Canadian Conservation Institute
Institut canadien de conservation
International Centre for the Study of the Preservation and Restoration of Cultural Property
ICCROM

RE-ORG

A METHOD TO REORGANIZE MUSEUM STORAGE

I. Workbook

RE-ORG Method:

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United Nations
Educational, Scientific and
Cultural Organization

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RE-ORG Method: I. Workbook

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This publication is based on "RE-ORG", developed by ICCROM with the support of UNESCO (2007-2011) and originally published at http://www.re-org.info

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Foreword

Fifty-five thousand. This is the number of museums that exist in the world, according to recent estimates. Within those museums are objects (up to 95%!) hidden away in storage that could number in the hundreds of millions. What an extraordinary resource they could be for fresh and exciting exhibitions, and new activities for our increasingly diverse and demanding publics.

Unfortunately, nestled in these spaces away from the public eye is another hidden reality: collections in storage are all too often in danger. Congested and disorganized, they are frequently unaccounted for, forgotten and left to languish. This problem, unknown of many decision makers, becomes more and more difficult for the museums to solve as they struggle with insufficient resources. As a result, they become paralyzed by a storage situation that has only worsened over time.

This is a scenario that repeats itself in every region of the world, but there is a way out. To help museums regain control of their collections in storage, ICCROM and UNESCO developed the RE-ORG method and made it available online in 2011. Since then, it has been applied to over 40 museums, in 12 countries, on five continents via hands-on workshops, mentor sessions and online training. It has also been used by many museums independently. The results have been incredible. What's more, these diverse teaching experiences and case studies have allowed to substantially update the content and restructure it, making it easier to use and more relevant to individual contexts. This manual is a product of these experiences, and I am pleased to share it with you in the hope that it will aid you in planning and implementing a reorganization project in your institution.

All this has been possible thanks to the participation of many host institutions and professionals, but first and foremost, thanks to the close and steady collaboration between ICCROM and the Canadian Conservation Institute (which is carrying out a very successful national RE-ORG strategy since 2013).

Beyond the institutions, however, we pay tribute to the two primary authors: Gaël de Guichen on behalf of ICCROM, who initiated the ideas of RE-ORG based on his 40 years of experience visiting and advising dozens of museums around the world; and Simon Lambert (CCI), who adapted the method to support a new generation of distance-learning activities and to meet the needs of a new generation of museum professionals.

Stefano de Caro
Director General, ICCROM

Introduction

The RE-ORG method is intended to guide you, step-by-step, throughout the process of planning and implementing a storage reorganization project.

It was designed for project teams of two to five people, working on storage rooms totalling approximately 250 m^2 (2,700 ft^2) and about 10,000 objects. For larger projects, we recommend starting small. For example, you could begin with one storage room and apply what you learn to other rooms afterwards. That being said, you will likely need to consider more than one room to benefit fully from the efficiencies that RE-ORG can create through the regrouping of collections.

The RE-ORG method is composed of:

I - Workbook: essential step-by-step instructions that will apply to most projects (PDF)

II -  Worksheets: to capture all essential information (fillable Word document)

III -  Additional RE-ORG resources: additional tools for specific cases (PDF)

These resources are based on the first version of the RE-ORG method, developed by ICCROM with the support of UNESCO. The original resources have been simplified by ICCROM and the Canadian Conservation Institute (CCI) to cater to the needs of small museum teams working on their own without prior training.

This is an ever evolving resource; it will be updated periodically as feedback is gathered from museums who have used it.

Throughout the text, the term “museum” is used generically to signify any collecting institution, which may include archives, galleries and libraries.

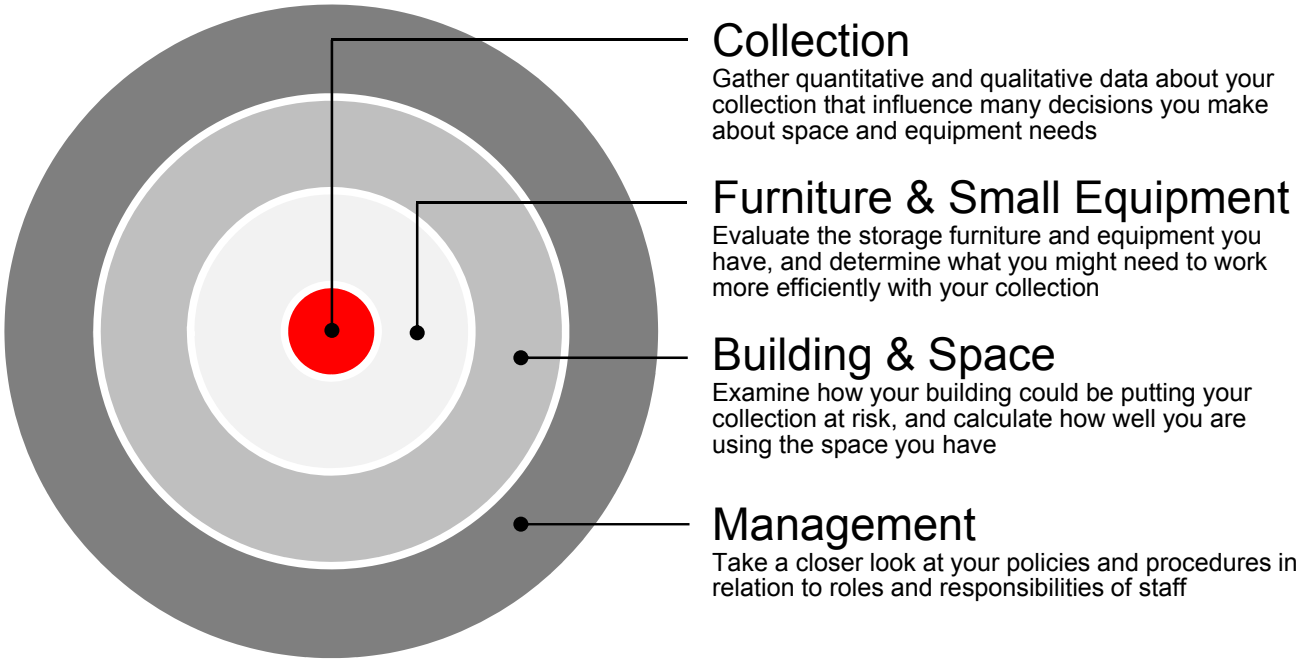
If you are having trouble gaining the support of decision makers to make improvements to storage, perhaps:

- **They do not know.** Decision makers are not always fully aware of the conditions in storage and may not perceive this as a problem. We recommend doing the RE-ORG self-evaluation, taking a few key pictures of the situation in storage (see Phase 1, step 8), and presenting the results.
- **They do not want to.** Storage is hidden from public view and for some, drawing attention to ongoing problems is a source of embarrassment. However, know that all museums around the world are in the same situation. Show them the results of the 2011 ICCROM-UNESCO International Storage Survey.
- **They say they cannot.** There is a general misconception that storage reorganization costs a lot of money. RE-ORG encourages you to think about re-using and adapting what you have to maximise resources.

The RE-ORG method at a glance

Four components

Over the past 30-40 years, museum collections all over the world have been growing rapidly, but improvements to storage have not always followed. Does this sound familiar? You know that something is not right and that improvements are needed, but you feel overwhelmed and do not quite know where to begin... To simplify the process, RE-ORG divides storage reorganization into four components:



The RE-ORG approach is holistic, but keep in mind that before certain improvements can be implemented (e.g. documentation updates, building improvements, revisions to policies and procedures), it is usually necessary to improve access to collections through a physical reorganization. After objects are visible and can be safely retrieved, all other improvements can follow.

Ten quality criteria

RE-ORG defines a professionally managed and functional storage room in the following way:

1. One qualified member of staff is in charge
2. The storage rooms contain only collection objects
3. Separate spaces are dedicated to support functions: office, workroom, storage of equipment and other materials (non-collection)
4. No object is placed directly on the floor
5. Every object has a designated location in storage and can be located within three minutes
6. Every object can be accessed without moving more than two others
7. Objects are arranged by category
8. Key policies and procedures exist and are applied
9. The building and storage rooms offer adequate protection for the collection
10. Every object is free from active deterioration and is ready to be used for the museum's activities

Criteria 1 to 7 can typically be met through a physical reorganization that aims to improve access to collections

Criteria 8 to 10 may require further mid- to long-term improvements

RE-ORG helps institutions meet these criteria.

Four phases

Phase 1 - Getting Started

In this phase, you will prepare your team to embark on the storage reorganization adventure by conducting an initial storage self-evaluation, assembling your tools, materials and floorplans, photo and video documenting your storage “before RE-ORG”, and defining your workspaces.

Phase 2 - Storage Condition Report

In this phase, you will document and analyse the present condition of the storage room(s) and prepare a concise and convincing report for your management that highlights the key issues that are affecting conservation and access. As you will be collecting data on a range of aspects and analysing it, this will take some time.

Phase 3 - Storage Action Plan

In this phase, you will use your condition report to plan your reorganization project step-by-step.

Phase 4 - Storage Reorganization Implementation

In this phase you will implement your storage action plan, and document all changes for management so that you can have a good record of the baseline conditions in storage for ongoing monitoring. Here you will be working to get your storage rooms back on track.

Before and after examples


RE-ORG India (New Delhi, Indira Gandhi National Centre for the Arts). This project took 10 days with a team of 10 people © ICCROM


RE-ORG Iraq (Suleymanieh, Suleymanieh Museum). This project took 10 days with a team of 15 people © ICCROM


RE-ORG Canada (Atlantic) Truro, Nova Scotia, Colchester Historeum. This project took 3 days with a team of 14 people © Government of Canada, Canadian Conservation Institute. CCI 128843-0004

Common misconceptions

"My collection is not fully inventoried, I probably have to fix this before I start RE-ORG"
Actually, that is not the case. RE-ORG addresses this problem by making it part of your mid- to long-term action plan. After your physical reorganization is complete, this is when you should do your inventory and start reducing that documentation backlog.

"I have no more space – I can't possibly reorganize my storage"
RE-ORG helps you find ways to use your space more efficiently, so do not despair!

"Storage is meant for anything the museum owns"
Collections storage rooms are for the museum collection only (i.e. objects that are accessioned). All non-collection items (exhibition panels, exhibit cases, plinths, publications, packing and wrapping materials, handling or education collections, office furniture, staff's personal belongings, etc.) should be relocated outside storage. Mixing non-collection items in with the collection is one of the main reasons why museums are running out of space. Space in storage is very expensive to maintain (security, climate control, pest management, etc.), so use it for your collection.

"Resources are scarce… reorganizing storage sounds expensive"
RE-ORG focuses first on finding low-cost and creative solutions to address the issues you are facing. Many impressive RE-ORG projects have been implemented with very little money, but having a committed and motivated team – whatever its size – will always be a critical success factor.

"RE-ORG will address all my preventive conservation concerns"
No, this is not the case. Think of RE-ORG as a first step towards improved collections care practices. Once you regain control of your storage rooms, you are better positioned to plan for further improvements.

