DHPS | NY

Documentary Heritage & Preservation Services

FOR NEW YORK

Thanks for joining us!
Today's presentation will begin shortly.

If you have questions or need to report a technical issue, please contact us in the chat.

RISK ASSESSMENT FOR COLLECTING INSTITUTIONS

Maddie Cooper, M.C. Conservation Services

THANKS TO…


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Documentary Heritage
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FOR NEW YORK


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1784

LEARNING OBJECTIVES

Recognize vulnerabilities in collection spaces and practices

Evaluate and prioritize preservation concerns

Develop practical mitigation strategies

Use risk assessment to guide preservation planning and decision-making

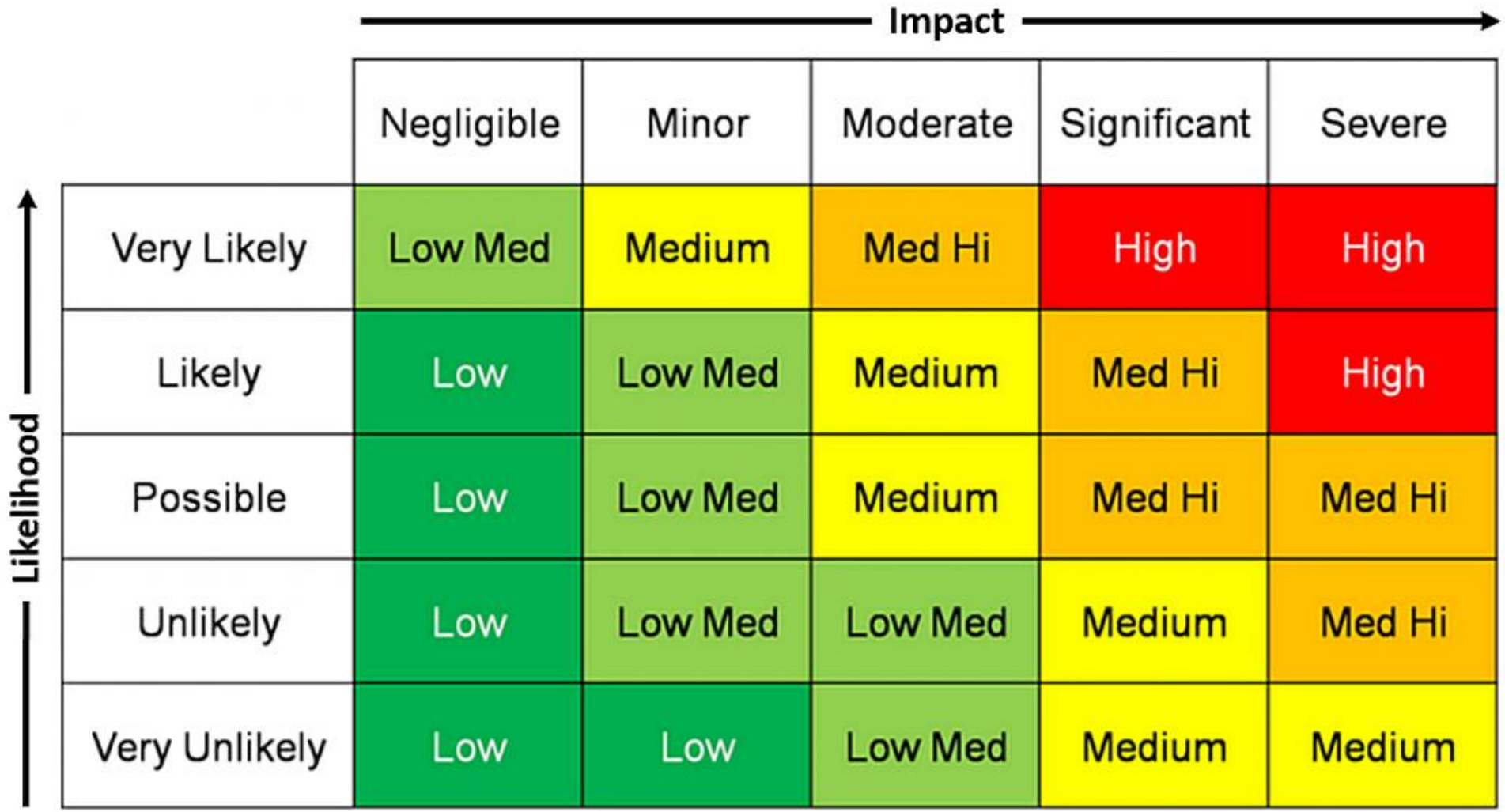
EVERYDAY RISK ASSESSMENT

- Scenarios:
  - Should a carry an umbrella today?
  - Should I bring my laptop to the coffee shop?
  - Should I cross this busy street?
- Questions:
  - What could go wrong?
  - How bad would that be?
  - How likely is it to happen?
  - What can I do to reduce the risk?

Image: Guia Besana for The New York Times

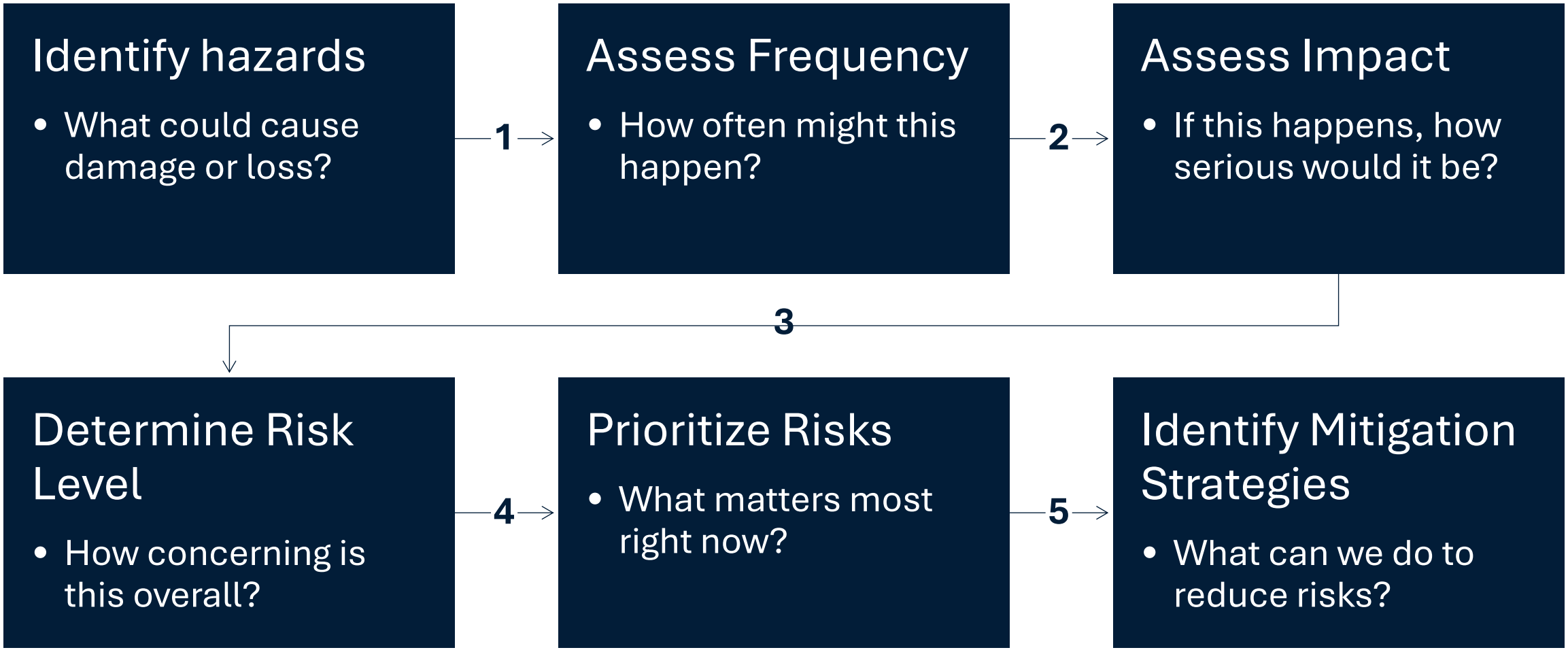
Risk = The likelihood that a hazard will cause damage, loss, or reduced access to collections.

