AND PHOTOGRAPHIC MATERIALS
	1.	Photographic materials (negatives and copy prints) can be dried if their emulsions have not stuck together. If materials can not be salvaged immediately then freeze.
	2.	Do not touch image surface.
	3.	If possible, separate the photographic materials. Do not force a separation. If the emulsion is not water soluble, put the unseparated photographic materials into clean cool water and let them float apart. They should not soak for more than 2 hours or the emulsion will start to separate from its backing. After the materials separate, remove them from the water and line dry. (See Diagram D.)
	4.	If the materials are early photographs or the emulsion is peeling, do not touch the image surface with anything. Freeze the materials and consult a conservator.
	5.	Do not unwind materials on reels. Drain off excess water and put on absorbent unprinted paper (unprinted newsprint, paper toweling) and turn every few hours. Freeze dry large amounts of wet reeled materials.

Diagram D



III.		MOLD, MILDEW, INSECTS, VERMIN RECOVERY
	1.	Remove the infected materials to an isolated area to prevent further contamination until they can be treated by a professional. Freeze the materials.
	2.	Consult specialists in pest removal and insect fumigation.
	3.	Stabilize the temperature to 50 - 60°F and humidity to below 40% RH. This discourages the growth of mold, mildew, insects and vermin.
	4.	Dry out and clean the damaged location so when treated materials are returned they are not recontaminated.
	5.	Clean all storage units, shelves, file cabinets, etc. thoroughly before returning materials. Use a damp cloth (with water) to remove grime and allow the unit to fully dry. If a chemical was used for cleaning, make sure there is no film deposit remaining and that the room is aired out to remove all odors. Film deposits and fumes from cleansers damage the materials, especially photographic, micrographic and electronic materials.

IV.		FIRE RECOVERY PROCEDURES
	1.	File cabinets can have a delayed ignition for up to 3 days. Feel for heat along the outside edges. Do not open the file cabinet until you are certain the material will not ignite.
	2.	Remove the infected materials to an isolated area until they can be treated.
	3.	The material may also be wet or contain a foreign substance. Determine the exact nature of damage before any salvage attempt.
	4.	When only the outer edges of the material are charred, there is a possibility of saving the information. If the materials are not smoldering or wet, they can be put on a lower priority for salvage. If the documents are wet, allow them to dry first.
	5.	To remove soot, dust and dirt gently brush the material with a clean natural rubber sponge. Be careful not to abrade the material. Vacuum up the removed material.
	6.	Photocopying may be possible for damp or damaged paper documents. Carefully put the document in a plastic sleeve and copy the encased materials onto acid free paper (for archival materials). Dispose of the original. Document that the material is a copy and the reason for disposal of the original. This should be done on the Damage Assessment Report and the Priority Action List. Keep this documentation permanently. Indicate why the record was reformatted, the date, and the work "COPY" directly on each reformatted record.
	7.	Clean all storage units, file cabinets, etc. thoroughly before returning materials. Use a damp cloth (with water) to remove grime and allow the unit to fully dry. If a chemical was used for cleaning, make sure there is no film deposit remaining and that the room is aired out to remove all odors. Film deposits and fumes from cleansers damage the materials, especially photographic, micrographic materials and electronic materials.

V.		FOREIGN SUBSTANCES - GENERAL PROCEDURES
	1.	Try to identify the substance causing the contamination. (e.g.: fire extinguisher fluid)
	2.	Materials that have been exposed to foreign substances need to be treated by a conservator.
	3.	Remove the infected materials to an isolated area until they can be treated.
	4.	Clean all storage units, shelves, file cabinets, etc. thoroughly before returning materials. Use a damp cloth (with water) to remove grime and allow the unit to fully dry. If a chemical was used for cleaning, make sure there is no film deposit remaining and that the room is aired out to remove all odors. Film deposits and fumes from cleansers damage the materials, especially photographic, micrographic and electronic materials.