Non-collection items in storage © Government of Canada, Canadian Conservation Institute. CCI 126415-0004

Non-collection items in storage © Government of Canada, Canadian Conservation Institute. CCI 126416-0005

Glossary

Accesion number
A unique identification given to an object in the collection. It is the element that links objects to all other documentation related to it.

Accession register
A hardback bound book, with pages numbered progressively and stamped, which contains the description, accession number and accession date of all objects that are part of the museum collection. Once objects are listed in the accession register, they are officially part of the museum collection. In some contexts, this function is taken over by a collections database.

Accessioning
The formal acceptance of acquisitions (whether by gift, purchase or bequest) into a museum's permanent collection.

Collection
A grouping of objects or items (with similar message or something in common) held in title by a museum (i.e. accessioned). A museum collection may comprise several individual collections of objects of similar typologies (collection of masks, collection of manuscripts, etc.) or bearing a unique unifying feature (such as having belonged to a single collector or collecting institution, being linked to a specific historical event, etc.).

Condition report (storage)
A professional document that describes the condition and key issues of a storage area based on an evaluation of four RE-ORG components (Management, Building & Space, Collection and Furniture & Small Equipment).

Documentation system
The documentation system is composed of five essential elements: 1) The accession number, 2) The accession register, 3) The location code, 4) The main index, 5) The movement register. All these elements are interlinked and have specific functions. Some of these functions would be integrated within a collections database.

Fixtures
Elements that are permanently attached or part of the main structure of the building (e.g. plumbing, lighting, electrical, heating, ventilation and air conditioning (HVAC), fire protection and security systems).

Floor space occupation by units (%)
Proportion of the total storage floor space that is occupied by units: *total unit footprint* / *total storage floor space*.

Floor space usage (%)
Proportion of usable floor space that is currently being occupied by units. Indicates the degree to which you are using the space you have: *floor space occupation by units* / *maximum floor space occupation by unit type* x 100.

Furniture (storage)
Movable elements that are used to house collections (shelving, cabinets, drawer cabinets, racks, etc.).

Inventory
An itemized list of objects that the museum has accessioned that have been physically located by an examiner.

Location system / code
A unique identifier that links each object to a specific location within each storage unit.

Main card index
Also called "main index", "card index," "progressive index" or "card catalogue." Objects are classified by ascending order of accession number in the same order as in the accession register. In a manual system, these are index cards that cannot be removed from the trays and that contain the location code of each object. For this reason, it is not publicly accessible. This function would be integrated within a collections database.

Maximum floor space occupation by unit type (%)
The fraction of floor space that can safely be used for storage units, taking into consideration the space required to access the collection.

Movement register / book
A document that records whenever an object is moved, either from the permanent exhibition or from storage (for loan, study, to be photographed, or for conservation or restoration, etc.). This function would be integrated whithin a collections database.

Non-collection item
Any item, object or material that has not been (and never will be) accessioned into the museum collection. These include publications, exhibition panels, office furniture, display cases, wrapping and packing materials, personal belongings of staff and rubbish.

Object
Items that are formally part of the museum collection.

Physical reorganization
First step of a storage reorganization project aiming to restore access to the collection.

Room height usage (%)
Proportion of usable room height that is currently used by units. Indicates the degree to which you are using the vertical space you have: *height of storage units* / *usable room height (clear height).*

Small equipment
Necessary items used to reach, move, and clean objects (e.g. ladders, trolleys, vacuum, cleaning equipment, etc.).

Storage fullness (%)
The proportion of the total usable storage volume currently used by a collection in storage: *average unit fullness* x *average room height usage* x *floor space usage*.

Storage room
A space designated for the storage of the museum collection.

Storage surface offered (m^2 / ft^2)
Amount of shelf / rack / drawer space that can be used to store collections.

Storage unit
A single piece of storage furniture. For example, one shelving unit, one cabinet, one drawer cabinet, one two-sided vertical rack, one fixed rack, etc.

Support functions (storage)
Museum functions that are related to storage (e.g. research, quarantine, documentation, collections preparation, etc.).

Total storage floor space (m^2 / ft^2)
The “gross” storage floor space, i.e. the total dimension of a room (length x width) of the storage room.

Unit footprint (m^2 / ft^2)
The amount of floor space occupied by each unit on the floor: *length* x *depth* (width) of the unit.

Unit fullness (%)
Percentage indicating the amount of space being used up by the collection in a single storage unit.

Usable floor space (m^2 / ft^2)
The “net” storage floor space that could be used by units: *total storage floor space – any non-usable space (e.g. reserved for working area)*.

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Suggested Tools

- Edraw Soft
- Floor Planner
- How to Create a Gantt Chart in Excel
- How to Draw a Floor Plan to Scale
- Make your own pallet!
- OSH Answers Fact Sheets: Personal Protective Equipment (PPE)
- Project Budget Template
- Project Budget Template
- RE-ORG: Collection Storage Tips & Tricks
- RoomScan Pro
- Sample Size Calculator
- Sketchup
- STASH: Storage Techniques for Art, Science & History Collections

Phase 1

Getting Started

OBJECTIVE

Create the best possible conditions to begin the reorganization process by ensuring you have:

- An effective team with a list of people's skills
- A well-organized working area
- Existing floor plans
- A list of the tools and materials you will need for the reorganization

☑ CHECKLIST

- ☐ 1. Complete the self-evaluation
- ☐ 2. Assemble existing floor plans
- ☐ 3. Define project workspaces
- ☐ 4. Agree on a common objective for the project
- ☐ 5. Build an effective reorganization team
- ☐ 6. List your team members' skills
- ☐ 7. List required tools and materials
- ☐ 8. Document your storage room(s) using photo and video
- ☐ 9. Prepare a short presentation for management

HOW TO PROCEED

1. Complete the self-evaluation

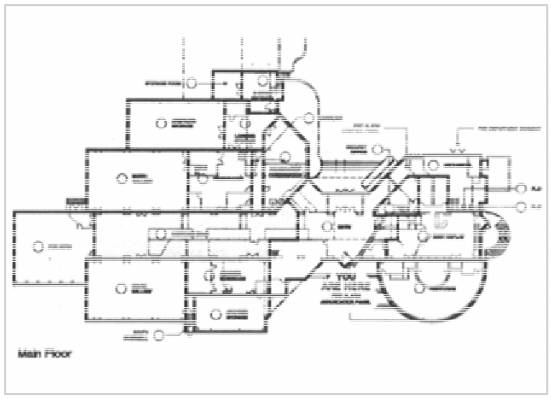
The RE-ORG self-evaluation should be completed by the project team or by the individual(s) responsible for storage. The purpose of this evaluation is to obtain a snapshot of the key issues affecting the functionality of your museum's storage room(s) and to have a general idea of strengths and weakneses from the very beginning to better communicate with decision makers. You will be attaching the Diagnostic Table of the self-evaluation (**Worksheet 1**) as an appendix to your Storage Condition Report in Phase 2.

Completing the Collection storage self-evaluation as a team © Government of Canada, Canadian Conservation Institute. CCI 126415-0006

2. Assemble existing floor plans

Throughout RE-ORG, you will need accurate floor plans, since you will be using them extensively to map various components (storage furniture, contents of the storage rooms, etc.).

If you cannot locate any floor plans, you may be able to find an evacuation plan as part of your fire safety plan. Any existing floor plans should be confirmed by visiting the building with the plans in hand, as the locations of walls, doors and other features may have changed.



If you have an existing floor plan, use it

3. Define project workspaces

When you reach Phase 4, three separate workspaces may be needed. Often, these can be temporarily re-purposed rooms. Start thinking about this now, as it may affect operations in your museum.

Workspaces	*Purpose*	*Suggestions*
Common area	To hold team meetings, training sessions for your team members, or to have lunch and coffee breaks during your physical reorganization	Should be large enough to accommodate team members and equipment (e.g. table, chairs, computer, flip chart, personal belongings) and should be separate from the storage room
Temporary storage room or swing space	To house objects that are being moved out of storage temporarily	Could be an unused conference room, a temporarily de-commissioned gallery or office, an underutilized basement space, etc.
Temporary workshop	A space where existing storage furniture can be adapted or new units can be assembled	If dust-producing activities (e.g. sanding, sawing) are expected, this room should be well-isolated from the storage room

4. Agree on a common objective for the project

To ensure everyone has a clear understanding of the general orientation of the project, it is good practice to have a common objective. The example below can be customized as needed:

"Given a team of _____ people and a storage room that contains _____ objects, that measures _____ m^2 / ft^2, that meets _____ of the 10 RE-ORG quality criteria (see p. vii), and obtained the following scores on the RE-ORG Self-evaluation: M:_____ (numerical and verbal score), B:_____(numerical and verbal score), C:_____(numerical and verbal score), F:_____(numerical and verbal score), **reorganize the storage room** using the RE-ORG method, with the approval of _____(decision maker), by ____(date), with a budget of _____ without damaging any object and without injuring any team member such that all RE-ORG criteria* will be fulfilled and the museum's score on the RE-ORG self-evaluation will be impoved by at least one verbal score in each of the four components (M, B, C, F)."

*Keep in mind that you may only be able to meet quality criteria 1-6 after the physical reorganization.

Effective reorganization teams at work

5. Build an effective reorganization team

Reorganizing storage requires a collaborative team effort. You may be working in a dusty environment that resembles a construction site more than a museum, so it is not recommended to work alone: a minimum of two people, but ideally three to five.

Effective RE-ORG teams have the following characteristics:

- They are committed to a common objective
- They use a common language and terminology
- They understand who does what and when
- Everyone's skills and knowledge are well utilized
- Everyone recognizes a team leader
- Everyone has the resources they need to work, and receives encouragement and support

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6. List your team members' skills

Every team member has special skills that could be useful in the context of storage reorganization. It is good to know about these early on. Examples of useful skills include:

- Carpentry
- Experience with creative "do-it-yourself" projects
- Visual estimations (space, dimensions, weight, distance)
- Calculations / math
- Drawing / drafting
- Report writing
- Photography
- Communications / public speaking
- Preparing budgets

Perhaps in your context, other types of skills would also be useful to have. Now is a good time to identify these.