RISK ASSESSMENT FRAMEWORK



TERMINOLOGY

Hazard	What could happen?
Exposure	What is vulnerable?
Impact	How bad would it be?
Likelihood	How often might it happen?
Mitigation	What do we do about it?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• What can we do to reduce risks?

TYPES OF DAMAGE

Mechanical

- Shrinking
- Warping
- Cracking
- Delamination

Chemical

- Corrosion
- Acidification
- Yellowing
- Embrittlement

Biological

- Mold
- Insect Activity

Loss

- Theft
- Vandalism
- Dissociation

The 10 Agents of Deterioration

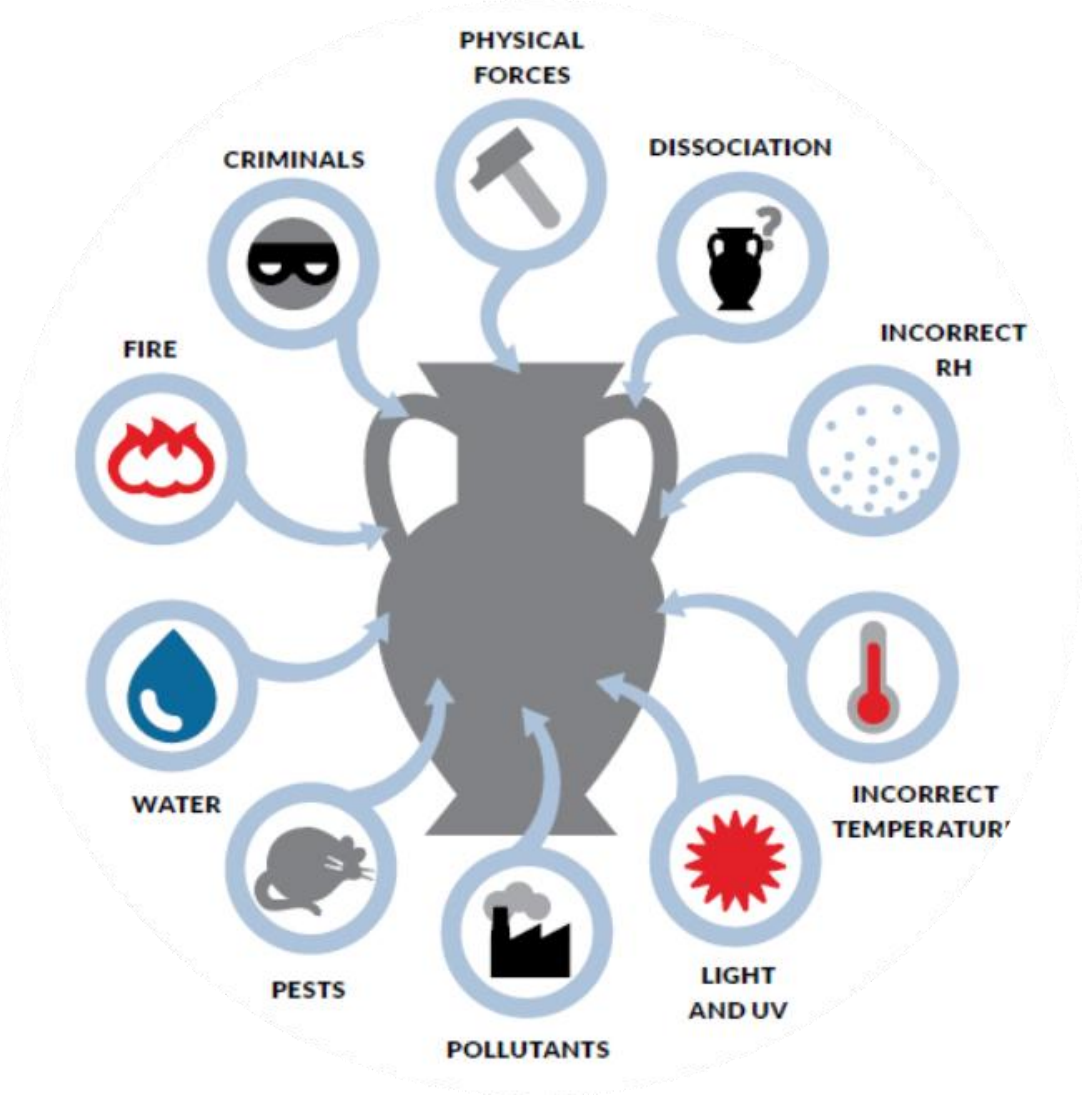


Image: International Centre for the Study of Preservation and Restoration of Cultural Property

SYSTEMS OF PRESERVATION

- Environment
  - External
  - Internal
- Building Envelope
- Mechanical Systems
- Collections Storage
- Operations & Human Factors