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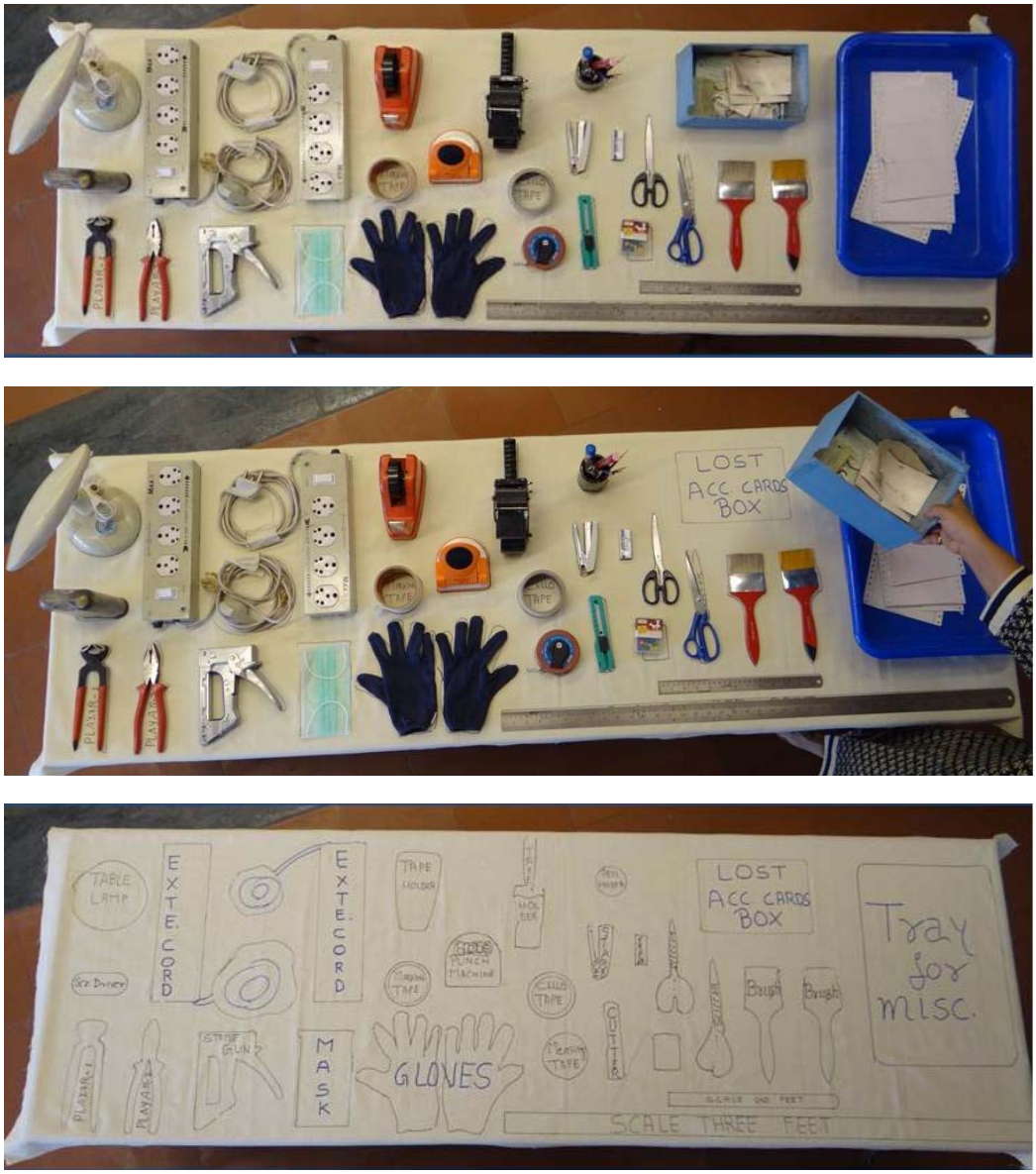
Effective reorganization teams at work

Carpentry is typically a very useful skill to have in a RE-ORG team © Government of Canada, Canadian Conservation Institute. CCI 126416-0002

7. List required tools and materials

Using **Worksheet 2** as a guide, determine which tools and materials you may need for the physical reorganization. It may be useful to prepare a budget and purchase some of these materials ahead of time.

If appropriate at this time, install the tools on a table located close to the storage room. Draw an outline of the tools to make it easier to keep track of them, particularly if you will be working with a larger group of people (see below). If this is too early in the process for you, you can do this later.



Tools and materials can be outlined and identified to ensure all team members have access to them when they need them © ICCROM

8. Document your storage room(s) using photo and video

Storage reorganization is one of the few preventive conservation activities that has visible results. It is important to document it well to have some powerful “before” and “after” images for the various reports and presentations you are likely to make later on. These will also be precious working tools. Here are some useful things to document:

- ☐ The building exterior (main entrance and façade, around the building)
- ☐ Exhibition spaces
- ☐ General views of any corridors that lead into the storage room(s), from various angles
- ☐ General view of the entrance(s) into storage
- ☐ General views inside the storage room(s) taken from the corners looking towards the centre
- ☐ General views inside the storage room(s) taken from above (e.g. standing on a ladder)
- ☐ General views inside the storage room(s) taken with your back against the door(s) looking towards the centre, and looking towards the door(s) from the centre.
- ☐ All the different types of storage furniture used in storage (see Phase 2, step 3, point *b*) “unit ID”
- ☐ All the different types of storage equipment used in storage (cleaning equipment, trolleys, trays, ladders, etc.)
- ☐ All the different types of non-collection items currently in storage
- ☐ Potential risks / evidence of damage in the storage room(s): leaks, water stains, black spots on walls or in corners
- ☐ Anything else that you deem useful
- ☐ Video walkthrough of the storage rooms that captures the extent of the situation (why not use your smartphone?)

9. Prepare a short presentation for management

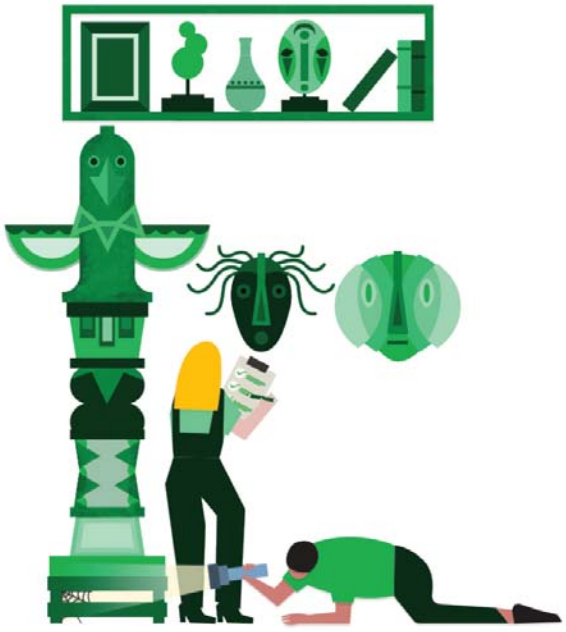
It is always a good idea to keep management informed of your project at all phases. After Phase 1, you could prepare a short 15-minute presentation to briefly introduce the RE-ORG method, to share the results of your self-evaluation and some “before” pictures you took of the storage rooms.

Image courtesy of Collingwood Museum, Canada

Image courtesy of Lambton Heritage Museum, Canada

Image courtesy of Collingwood Museum, Canada

Photos to document the storage rooms and facility



Phase 2

Storage Condition Report

OBJECTIVE

Prepare a report that documents the current condition of the storage rooms (before RE-ORG) and highlights key issues with Management, the Collection, the Building and Space, and the Furniture and Small Equipment, using the worksheets provided, such that you obtain management approval to proceed with Phase 3. The key questions you will be answering in this phase are:

- Are there shortcomings in the administrative framework that are contributing to the disorganization of storage?
- Am I using storage space as efficiently as I can? Do I need more space?
- Are there major threats to the collection in storage?
- Which parts of the collection are most vulnerable to deterioration?
- What are the documentation needs?
- Are storage units adequate and adapted to the needs of the collection?
- Do I have all the right equipment to work with the collection?

☑ CHECKLIST

- ☐ 1. Draw required floor plans
- ☐ 2. Collect essential data about the spaces and assess major threats to the collection
- ☐ 3. Assess the storage furniture
- ☐ 4. Calculate the floor space occupation by units (%)
- ☐ 5. Remove non-collection and rubbish
- ☐ 6. Assess administrative framework and management
- ☐ 7. Analyse the collection
- ☐ 8. Evaluate the documentation system
- ☐ 9. Evaluate the small equipment
- ☐ 10. Write your condition report and present it to management

HOW TO PROCEED

1. Draw required floor plans

Floor plans will be one of your most important working and communication tools. If you cannot find existing floor plans, you will need to draw one for the entire building, on which you will write the names or functions of the various rooms (office, gallery 1, gallery 2, storage room, mechanical room, etc.). This will be helpful to understand how storage is connected to other museum functions and will be useful as a communication tool. You will need four different plans to begin with:

Online resources (external links)

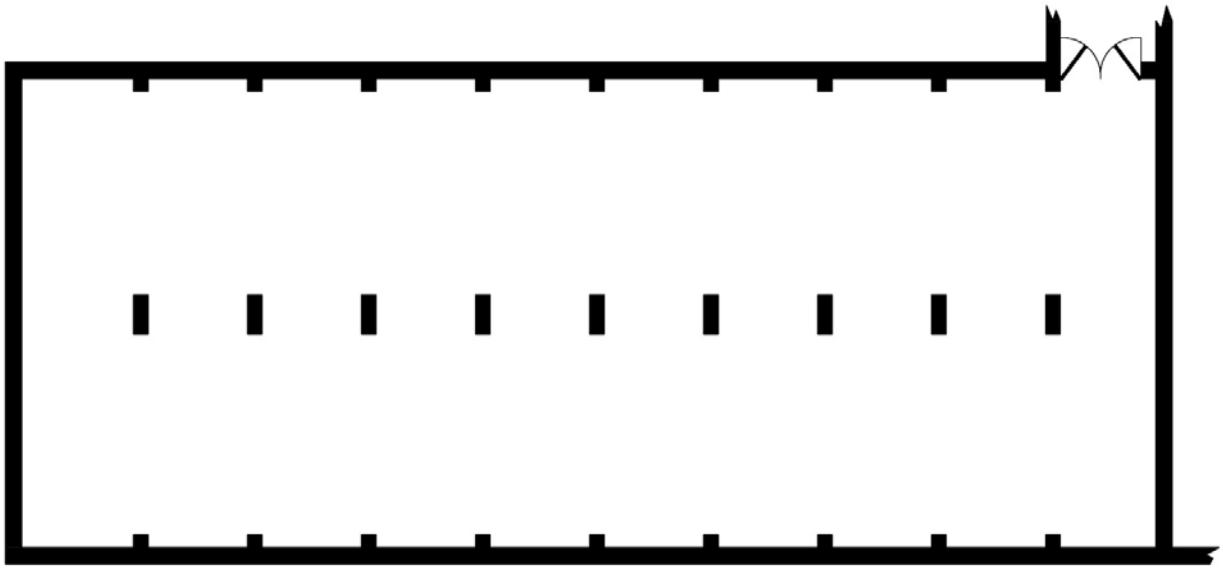
Drawing floor plans to scale

- By hand: How to draw a floor plan to scale (WikiHow)
- Digitally: Edraw Max (free trial version)
- Digitally: Floorplanner (free trial version)
- Digitally: Google Sketchup (free version)
- Digitally: RoomScan (iOS App – free version)

Plan 1: Empty storage floor plan

One per storage room

This must be drawn to scale. If you are using an existing plan, remember to do a walkthrough to confirm that the plan is still accurate.



1) Empty storage floor plan. Created by Margaux Phillips.

Plan 2: Fixtures plan

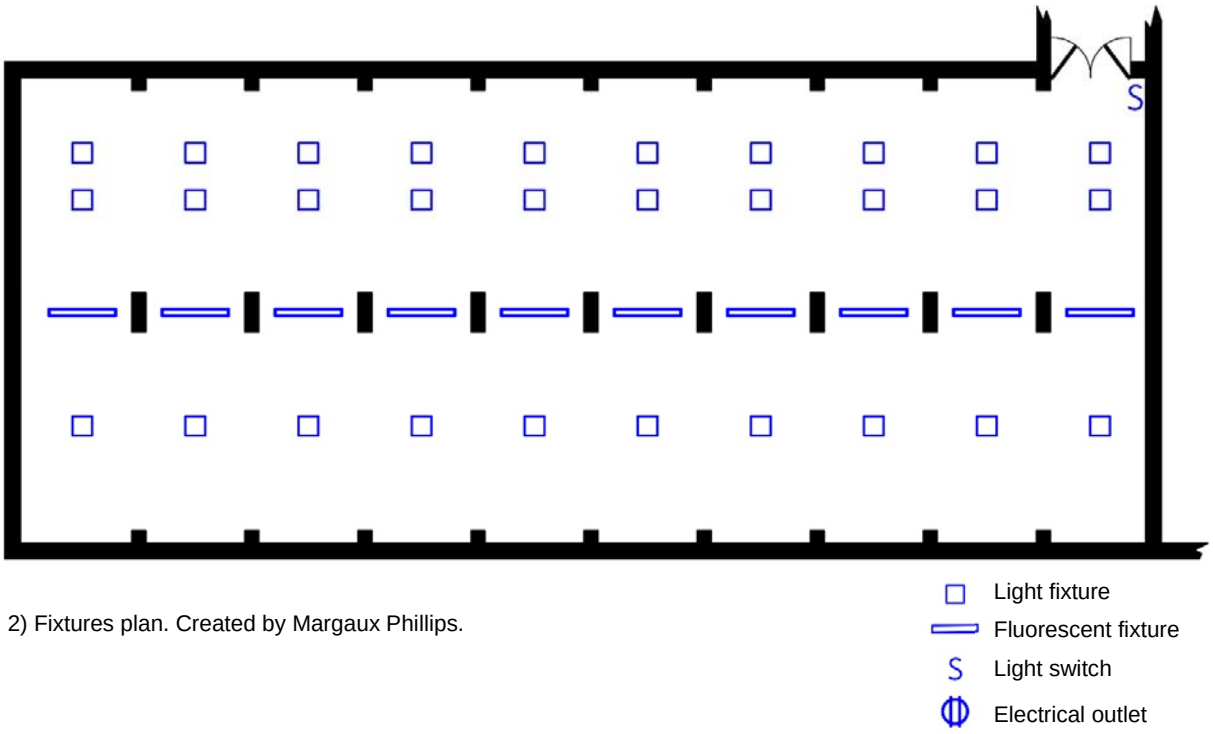
One per storage room

Knowing where the fixtures are in the collection storage rooms (e.g. plumbing, ducting, and lighting) is important for two reasons:

1. It will show obstacles or constraints to keep in mind when planning your reorganized space (e.g. the location of lighting or other fixtures may affect the possible options you have to rearrange the layout);
2. It will show potential sources of risk (e.g. pipes or other water under pressure over collections).

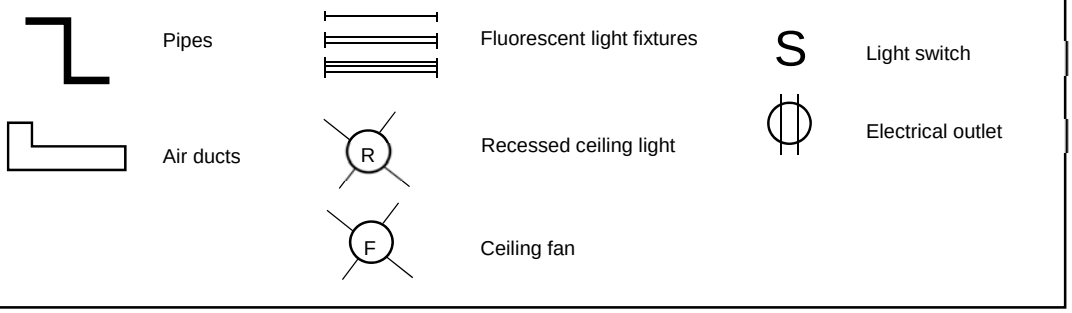
Indicate any piece of equipment that would require technicians or maintenance personnel to enter the storage room (e.g. mechanical equipment).

Include a legend with your plan. Below, you will find a few suggested symbols that are commonly used by engineers and architects, but feel free to develop your own – as long as you have a legend.



2) Fixtures plan. Created by Margaux Phillips.

A few common floor plan symbols

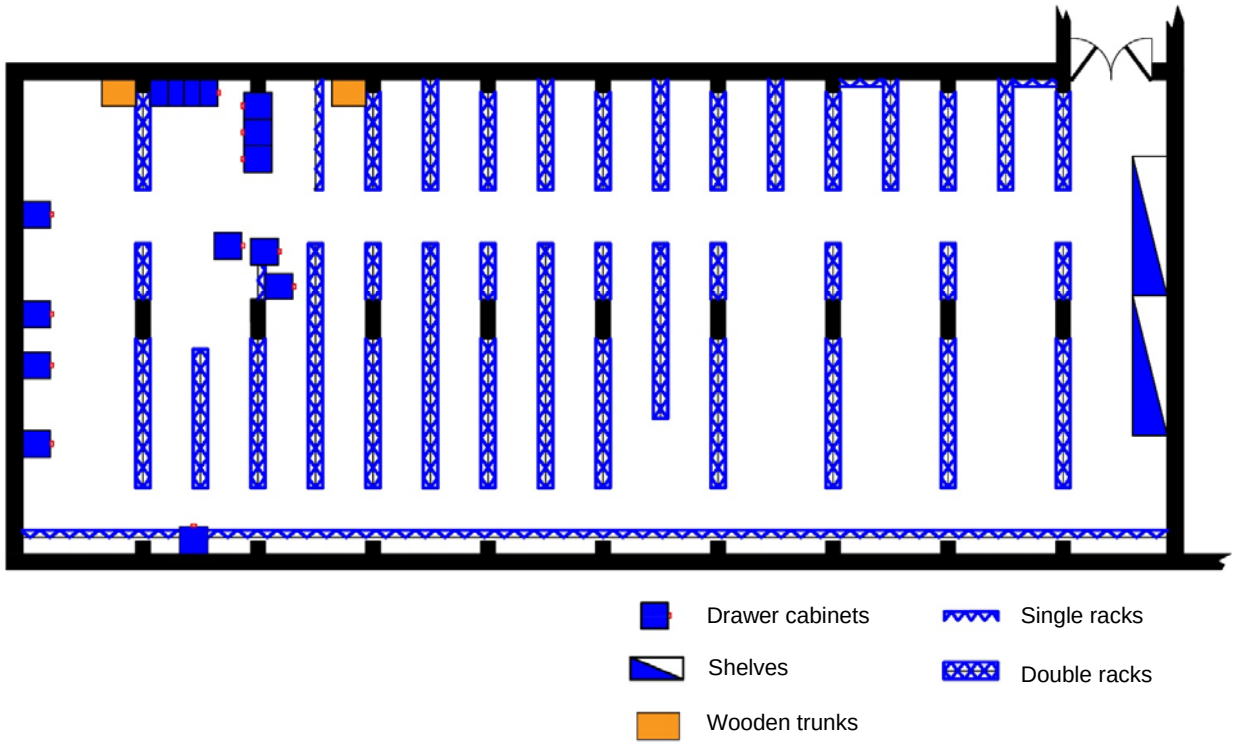


Plan 3: Storage furniture plan

One per storage room

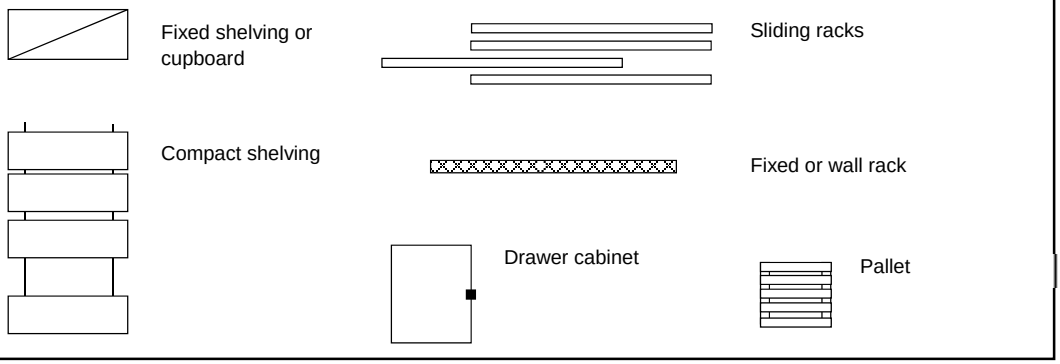
A plan with the storage furniture drawn to scale will be used to prepare the occupation plan and will highlight if units could be regrouped by type to make more efficient use of space. Use symbols to identify the various unit types (see suggestions below). At this point, you may want to skip ahead to Step 3 of this Phase, in which you will be measuring each unit one by one; this will be helpful in preparing this plan.

Be sure to indicate any units that are built-in or otherwise immovable, as this will affect which options may be available to use space more efficiently.



3) Storage furniture plan. Created by Margaux Phillips.

Ideas for representing some common storage unit types on plans



Plan 4: Occupation plan – Before RE-ORG

One per storage room

This plan will be included in your condition report and will be useful to understand the various tasks that will be required when planning your project in Phase 3. Use a blank copy of your furniture plan to map everything that is currently in storage. Try to convey the extent of disorganization by including all items on the floor (collection and non-collection) and by showing how access is blocked by overcrowded aisles. Use colour coding to distinguish what is collection (green) and what is non-collection (red).