THE EXTERNAL ENVIRONMENT

- Local climate
- Natural hazards
- Climate change

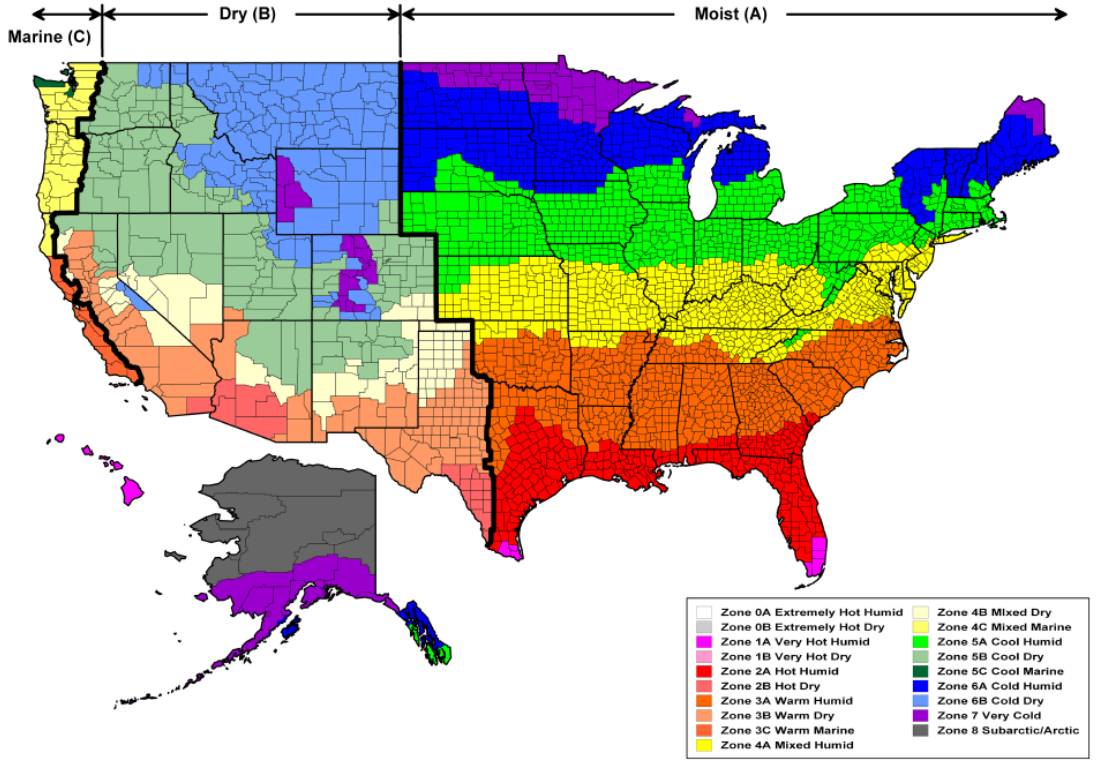
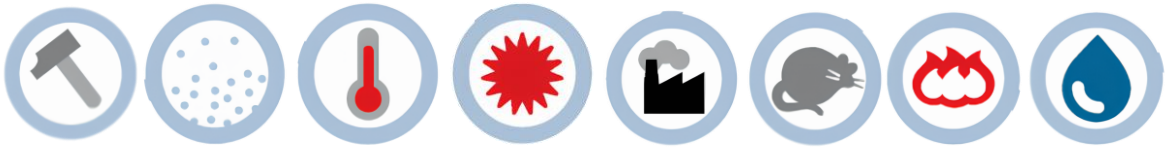
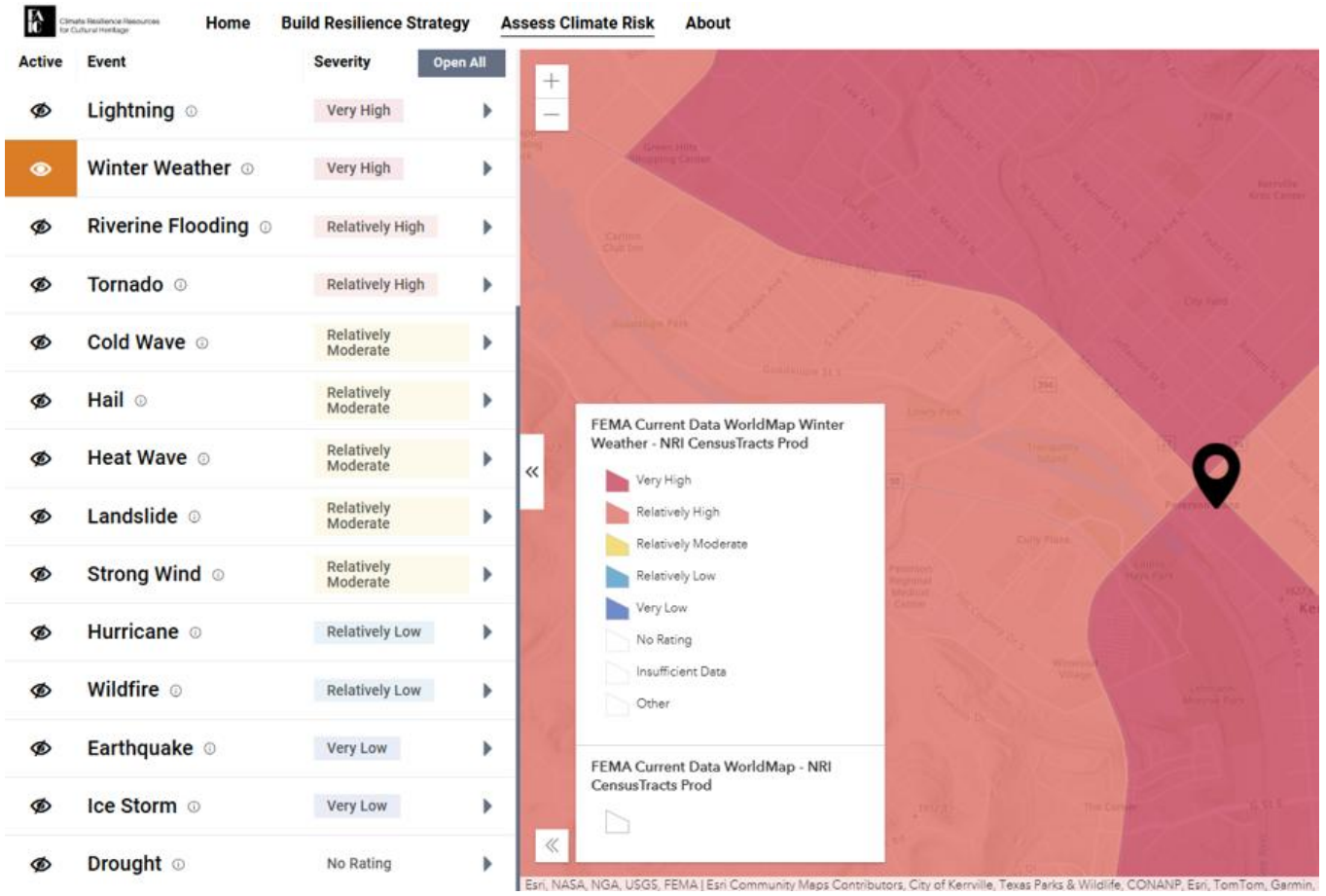


Fig. 14 Climate Zones in United States
(ASHRAE *Standard* 169-2013)



WHAT TO LOOK FOR:

- State and Local Hazard Mitigation Plans
- [FAIC Hazard Risk Assessment Map]



THE INTERNAL ENVIRONMENT

- Temperature
- Relative Humidity
- Light
- Dust

WHAT TO LOOK FOR:

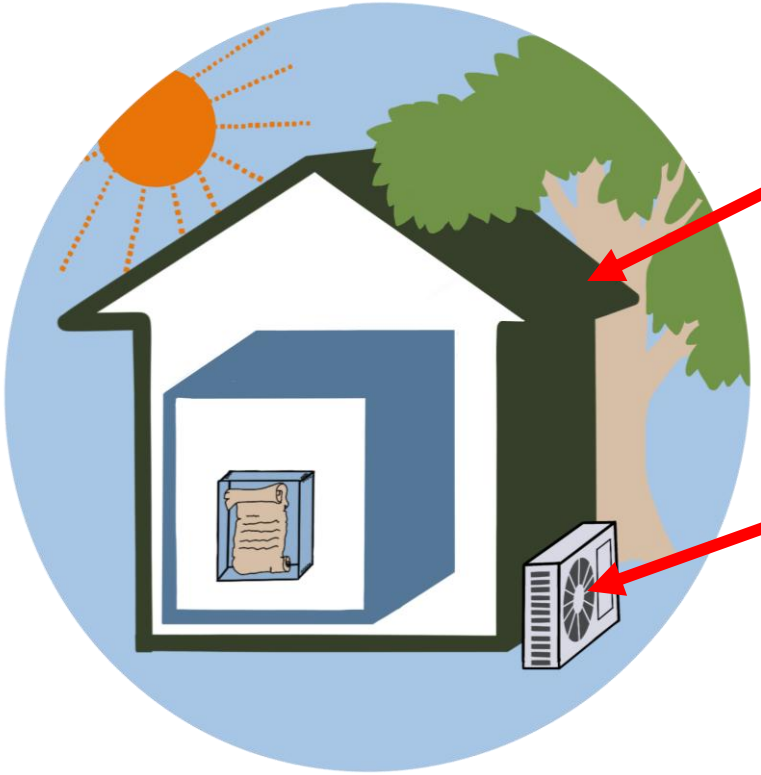
Environmental monitoring

Spot measurements

Observation

Policies

WHAT'S IN "A BUILDING"?