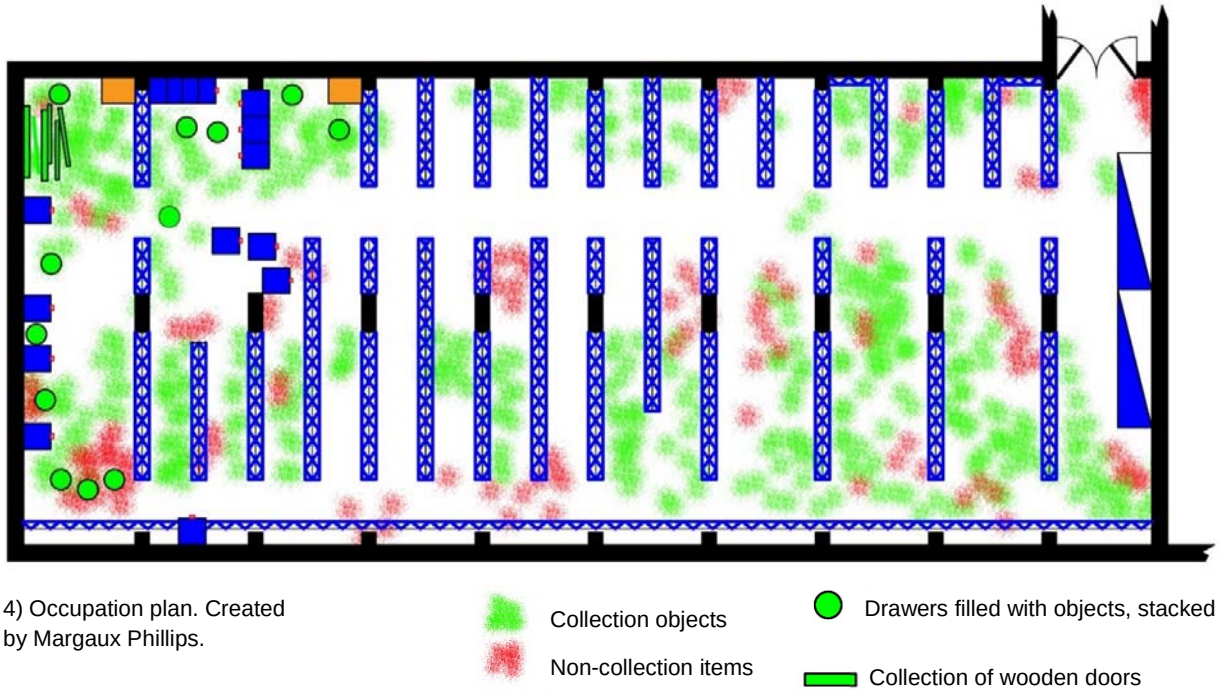
One suggestion to prepare this plan is to first go through your collection storage rooms with coloured sticky notes or pieces of coloured cardboard. Identify in green what is **collection** (accessioned objects), in red what is **non-collection** (packing materials, exhibition panels or mounts, display cases, packing cases, publications, etc.) and in yellow what you are **unsure** about and must verify with the director. Involve management in decisions that identify items as not being part of the collection, as these will eventually be removed from storage.Take photographs once you are done and draw your plan.

Tagging items in storage with sticky notes

With time, collection objects might be displaced or accumulate in overflow locations (stairwells, hallways, offices, etc.). If this is your case, use a plan of the entire building to mark the location of collections, as these should return to storage during the reorganization.

If you find objects that are actively infested with pests or mould at this stage, bag and isolate them, and keep record of them.

Always wear protective gloves and take all necessary precautions when handling unknown objects, as collections may contain potentially dangerous or hazardous substances that can pose serious health and safety risks: taxidermy specimens containing arsenic, mercury and / or lead; edged weapons; munitions; unexploded ammunition; medical objects; drugs or chemicals; objects containing asbestos; objects treated with pesticides; cellulose nitrate film.



4) Occupation plan. Created by Margaux Phillips.

2. Collect essential data about the spaces and assess major threats to the collection

The building and its systems are the first line of defense for the collection. Within the context of a storage reorganization, the purpose of this step is not to conduct a full facility or risk assessment. Instead, you will focus on critical factors that may pose a threat to your collection or that may affect the reorganization project.

Use **Worksheet 3** to record essential data about each storage room and to assess the major threats to the collection (mainly fire, structural issues, floods and leaks, security, mould and pest infestations). For your assessment, there will be three main sources of information: 1) qualified professionals, 2) institutional memory and 3) your visual observations.

Additional RE-ORG resources

Want to take this even further? If you are interested in doing a more in-depth building survey that provides a suggested path around the site, the building exterior, the collection storage rooms and the non-collection rooms in order to identify further issues, see **Resource 1 – *Building Survey***.

Online resources (external links)

- Fire Risk Assessment for Collections in Museums
- Automatic Sprinkler Systems for Museums - CCI Notes 2/8
- Fire Protection Issues for Historic Buildings - CCI Notes 2/6
- Security in Museums, Archives and Libraries – A Practical Guide
- Agent of Deterioration: Thieves and Vandals
- Detecting Infestations: Facility Inspection Procedure and Checklist - CCI Notes 3/2
- Agent of Deterioration: Pests
- Agent of Deterioration: Water

3. Assess the storage furniture

Having sufficient storage furniture that is well-adapted to the types of objects is essential to a functional storage room that offers adequate protection for the collection.

Using **Worksheet 4**, assess the storage furniture from two perspectives: 1) space usage and 2) suitability for the collection. If your current units are too full, you will need extra units to deal with this overflow. After having completed this worksheet, you will be able to estimate how many extra units you need for this.

Because this worksheet is more complex than the ones you have seen so far, each column has been explained below. In the worksheet, column headings and cells along the bottom have been identified using letters.

Assessing the storage furniture © ICCROM

How to fill in Worksheet 4 (see Worksheet for examples of partially filled-in information)

a) **Unit type.** The most common unit types are listed (delete and add rows where needed). For “Racks” you can specify if they are wall racks or sliding racks. “Pallets” could also be substituted for wheeled platforms. Other unit types can be “Slotted shelving” for paintings, framed prints, etc.

b) **Unit ID.** It is common for museums that require a storage reorganization to have an incomplete or inexistent location system. Do not worry, we will address this later. For the time being, assign temporary location codes where needed and identify each unit and storage surface (shelf, drawer, rack). At this stage and for the physical reorganization, we recommend using a temporary system that is different from the final system you will create in Phase 4. So, for now, use numbers for the storage surfaces and letters for the units (e.g. Unit C, has shelves 1, 2, 3, 4). Use pieces of cardboard and a marker to create your labels and apply them to your units and surfaces with tape. Take a picture of each unit with the codes clearly visible (doors open if it is a cupboard) to create a reference book of your units and their contents before the reorganization.

c) **Height / Length / Depth.** Be sure to use the same unit of measurement throughout your RE-ORG, whether it is inches, centimetres, feet or metres.

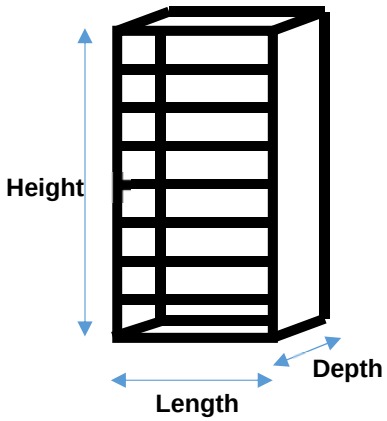
d) **Unit footprint.** This is how much floor space each unit occupies on the floor. For this column, multiply Length x Depth, for each unit.

e) **Number of surfaces.** This is how many shelves there are in the unit, or for a rack, how many sides (i.e. wall racks have 1 side; sliding racks have 2 sides). For a pallet or a wheeled platform, the number of surfaces is typically 1, unless it has built-in shelving.

Assigning temporary storage locations when there are none, or when they are insufficient © ICCROM

Calculating floor space occupation © ICCROM

Counting storage surfaces © ICCROM



Measuring storage unit dimensions

f) **Storage surface offered.** This is how much surface is offered by each unit (assume they are empty at this stage). Multiply the Unit footprint (*d*) by the Number of surfaces (*e*). Once you have completed your reorganization, you can compare your initial storage surface with the one you have after your reorganization (e.g. "We had 53 m^2 of storage surface and we increased it by 78 %"). These figures are very powerful to communicate results to those who are supporting your project.

g) **Unit fullness.** To estimate unit fullness (%), imagine that the unit is well organized and optimized for good access to collections (i.e. a maximum of two objects moved to retrieve another). Only consider collection objects when estimating unit fullness, as you will be removing non-collection items later.

Additional RE-ORG resources

The first time you estimate unit fullness may seem challenging. Do not worry… Once you have done a few units, you will soon become an expert. Refer to **Resource 3 - *"How full are my storage units" exercise***. Do not worry about being extra precise – this is not an exact science.

To record the unit fullness as you go, try working with a storage furniture plan on which you write the percentage of fullness of each unit (see image on right).

h) **Keep as is / Keep and modify / Donate or discard.** These final columns require that you evaluate each unit and make suggestions about what to do with them.

• ***Keep as is:*** The unit is in good condition, it is structurally sound, it is made from materials that are not actively deteriorating (corrosion, rot, or insect damage) and that are "safe" for the collection (see additional resources below). The unit is also appropriate for the types of objects it houses (e.g. a rolled textile unit is appropriate for textiles that can be rolled; a drawer cabinet is appropriate for smaller objects that could otherwise be misplaced or lost). Finally, the unit allows you to maximize space usage (e.g. adjustable shelves, extendible height).

• ***Keep and modify:*** The unit is in good condition and is structurally sound, but may need some creative solutions or adaptations to make it more space efficient (e.g. adding more shelves, replacing the risers with longer ones), or to improve its appropriateness for the collection.

• ***Donate or discard****:* The unit is beyond repair, it is not structurally sound or is completely inappropriate for the collection.

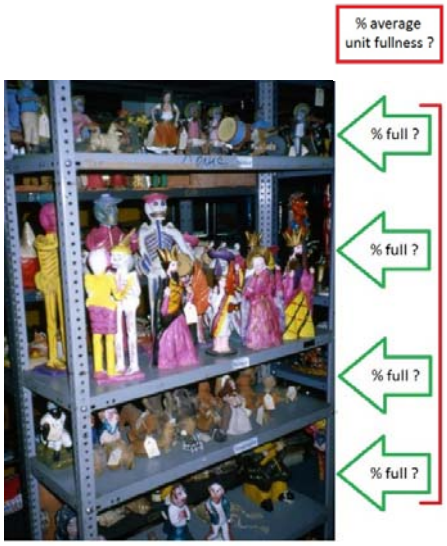
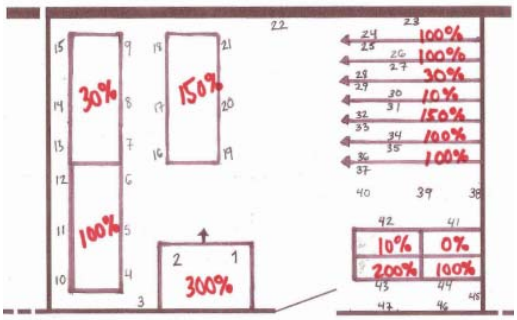


Illustration of the concept of unit fullness. You estimate the fullness of each shelf or surface visually, then, you calculate the average. Soon, you will get the hang of it and you will be able estimate the average fullness of a unit simply by looking at it.
© ICCROM



Use a quick sketch of the furniture layout to record unit fullness

Keep and modify. An example of what can be done to modify basic storage shelving to improve space efficiency. An extra shelf was added in between the existing shelves.
Images courtesy of Museum on Tower Hill, Canada

i) **Grand total: Unit footprint.** Add up all the totals for each unit type. This will tell you how much floor space your units occupy (i.e. their footprint). You will be using this figure later on.

j) **Grand total: Storage surface offered.** Add up all the totals for each unit type. This is the total storage surface you currently have to store your collection. Imagine that you disassembled all of your units and lay the shelves on the floor side-by-side: this is what this figure tells you. You will be using this figure later on.

k) **Grand total: Unit fullness.** Actually, this is not a total but an average. You must add all the values in this column (e.g. 100+100+200+150+25+80) and divide by the number of values (in this example, which is only for a few units, you would divide by 6). So, 655 / 6 = 109%. This means that the average unit fullness is 109%. You will be using this figure later on.

Additional RE-ORG resources

What materials are "safe" for the collection? This concern stems mostly from acid offgassing from products and their interaction with collection objects.

See **Resource 4 - *Products and materials for storage*** for more information.

For storage furniture terminology, refer to **Resource 18 - *Visual reference guide for storage furniture***

Keep and modify. A standard metal shelving unit converted for the storage of long objects.

4. Calculate the floor space occupation by units (%)

In Phase 2, step 2, you calculated the total storage floor space (**Worksheet 3**). In Phase 2, step 3, you calculated your Total unit footprint (**Worksheet 4**: column *j*).

Now, you must divide the total unit footprint by the total storage floor space. This will tell you what percentage of floor space is currently occupied by units (e.g. 61 m^2 of units ÷ 100 m^2 of storage floor space= **61% floor space occupation by units**). This value will indicate whether you can further optimize the use of floor space.

Although we strongly advise that other storage support functions (e.g. research, quarantine, documentation, collections preparation, etc.) be set up outside of storage to maximize the space available for the collection, in some cases, this may be impossible. If this is your case, remove any unusable space from your Total storage floor space. So, for example, if you have a 100 m^2 storage space with a working area that occupies 3 m^2, the usable floor space is actually 97 m^2.

“The 50% rule”: using floor space efficiently

Based on the percentage you obtain, several conclusions can be drawn:

- If you obtained **about 50%**, then you are probably using your floor space pretty well.
- If you obtained **50% or less**, there may be opportunities for you to add extra units in the space.
- If you obtained much **more than 50%**, more floor space may be required to maintain safe access to collections.

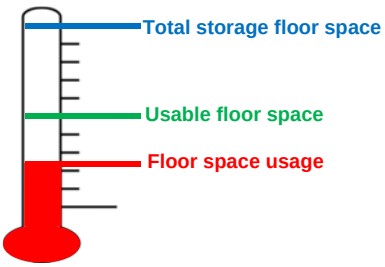
This is a very quick judgement based on the principle that on average, you can expect to fill a room to about 50% with storage furniture and still maintain adequate circulation space. This works if your storage rooms contain fixed storage units only (no mobile shelving).

Additional RE-ORG resources

Are you interested in knowing what options are available if you are above or below the 50% mark? Take a look at **Resource 5 - *50% rule options.***

Can you subdivide your storage room into sections that have the same types of units, or do you only have one kind of unit (e.g. only pallets, only shelving, only drawer cabinets)? In either case, you may be able to be slightly more precise than the “50% rule” by using **Resource 6 - *Maximum floor space occupation by unit type*** to find out the maximum floor space that your unit type(s) can occupy. Based on the floor space occupation by units that you previously obtained (%), you can determine: if you can add more units, if you are already using your floor space efficiently, or if there is some overcrowding.

For example, if you have compact shelving (high-density storage) and obtained a 63% floor space occupation by units, the “50% rule” says that you are using your space very well, and that you are potentially “over-using” your space. However, If you look at **Resource 6 - *Maximum floor space occupation by unit type*** guideline, you will see that you could use up to about 80% of the floor space with compact shelving, so there may be opportunities to maximize space usage even more. To be exact, with a floor space occupation by units of 63%, you are using about 79% of the usable floor space (“79% floor space usage”). How did we calculate this? Divide your floor space occupation by units (63%) by the appropriate maximum floor space occupation (80%) and multiply by 100. Floor space usage is a measure of how well you are using the usable floor space.



An illustration of the concept of floor space usage

If you would like to calculate the overall fullness of your storage room, which involves a few more calculations but can be a very powerful metric to communicate with those who are supporting your project, see **Resource 9 - *Guesstimate storage fullness.***

5. Remove non-collection and rubbish

In some cases, it may be possible to remove non-collection items and rubbish, even in Phase 2. The benefit of doing this early on is that you will see how much space can be freed up by removing this material. You will be able to circulate more easily and will have better visibility of your collection.

When is removing non-collection items and rubbish most useful? In some museums, it is impossible to get from one end of the storage room to the other because the space is so overcrowded. You should identify a permanent alternative storage space for your non-collection items and make arrangements for the removal of rubbish.

If you find objects that are actively infested with pests or mould at this stage, bag them, isolate them away from the rest of the collection, and make a list of them.

Be mindful of health and safety when handling unknown objects (see warning in Step 1).

It may be surprising to see how much material is taking up valuable collections space © ICCROM

Rubbish removed from storage
Image courtesy of Brant Museum and Archives, Canada

6. Assess administrative framework and management

Disorganized storage can sometimes be traced back to a poorly defined administrative framework, or incomplete or unclear policies and procedures. RE-ORG is an opportunity for you to make concrete proposals to rectify the situation.

Use **Worksheet 5** to take a closer look at various aspects of management.

This is not a full review of the museum's management. The scope of this exercise is limited to the minimum requirements for functional storage.

Non-collection items removed from storage
© ICCROM

Assessing policies and procedures © ICCROM

7. Analyse the collection

Having baseline information about collection object types, quantities, sizes and specific needs will help you make informed choices about storage furniture needs. An issue that at first may have seemed crucial to you may only be affecting a small number of objects, making it manageable with a custom, small-scale solution. Conversely, an issue that you thought was not so important may be affecting a large portion of your collection and may require more effort than you thought.

The information you will be collecting in this step will be useful:

- to estimate how many extra units you need to house objects that are not currently housed in units (e.g. on the floor);
- to analyse whether objects could be regrouped to use space more efficiently.

Use **Worksheet 6** to analyse your collection. This worksheet is based on a knowledge of the **12 object categories**, which is a framework to help you classify your objects according to handling and storage requirements.

A collections analysis exercise for a RE-ORG workshop. A simplified version of Worksheet 6B was used here. Note that in this case there were three rooms, and objects NOT in units were identified with "(GROUND)". Three teams worked simultaneously on each of the three rooms and wrote their results on this flip chart paper.

The 12 object categories

1 - **Extra heavy or voluminous** objects, difficult to manipulate
2 - **Extra-long** objects, not self-supporting (over 2 m / 6 ft)
3 - **Very heavy** objects, self-supporting, requiring 2 people to manipulate (over 30 kg / 70 lbs)
4 - **Long** objects, not self-supporting (under 2 m / 7 ft)
5 - **Heavy** objects, self-supporting, can be carried by one person using equipment (10-30 kg / 20-70 lbs)
6 - **Light** self-supporting objects that can be carried by one person, with two hands (0.5-10 kg / 1-20 lbs)
7 - **Small** objects that can be held in one hand
8 - **"3-D" textiles**
9 - Objects that should be stored **flat**
10 - Objects that can be **rolled**
11 - **Small 2-D** objects (under 50 cm / 1.5 ft)
12 - **Large 2-D** objects (over 50 cm / 1.5 ft)

For RE-ORG, classifying your objects using the **12 categories** is more useful than using the classification you may be accustomed to (e.g. by object type) because it focuses on how you will store them.

Additional RE-ORG resources

Not sure how your object types can be converted into these **12 categories**? **Resource 10 - *The 12 object categories*** provides examples of typical object types that can be found in each category.

How to fill in Worksheet 6 (see Worksheet for examples of partially filled-in information).

Worksheet 6 is has three parts: A, B and C. You may not need to fill out all three parts.

6A: Use this worksheet only if you need to see on paper how various objects within a given storage room can be regrouped. Some will be able to do this mentally. This worksheet may be helpful if you have several storage rooms where, over time, objects have been stored wherever space was available: objects are not grouped by size at all; you are feeling overwhelmed and you need to go through this systematically. Using this worksheet means that you will itemize the contents of individual units (using the **12 object categories**). You will need one copy of the worksheet per storage room.

6B: If you have more than one storage room, this is the worksheet you will use to compile the results of all your 6A worksheets. If you feel confident about imagining how you could regroup objects according to the **12 categories**, skip 6A and focus on 6B only. Instead of surveying the contents of every storage unit, you will only be looking at the contents of entire rooms. 6B highlights how objects of the same category are dispersed throughout several storage rooms and could be regrouped to maximize space usage. 6B also highlights the number of objects of each category that are not currently in units; this will help you estimate how many extra units you need to store them adequately.

a) **Object type.** Use the object categories that you are accustomed to (i.e. paintings, textiles, books, metals, etc.).

b) **Object category.** Use the 12 object categories list to classify object types according to handling and storage requirements. Please note that if within one category (e.g. Category 9), objects can be further subdivided by size (e.g. large, medium, small), please do so, as this will facilitate the regrouping of objects later on.

c) **Inside storage rooms.** Indicate how many objects of each category can be found *IN a unit* and *NOT in a unit*, either for specific storage rooms (if you use 6A) or throughout all the storage rooms (if you use 6B).

d) **Outside storage rooms.** Apart from those on display, **i**ndicate the number of objects that are found outside the storage room (i.e. that must return to storage).

e) **Total number of objects (IN a unit).** Add up the number of objects that are in a unit, row by row.

f) **Total number of objects (NOT in a unit).** Add up the number of objects that are NOT in a unit (e.g. on the floor), row by row.

g) **TOTALS.** Add up the numbers in each column.

Counting the number of each object type

6C: This worksheet will help you identify objects in your collection that may have special requirements (other than those of the **12 categories**). Some of these requirements may have an impact on space or equipment needs, so it is useful to identify these early on.

For example, objects that are valuable to thieves may require special security measures (containment in locked drawers, in a safe, etc.). In terms of value to the institution, ask yourself the following question: if there was a major disaster and you could only go back into the building long enough to save the most valuable objects, which ones would they be? These are not necessarily the same ones as those most valuable to thieves.

Knowing where the value lies in your collection is the first step to making strategic decisions about where you should be investing your resources. If your most valuable objects are also your most vulnerable objects, those that are actively deteriorating, or those for which you do not have an adequate storage solution, then it may be a priority for your institution to address these issues.

Information about the value of your collection is something you do not want to make public.

Objects NOT in a unit: stored in a hallway outside the designated collection storage room © ICCROM

Objects NOT in a unit: stored inside other artifacts © ICCROM

8. Evaluate the documentation system

A functional documentation system and regular inventory checks are absolutely essential to ensure that objects can be retrieved in a timely manner and that the collection can be used to its full potential for research, learning and enjoyment. Documentation upgrades are among the tasks that may only occur after your physical reorganization is complete, but it is useful to capture the main issues at this stage in your Condition Report.

Use **Worksheet 7** to evaluate the key components of your documentation system. Keep in mind that your full system may also include other components. For example, if utilizing a paper-based system, you may have various sets of index cards (by material, by object type, by origin, etc.). Other components of a documentation system may also be object information files and catalogues. Although these additional components are essential, they are not part of this evaluation because they do not directly impact object retrieval, as is the case for the first key components.

9. Evaluate the small equipment

Having the right equipment, and in sufficient quantities, is essential for a functional storage room. What you need depends on your specific context. Use **Worksheet 8** to assess your small equipment. Various types of equipment that you may need to work with your collection have been listed – but you will likely not need all of it.