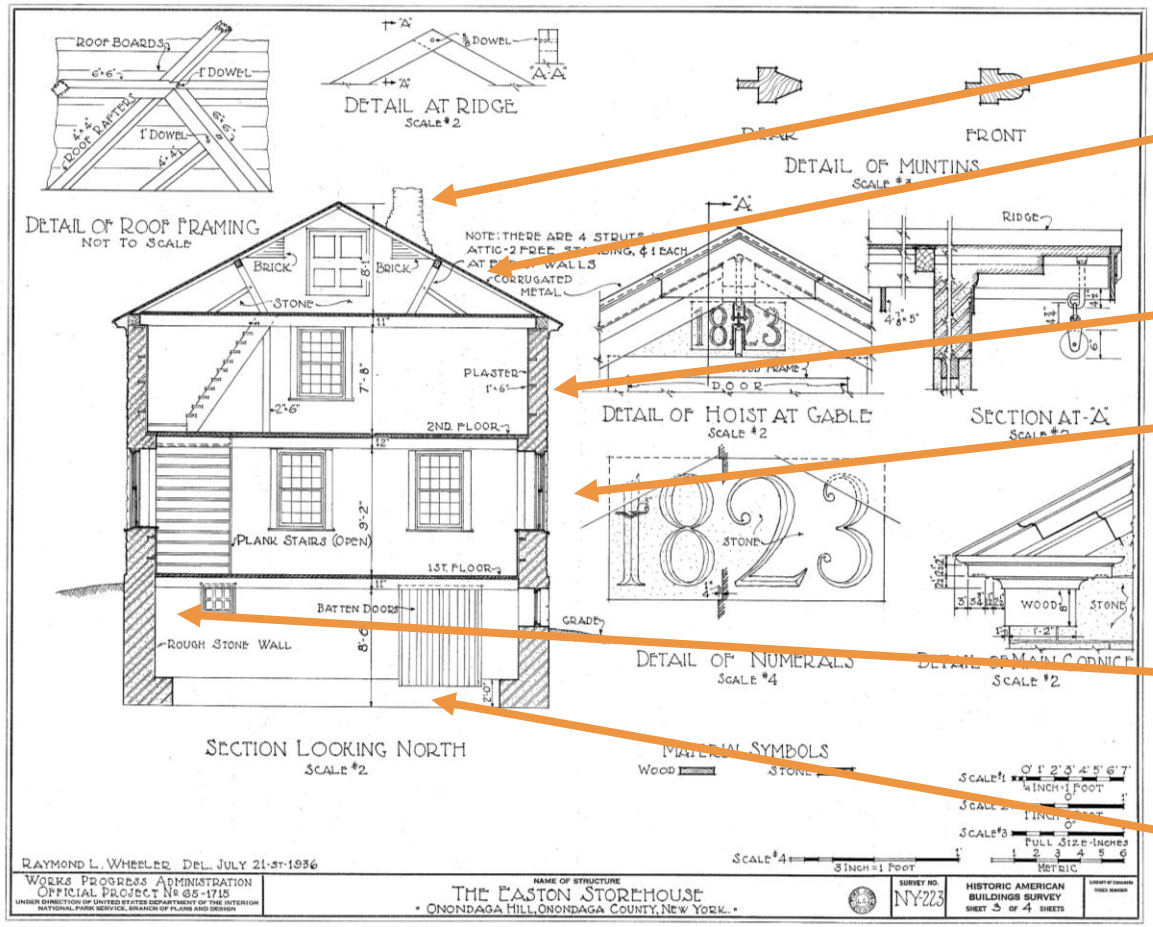
Building Envelope

- Walls, windows, doors, roof, foundation

Mechanical Systems

- Electrical, plumbing, HVAC, fire suppression, security

BUILDING ENVELOPE



Roof projections, chimneys, parapets

Roofs

Walls above grade

Windows, doors

Walls below grade

Floor slabs, earth floors

BUILDING ENVELOPE: WHAT TO LOOK FOR

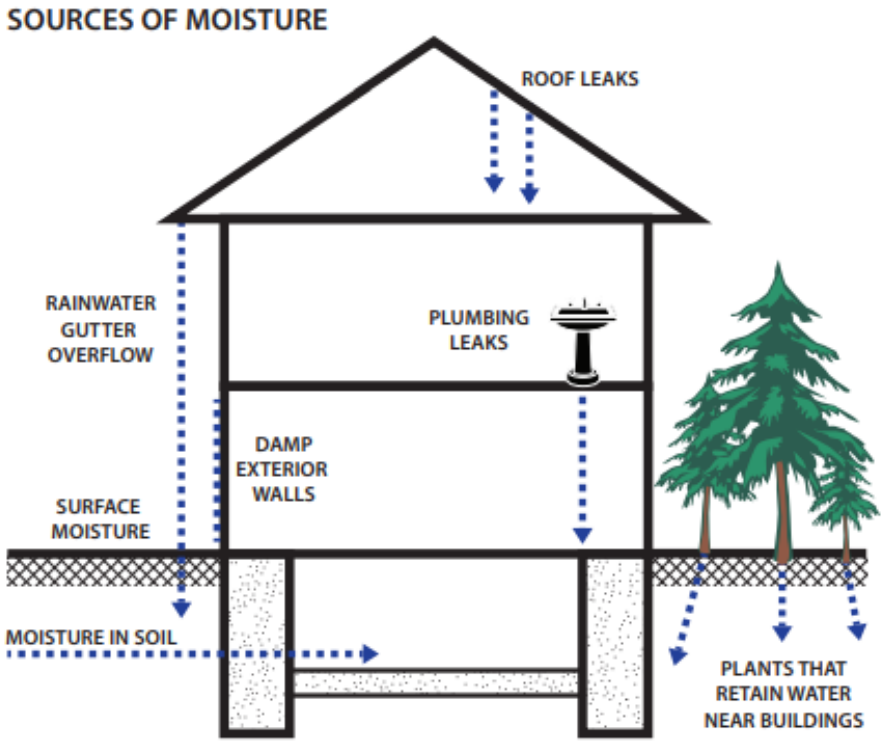
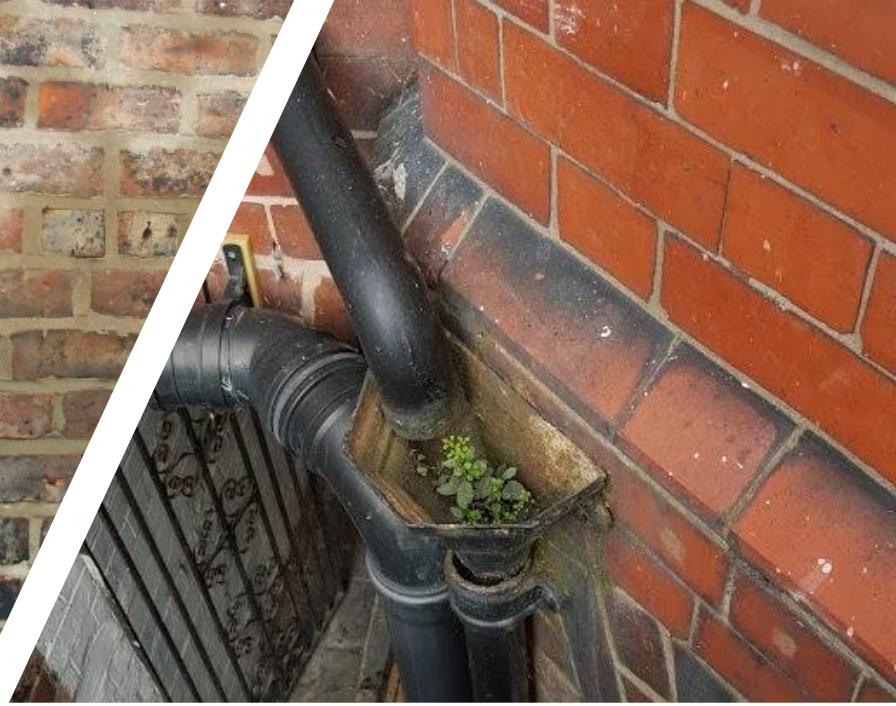


Image: Image Permanence Institute

- Water
  - Water marks, ceiling stains
  - Efflorescence
  - Dampness
- Drainage
  - Gutters/downspouts
  - Site drainage
- Pathways
  - Drafty windows
  - Doors without sweeps
  - Evidence of insects or pollutants getting in
- Structural components
  - Horizontal and stair step cracks
  - Bowing or bulging walls
  - Visible foundation deterioration

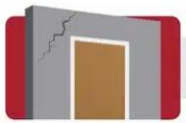




STRUCTURAL VS. NON-STRUCTURAL CRACKS

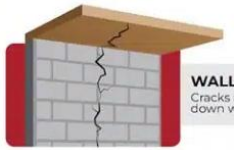
STRUCTURAL CRACKS

STAIR STEP CRACKS
Stair step cracks in block or bricks walls



OVER 1/10 INCH CRACKS

LARGE DIAGONAL CRACKS



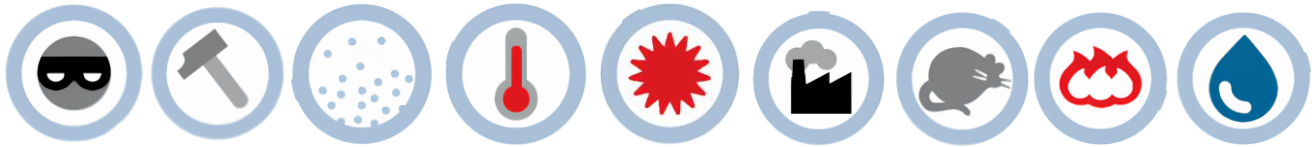
WALL TO CEILING CRACKS
Cracks running across ceiling and down wall

HORIZONTAL FOUNDATION CRACKS

Harold Corsini, *Woman with Caulking Gun*, c. 1960-1970. Historic Pittsburgh, 200705.11.2609.017.CS.

MECHANICAL SYSTEMS

- Fire detection and suppression
- HVAC (heating, ventilation, air conditioning)
- Electrical
- Plumbing
- Elevators and escalators
- Other mechanical elements (e.g., generators)



MECHANICAL SYSTEMS: WHAT TO LOOK FOR

- Fire Protection
  - Hand-held extinguisher placement and inspection
  - Smoke detection
  - Fire suppression type and location
- HVAC Systems
  - Climate control type
  - Temporary climate control
  - Filters/air purifiers
  - Signs of condensation or system malfunction?
- Plumbing and Water Systems
  - Location of plumbing
  - Signs of leaks
  - Floor drains or sump pumps
  - Condensation on pipes
- Electrical systems
  - Overloaded outlets/power strips
  - Exposed wiring
  - Signs of deferred maintenance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COLLECTIONS STORAGE

- Physical space & organization
- Shelving & furniture
- Housing & Supports
- Use & Access

COLLECTIONS STORAGE: WHAT TO LOOK FOR

- Space and organization
  - Dedicated storage space
  - Logical organization or labeling
  - Collections near hazards (plumbing, exterior walls, windows, electrical, etc.)
- Shelving and furniture
  - Collections on the floor
  - Overloaded shelves
  - Shelving adequately secured
  - Objects protruding beyond shelf edges
  - Appropriate furniture for specialty storage (rolled storage, racking, etc.)
- Housing and supports
  - Physically supportive
  - Well labeled
  - Appropriate materials
- Use and access
  - Secure storage area
  - Secure workspace
  - Obstructions in pathways/aisles