Additional RE-ORG resources

Object housing

A reorganization project is a good opportunity to recommend improvements to object housing, but keep in mind that these may be mid- to long-term improvements depending on your resources. Remember that RE-ORG will not fix all your storage problems, but it will put you in a better position to make further improvements to collections care. Use the "Evaluation" box at the bottom of **Worksheet 8** to highlight additional issues you identify.

Containers and boxes. Looking around in your storage room(s), do you find that the smallest, most fragile or easily misplaced objects are currently stored either in containers or boxes? Are paper documents, photographs or negatives stored in boxes? Are there any objects that could benefit from being stored in a container to protect them from light, dust, loss or other types of damage? Are any of these containers visibly damaging the objects (i.e. boxes not strong enough to hold their own weight or to support the objects)? Are mismatched boxes reducing the efficiency of space usage?

Supports and mounts. Looking around in your storage room(s), do you find that objects susceptible to gravity deformation over time (e.g. objects made of skin, leather or fabric) are currently supported by mounts? Are these mounts in stable condition (i.e. not powdery, sticky or brittle)?

Padding. Looking around in your storage room(s), do you find that objects that are susceptible to abrasion or slippage on shelves or in drawers are adequately protected by a padded storage surface? If paintings or other framed works are stored on shelves, are these padded?

For small equipment terminology, refer to **Resource 19 - *Visual reference guide for small equipment***

Containers, boxes, mounts and padding © ICCROM

10. Write your condition report and present it to management

Use the suggested template (**Worksheet 9**) to prepare your condition report. Attach the following as appendices:

- ☐ Worksheets 1-8
- ☐ Floor plans 2-4
- ☐ Relevant photographic documentation

Present your report to your management for approval to continue to Phase 3.

Phase 3

Storage Action Plan

OBJECTIVE

Develop a plan for the implementation of your storage reorganization project, which will address all the key issues identified in your Condition Report and minimize the likelihood of further issues developing in the future. You will likely need to focus on the physical reorganization to improve access to collections before you can tackle other mid-term improvements. In almost all cases, the basic principles for the optimization of space are the following:

- Find solutions for outliers
- Regroup objects by similar types and sizes
- Maximize the use of floor space and of room height
- Use all available storage surfaces

☑ CHECKLIST

- ☐ 1. Define a storage solution for outliers
- ☐ 2. Define your storage unit needs
- ☐ 3. Draw the proposed storage layout (plan 5)
- ☐ 4. Define your small equipment needs
- ☐ 5. Revise your list of tools and materials for the implementation
- ☐ 6. Convert issues into tasks
- ☐ 7. Create a comprehensive project chart
- ☐ 8. Prepare your project budget
- ☐ 9. Identify obstacles and solutions
- ☐ 10. Obtain management approval

HOW TO PROCEED

1. Define a storage solution for outliers

The term “outliers” refers to objects that are non-standard (i.e. whose requirements are different than most of the collection). In many cases, the outliers will be those that are currently NOT in a unit (see **Worksheet 6**) because they are more awkward and often end up on the floor as a “temporary” measure. In this step, you will find a solution for these objects and use **Worksheet 10** to note this down. There are three main types of outliers:

1) **Objects requiring a custom storage solution.** These are usually:
   - **Extra heavy or voluminous** (Category 1)
   - **Extra-long** (Category 2)
   - **Very heavy** (Category 3)
   - **Long** (Category 4)

   They may be blocking access to your aisles or to storage units (e.g. large sculptures, agricultural implements, carvings, oversized paintings etc.).
2) **Unprocessed objects.** These can be recent acquisitions (e.g. a large number of boxes containing books or newspapers), or objects that may require custom storage solutions but have not yet been dealt with.
3) **Objects with special needs**. These are the objects that have special legal requirements (e.g. locked cabinets), objects with health and safety concerns (e.g. radioactive collections, taxidermy specimens), objects that are culturally sensitive and that require a special arrangement (e.g. restricted closed room, special type of shelving or covers), objects with special curatorial restrictions (e.g. all objects from a certain collection must be kept together), or objects that are especially vulnerable.

Outliers require special solutions © ICCROM

Additional RE-ORG resources

Use **Resource 10 - *The 12 object categories*** to identify solutions for these outliers.

Dealing with outliers first will make it easier for you to focus on the rest of your collection (most of your objects). Often, only a handful of objects have special storage needs, while the rest will be fine in a standard storage solution (i.e. shelving, cupboards, drawers, racks).

Online resources (external links)

- Collection Storage Tips & Tricks (RE-ORG)
- Storage Techniques for Art, Science and History (STASH)

2. Define your storage unit needs

Determining storage unit needs is a team effort © ICCROM

In Phase 2, you estimated the amount of extra units required:

- to accommodate objects found in overcrowded units (**Worksheet 4**);
- to accommodate objects that are currently not stored in a unit (**Worksheet 6**).

In Step 1 of phase 3, you found solutions for outliers. Now, you will find solutions for "standard" objects (i.e. those that will require a more common solution such as drawers, cabinets, shelving, or racks).

Worksheets 6A and 6B should highlight opportunities for regrouping objects by category in two different ways:

- **Regroup across units (6A).** Ensuring that you regroup objects of the same categories (i.e. same requirements for handling and storage) within the same storage units will result in significant savings in space inside the units.
- **Regroup across rooms (6B)**. If you have more than one storage room, ensuring that you regroup objects by category within the same rooms will result in an efficient use of floor space and of room height.

Review your estimations from Phase 2 and fill in **Worksheet 10.** This may take some time, and several discussions with your team.

Remember that you do not need to buy new storage units. Consider adapting existing units, recycling other types of furniture, or building your own.

Additional RE-ORG resources

If you need help to visualize the regrouping of objects, you might try ***Resource 11 - Virtually reorganize your space using a visual approach***. Even if you are comfortable with space estimations, you may find it useful for the more difficult or challenging problems.

3. Draw the proposed storage layout (plan 5)

Will you be keeping your stored collection in the same room? Will you be regrouping the collection across rooms? Have you decided to move the collection to a different room? Have you decided to expand the storage room into a nearby room?

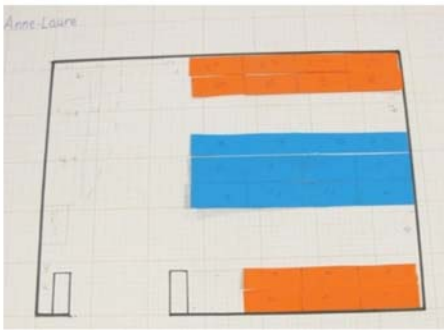
With your team, develop one or several proposals for the layout of storage units in your various storage rooms. This will help you understand if all the units you need (identified in **Worksheet 10**), and those that you already have and will be reusing, will fit in your space. You will also be able to play with different arrangements for better functionality and ease of access.

You can do this using paper cutouts (sized to scale) on graph paper, or specialized software (see Phase 2, Step 1).

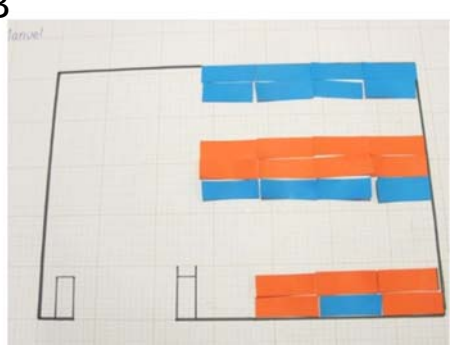
Finally, transcribe the chosen proposal on an empty floor plan. This will be Plan 6 (one per storage room).

Keep in mind that the aisles should be wide enough to allow staff to work safely without injuring themselves or objects. In some countries, regions or municipalities, building or fire codes, or health and safety regulations will specify a required aisle width. So check if there are any such regulations in your area. If not, you will have to define aisle width yourself based on the size and weight of the objects, and the type of equipment required for handling (trolley, pallet truck, forklift, etc.). Some say 80 cm (2.5 ft) is a good aisle width for smaller objects that can be retrieved by one person and that 100 cm (3 ft) is a good aisle width for larger or heavier objects that must be retrieved by two people. You should test it out to see if this works for you and your staff. When specialized equipment such as a forklift is required, then there are usually very specific aisle width requirements.

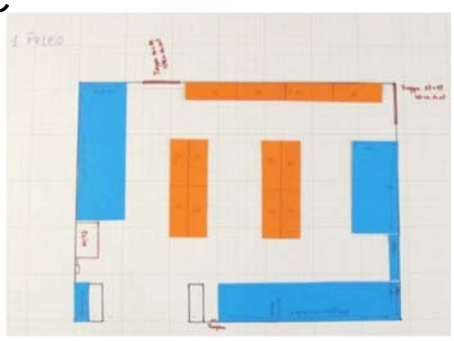
A



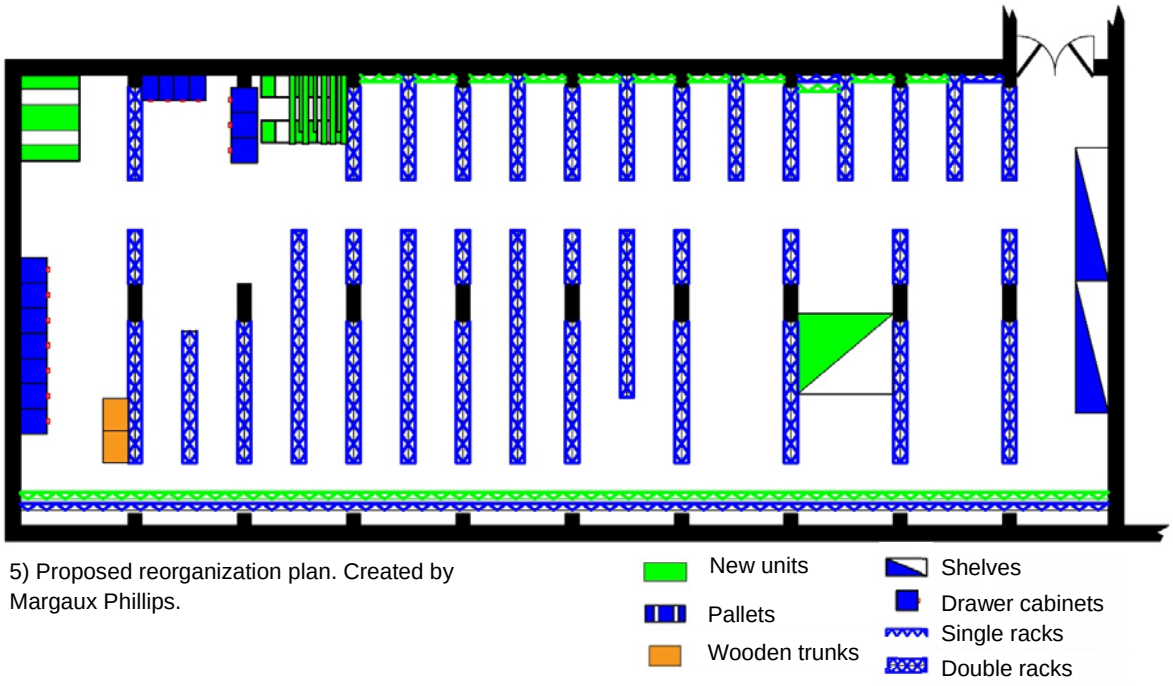
B



C



Three different proposals for the same space. In the end, proposal “A” was selected because it was easier to implement given the available resources.