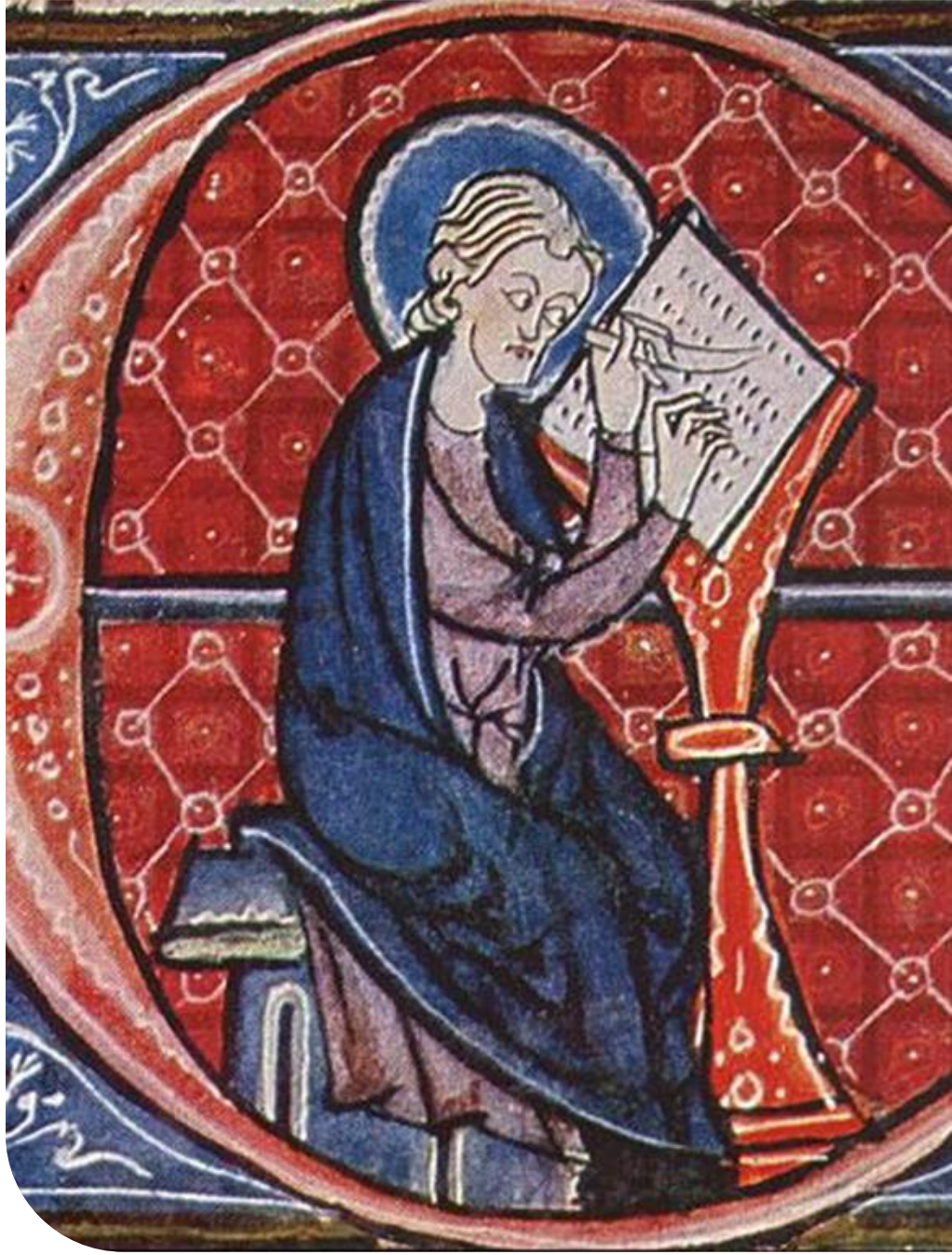

Architecture


BANKERS BOX
705


BANKERS BOX
PERIODICALS DEPARTMENT

OPERATIONS & HUMAN FACTORS

- Staffing and Training
- Policies and Procedures
- Handling and Collection Use
- Security and Access Control
- Emergency Preparedness

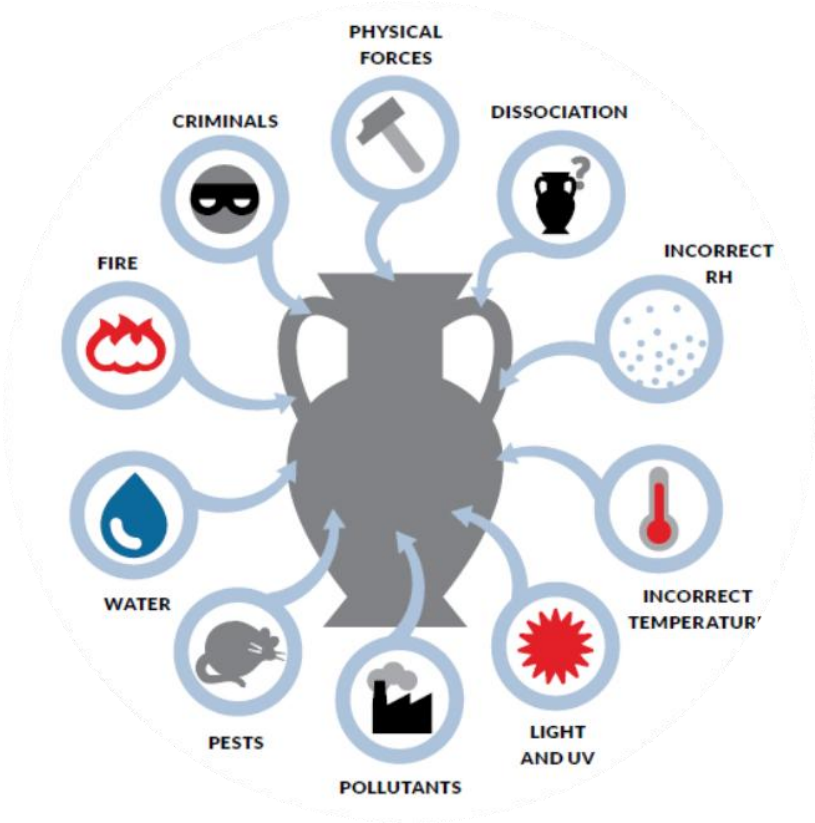


OPERATIONS & HUMAN FACTORS: WHAT TO LOOK FOR

- Staffing and Training
  - Understaffing
  - Collections training
- Policies and Procedures
  - Collections management policy
  - Intellectual control
- Handling and Collection Use
  - Handling training/policies
  - Dedicated spaces for working with or accessing collections
- Security and Access Control
  - Key control
  - Contractor/Vendor access policies
  - Controlled access to collections
- Emergency Preparedness
  - Emergency plans
  - Emergency supplies
  - Clear evacuation routes
  - Staff awareness
  - Priorities identified

ASSESSMENT FRAMEWORKS

10 AGENTS OF DETERIORATION



SYSTEMS

GOOD ASSESSORS ASK QUESTIONS

Environment

- “What extreme weather events are common in this area?”
- “Are there times when spaces feel very hot and humid?”

Building

- “Where could water enter?”

Mechanical Systems

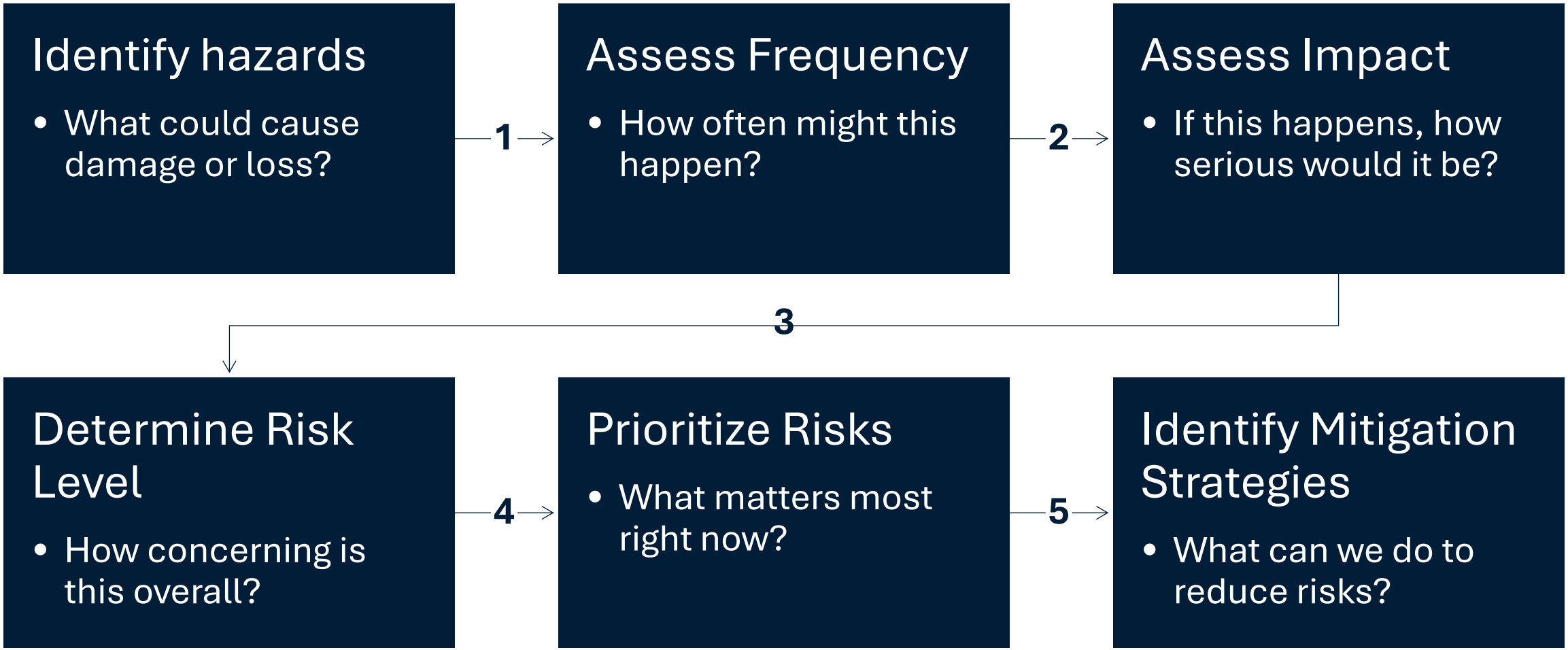
- “How often are smoke detectors inspected?”

Storage

- “Is there enough shelving for the collection?”

Operations

- “Do policies reflect operations as they exist now?”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FREQUENCY (LIKELIHOOD)

- Rare
  - Unusual circumstances
  - Low probability
- Occasional
  - Happens periodically
  - Seasonal
  - Intermittent
- Frequent
  - Happens regularly
  - Persistent condition

FREQUENCY

- Historic leak repaired 15 years ago → Rare
- Window leaks during heavy rain events→ Occasional
- Single dead insect → Rare / unclear
- Repeated frass under trunk → Frequent

FREQUENCY MODIFIERS

- Examples that increase frequency
  - Deferred maintenance
  - Seasonal environmental extremes
  - Overcrowding
  - Lack of policies
  - Construction activity
- Examples that decrease frequency
  - Preventive maintenance
  - Environmental monitoring
  - Staff training
  - Fire detection/suppression

IMPACT (CONSEQUENCE)

- Minor
  - Small area affected
  - Easily treated or corrected
  - Limited collection impact
  - Little disruption to operations
- Moderate
  - Multiple objects or collection area affected
  - Resource-intensive response
  - Potential disruption to access or operations
  - Recovery needed but manageable
- Severe
  - Irreversible damage
  - Large collection impact
  - Loss of access or context
  - Major recovery effort

IMPACT

Single leaking pipe over workroom → Moderate

Flood prone basement storing archives → Severe

Dust accumulation on shelves → Minor

IMPACT MODIFIERS

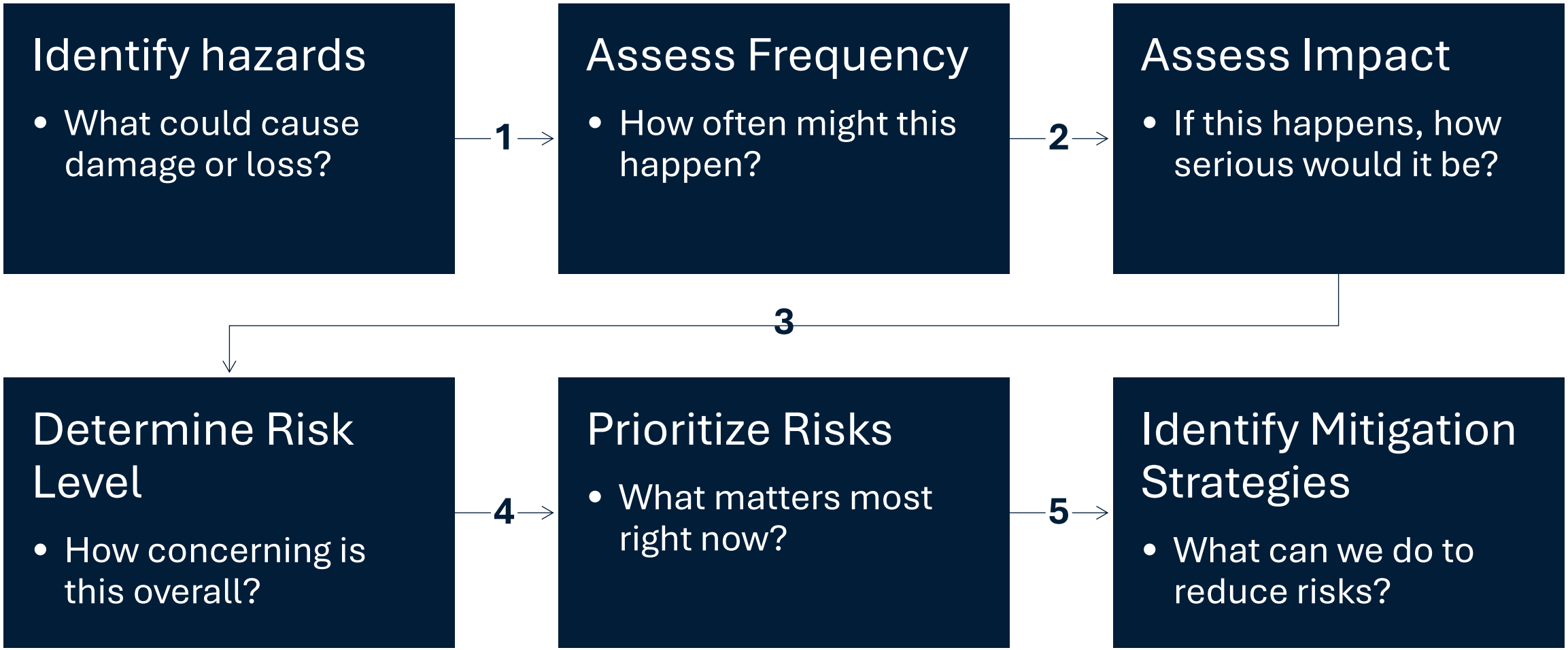
Image: @internationalmountmakersforum

- Examples that increase impact
  - Highly vulnerable materials
  - Large quantities affected
  - Lack of backups/documentation
  - Unique or irreplaceable materials
  - Delayed emergency response
  - Overcrowded storage
- Examples that decrease impact
  - Emergency plans
  - Fire suppression systems
  - Protective housings/enclosures
  - Redundant records/backups
  - Disaster supplies