5) Proposed reorganization plan. Created by Margaux Phillips.

Tips for creating a space-efficient layout

- Design your fixed shelving aisles by placing two rows of units back-to-back to reduce the amount of wasted floor space, while maintaining access to objects from either side.
- If you have several drawer cabinets, try placing them so that they face each other as they open to maximize use out of the aisle space.
- Keep similar unit types together instead of having them dispersed (i.e. all drawer cabinets together, all fixed shelving together, all compact shelving together, all pallets or rolling platforms together). This will happen naturally when you regroup objects by category.
- Avoid creating very wide aisles if there is no good reason to do so. If this is unavoidable because of columns or other obstacles, find ways to use the centre of the aisle space for some kind of mobile storage solution (e.g. rolling platforms for larger objects).
- Use all available vertical surfaces: build shelves or racks above storage units (as high as the fire safety regulations will allow); build custom shelves to fill the space in odd-shaped corners.
- Use all available floor space. In narrow rooms, find a way to use corners.
- Remove all non-collection items from the space.
- Can you think of other ideas?

Similar unit types can be grouped together to use floor space more efficiently © ICCROM

By locating drawer cabinets face-to-face, aisle space can be used more efficiently © ICCROM

Additional RE-ORG resources

What about collection growth?

Some of you may be wondering how to account for the growing collection in your space planning. There are a few ways to do this, but be cautious about methods that appear to be very precise, as this is not an exact science, unless, of course, you can anticipate exactly how many objects of which type will be acquired in the years to come (e.g. over the next 10 years)… But in all honesty, who can do this? We will look at two main methods: "approximate method" and "floor space method". Consult **Resource 17 - *Accounting for collection growth.***

Spend the time you need to develop your proposed storage layout with your team © ICCROM

4. Define your small equipment needs

Based on your evaluation of the small equipment in **Worksheet 8**, decide what small equipment is missing and prepare a list of what you need in **Worksheet 10.**

Having the right small equipment (e.g. carts, trays) will make your reorganization (and working with collections in the future) much safer © ICCROM

5. Revise your list of tools and materials for the implementation

Based on your initial list of required tools and materials for the implementation in **Worksheet 2**, make the necessary adjustments.

6. Convert issues into tasks

In your Condition Report, you listed several issues that you would like to address as part of your reorganization project. In preparation for step 7 (Comprehensive Project Chart), you must be able to identify the tasks that are required to correct these issues.

Additional RE-ORG resources

If you are wondering how to begin, refer to **Resource 12 – *Issue analysis***. You may not need to analyze each task in this way, but this method can help to stimulate discussions with your team.

7. Create a comprehensive project chart

The comprehensive project chart includes all the tasks required to resolve the full list of issues you included in your Storage Condition Report. You will not be addressing all these issues during your physical reorganization, but it will be helpful to identify these for mid- to long-term planning.

This chart is different from the one you will be using with your team during the physical reorganization ("RE-ORG tracking chart"), which will be focused on what will be accomplished over a period of a few days or weeks.

Additional RE-ORG resources

If you need help creating your chart, refer to **Resource 13 - *Creating a comprehensive project chart.***

Online resources (external links)

Creating a Gantt chart

- Instructions and template for Excel

Creating a project budget

- Budget template for Excel 1
- Budget template for Excel 2

8. Prepare your project budget

Once you have completed your Comprehensive Project Chart, you will be able to prepare the budget for your project. It should include all income and expenses (e.g. materials, equipment, and external human resources and major capital).

A team preparing the project budget using the Comprehensive Project Chart

9. Identify obstacles and solutions

Examine your project as you have planned it and try to imagine what could go wrong, what effect this would have, and how you could adapt to overcome these challenges.

10. Obtain management approval

Obtain approval for your plan and budget in order to proceed to Phase 4.

Phase 4

Implementation

OBJECTIVE

With your approved RE-ORG action plan, reorganize your storage room(s), remaining within your pre-established timeframe and budget.

You will have to organize your team, assign tasks, and monitor the progress of your project. There is no set path: how you achieve your results will depend entirely on how you structure your project and on your desired outcomes.

As previously mentioned, the first part of your implementation will be the physical reorganization. For this part, we strongly recommend dividing your team into smaller teams that will be responsible for accomplishing a certain number of well-defined tasks.

☑ CHECKLIST

- ☐ 1. Define training needs
- ☐ 2. Prepare the project workspaces
- ☐ 3. Purchase all equipment and materials
- ☐ 4. Create your RE-ORG tracking chart
- ☐ 5. Ensure that everyone is able to work safely
- ☐ 6. Begin the physical reorganization
- ☐ 7. Celebrate!
- ☐ 8. Address the other issues highlighted in your Condition Report
- ☐ 9. Complete the project documentation: self-evaluation, photos, plans
- ☐ 10. Share your experience with others

HOW TO PROCEED

1. Define training needs

Some people on your physical reorganization team may not be so familiar with museum work, or with the way things are done in your institution. Apart from a general orientation of the premises and a briefing on the rules and regulations for storage, it is important to set aside some time to train those who need training. Common training needs may cover:

- Object handling and cleaning
- Box or mount making
- Documentation procedures

Temporary storage for collections © ICCROM

2. Prepare the project workspaces

In Phase 1, you defined three separate spaces: Common area, Temporary storage room (or swing space), and Temporary workshop. The time has come to get these spaces ready.

3. Purchase all equipment and materials

Purchase everything required to implement the physical reorganization including materials, small equipment and storage units. Organize your materials in such a way that allows several people working simultaneously to find them easily (see suggested placement of materials in Phase 1).

Table with materials © ICCROM

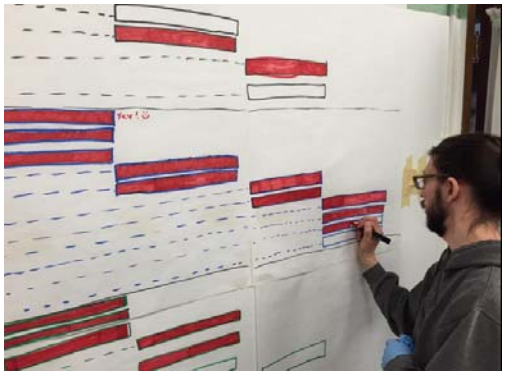
4. Create your RE-ORG tracking chart

Your Comprehensive Project Chart likely includes a number of tasks that will go on for several months or years. During the physical reorganization, you will need some mechanism to ensure that everyone knows what they are supposed to do at all times, and the goal they are working towards.

The RE-ORG tracking chart is a communication tool that can help you keep your physical reorganization running smoothly. Its purpose is to provide direction, to motivate your team, to allow everyone to see the progress of other teams and where they could step in to help.

Additional RE-ORG resources

See **Resource 14 - *Simple steps to creating a RE-ORG tracking chart*** for some suggestions on where to begin. This tool has been used in several RE-ORG workshops in the past with great success. It makes everyone responsible for monitoring the progress.



RE-ORG tracking chart
Image courtesy of Brant Museum and Archives, Canada

5. Ensure that everyone is able to work safely

A museum undergoing a storage reorganization can be like a construction site. However, because this is your everyday workplace, you may tend to underestimate the risks. Large, heavy objects may need to be moved, or the air may be dusty or mouldy. Identify potential hazards and protect yourself from them at all times using Personal Protective Equipment (PPE). Always take your time, and do not engage in activities that could put you or your team members at risk.

The storage reorganization process may lead you to discover previously undetected mould or pest infestations. In both cases, it is advisable to bag and isolate the affected collections, and deal with them as soon as possible.

© ICCROM

Online resources (external links)

- Personal protective equipment (PPE)
- Agents of deterioration: Pests
- Mould Outbreak – An Immediate Response

Image courtesy of Brant Museum and Archives, Canada

Personal protective equipment (PPE)

6. Begin the physical reorganization

Depending on your specific situation, this may involve:

- Removing the collection from the storage room in part or in whole. Sometimes, it is easier to move all objects into the temporary storage room or swing space and to begin with an empty room.
- Regrouping objects by type and by size.
- Checking object accession numbers against an existing accession register or object list.
- Removing all non-collection materials (either discarding or relocating).
- Creating new mounts, boxes or padding.
- Adapting, building and / or installing storage units.
- Cleaning the storage room thoroughly, checking for signs of pest or mould presence.
- (Re)numbering storage locations.
- Returning objects into storage.
- Recording new object locations.
- Other?

Upgrading object padding for fragile objects, during the implementation © ICCROM

Document the process extensively. Take a lot of pictures and if possible, try making a video of the process. You will find these useful when sharing your project and experience with management and colleagues.

Additional RE-ORG resources

Throughout the reorganization, it is important to keep track of object locations if there is an existing functioning location system in place. If there is no location system in place, you may save yourself some time by dealing with object locations only after the physical reorganization by creating an entirely new system. That being said, some reorganizations can be chaotic (many people working at the same time) and it may be reassuring to managers if object locations are tracked throughout the process. For suggestions on how to do this, use ***Resource 15 - Keeping track of object locations*.**

Objects that cannot be found in storage are as good as lost. Having a clear and user friendly location system will enable anyone to retrieve objects within the desired timeframe using the documentation system (collection database or card catalogue). For a suggested system, see ***Resource 16 - Creating a simple location system.*** Contrary to the temporary system suggested in Phase 2, this is intended to be your final location system.

Storage reorganization implementation © ICCROM

7. Celebrate!

Congratulations! You have completed your physical reorganization and this is quite an accomplishment. You should celebrate this moment with all your team members and with those who have supported your project.

Keeping track of original object locations during the reorganization © ICCROM

8. Address the other issues highlighted in your Condition Report

Perhaps your Condition Report highlighted other issues that could not be addressed first, but are still some of the root causes underlying your previously disorganized storage room. To ensure that order is maintained, that your collection remains accessible over time, and that its conservation conditions are optimized, it is important to correct those issues as well. These should be added to your Comprehensive Project Chart.

A new location system allowing objects to be retrieved in under 3 minutes © ICCROM

9. Complete the project documentation: self-evaluation, photos, plans

One of the many uses of the RE-ORG self-evaluation is to represent where you started and where you ended up. Management will appreciate the measurable demonstration of the improvements you made. For your reports, presentations and records, it is important to take photos of the storage room(s) after the reorganization and to update plan 5 (if necessary) to reflect the current situation.

Interviews with the media © ICCROM

10. Share your experience with others

One of the most obvious audiences to share your results with may be management and funding bodies, but it should not stop there. Storage reorganization gets museum professionals really excited, as many suffer from similar situations and do not know where to start. Now that you have gone through the process, it is up to you, as a member of the RE-ORG family and of the international RE-ORG network, to share your experience with your staff, with colleagues from other institutions, at conferences, in your local newspaper, in interviews, etc.

We want to hear from you and see your BEFORE and AFTER photos!

- “Like” RE-ORG International on Facebook
- Follow RE-ORG on Twitter:@REORG_storage

Join the many successful RE-ORG teams around the world!

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