RISK RATING

RISK RATING MATRIX

		Impact		
		1 Minor	**2 Moderate**	**3 Severe**
Frequency	**3 Frequent**	3 Medium	6 High	9 High
	2 Occasional	2 Low	4 Medium	6 High
	1 Rare	1 Low	2 Low	3 Medium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MITIGATION: TURNING RISK INTO ACTION

Mitigation = actions taken to reduce the likelihood or impact of a risk.

FOUR WAYS TO REDUCE RISK

- Eliminate
  - Remove the hazard entirely
- Reduce Frequency
  - Make damage less likely
- Reduce Impact
  - Make damage less severe
- Accept & Monitor
  - Sometimes risk remains

GOOD MITIGATION IS REALISTIC

- Budget
- Staffing
- Time
- Institutional Priorities
- Building limitations
- Collection value and use

PRIORITIZING MITIGATION

Which actions...

Address multiple risks?

Protect the greatest amount of collections?

Reduce risk substantially?

Are achievable?

RISK ASSESSMENT IS A TOOL. NOT THE END GOAL!

Preservation Planning

Emergency Planning

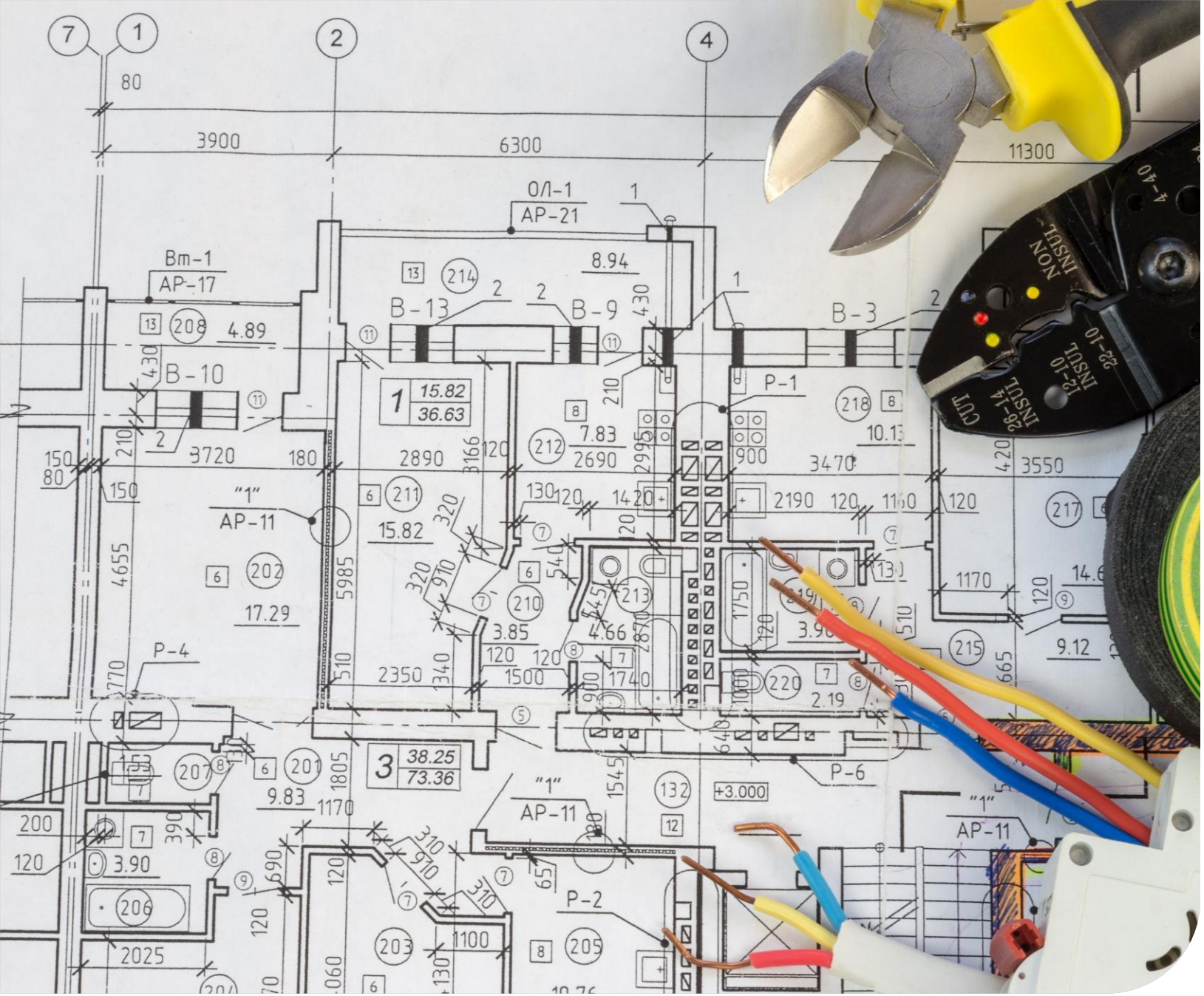
Funding & Advocacy

LONG-RANGE PRESERVATION PLANNING

Year	Activity	Point Person	Resources Required
1	Start environmental monitoring program	Collections Manager	Software subscription that works with existing monitors; staff time
1	Write emergency plan	Security, Collections Manager	Staff time
2-3	Purchase racking for paintings storage	Facilities	Funding for racking; staging area
5+	HVAC improvements	Facilities	Consultant; funding

EMERGENCY PLANNING

- What emergencies are most likely?
- Which collections are most vulnerable?
- What supplies are needed?
- Who responds first?
- What should be salvaged first?



FUNDING & ADVOCACY

- Risk findings strengthen:
  - Grant narratives
  - Capital planning requests
  - Board communication
  - Budget justification

YOU CAN DO THIS!

- You do not need:
  - ❌ Perfect environmental control
  - ❌ Unlimited funding
  - ❌ Large staff
- You do need:
  - ✅ Observation
  - ✅ Prioritization
  - ✅ Incremental improvement
  - ✅ Documentation

WHAT NEXT?

- Do a walkthrough at your institution
- Identify one high-priority risk
- Implement one mitigation action

THANKS!

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