

Building a Low Cost Archives in the Tropics: Specification and Description

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Building a Low Cost Archives in the Tropics - May 2003

Pacific Regional Branch of the International Council on Archives

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EXECUTIVE SUMMARY

This document outlines the requirements for a small archival building, located in the tropics, that would be used to store and preserve valuable archival records. Such buildings can be quite expensive to construct and maintain, and it is recognised that many institutions do not have the funds to acquire a 'state of the art' facility.

The following brief aims to illustrate the key requirements for building an archival facility, while keeping the costs as low as possible.

The building described in this brief is approximately 384 square metres in size, of which the repository would be about 224 square metres.

A design brief and possible layout for a small archival building are included in the attachments.

1. INTRODUCTION

A records repository exists to preserve and protect the records stored within it. But it must also provide a safe and comfortable working environment for staff and include facilities to allow researchers to access these valuable records.

The environmental conditions within the building, particularly the storage area, need to be appropriate to preserve the archives and to protect them from environmental extremes. This is especially the case for buildings located in tropical regions.

Establishing and maintaining a repository in the tropics with environmental conditions appropriate for long-term record preservation can be an expensive process, one that is often beyond the financial means of some institutions. This document describes the construction of a small concrete masonry building that should meet the aims and needs of most institutions.

In tropical environments a building has to protect the records stored within it from the effects of:

- high temperature and relative humidity levels;
- high rainfall levels;
- cyclones (also known as hurricanes or typhoons), storms and lightning strikes;
- salty, sea air; and
- pest infestations.

2. SITE SELECTION AND PREPARATION

Regardless of the type of construction and the size of the building, the site chosen for an archives repository should always be reasonably level, with good drainage so that water flows away quickly. The repository should not be located next to watercourses that are likely to flood, nor should it be located near stormwater drains.

If the repository is to be located on or near a coastal site, it should be placed as far from the shoreline as possible. In such locations, elevating the building will provide some protection against a king tide, a storm surge that can follow in the aftermath of a cyclone, or a tsunami that could follow an earthquake offshore.

The site should be thoroughly inspected for any evidence of pests (particularly termites) and should be treated appropriately before construction begins. Any vegetation, including tree stumps, should be removed and the site should be kept free of vegetation at all times. Ideally, the area immediately surrounding the building should be paved or concreted.

The site should be secured by erecting chain wire fencing at least 2 metres (6–7 feet) high, topped with barbed wire or razor ribbon. To provide greater security the

bottom of the fencing could be set in concrete to prevent feral animals burrowing underneath. Lockable double chain wire gates should be included to allow vehicle access.

Again, it should be remembered that the site is housing valuable archives and should be treated accordingly. The site should give every indication that it is a dedicated records storage facility. Thus the area around the repository building should be cleared and suitable signs erected giving appropriate information and contact details.

The site should be landscaped, although flowering plants likely to attract insects should be kept to a minimum as they can cause pest infestations either inside or outside the building.

A designated parking area should be provided for staff and visitors to the building.

3. THE FABRIC OF THE BUILDING

To reduce the impact from heat, the building should be located on an east-west axis and the smallest possible surface area should face the western afternoon sun.

If the building is located near the coast a layer of crushed coral should be laid to provide added protection against flooding. The layer should be at least 600 mm high and should extend 1,500 mm past the building's intended footprint (that is, past the exterior walls).

A raised concrete base should then be constructed over the coral layer. The base should be reinforced and laid over a waterproof membrane turned around the sides of the base. The membrane is often referred to as a moisture or vapour barrier and consists of a good quality plastic sheet lining that prevents moisture entering the storage area upwards through the floor.

The walls should be built with bricks (if available) or concrete blocks, the latter having better insulation properties. Timber should not be used, particularly in tropical environments, as it is prone to attack by termites and highly susceptible to fire. The exterior walls should be rendered and painted with a light colour paint to help reflect heat and improve water resistance. It is preferable that good quality paint be used. Interior walls should be painted too. In tropical areas a mould inhibitor should be added to the paint.

The roof should be made of *Colorbond*™ steel or similar material. *Colorbond*™ is treated steel, lightweight and strong, and is resistant to corrosion and hail. The roof should be pitched, at least 12° or more, for rapid rainwater run-off. Flat roofs should be avoided as they may allow water to collect in pools and subsequently enter the building. The eaves should overhang the walls by at least 600–900 mm (2–3 feet) to aid water run-off and reduce the impact of heat on the walls during summer.

The roof cavity should be sealed, and sarking with an insulation rating of R3 or greater should be installed within the cavity. Sarking is simply an insulation barrier.

If the building is located in a cyclone zone, it should be constructed to withstand potential wind of more than 300 kilometres (180 miles) per hour. Cyclone Zoë, which passed over the Solomon Islands in January 2003, had wind recordings of over 300 kilometres per hour.

Water from the roof and surface run-off must be directed away from the building as quickly as possible. Gutters are usually not required, as they are rarely large enough to accommodate tropical downpours. They also collect rubbish, such as leaves and twigs, and can be a maintenance problem. If roof gutters are used they should be of sufficient size to quickly remove the water. Rather than installing gutters, it is cheaper and more cost effective to ensure that there is a substantial roof overhang so that rainwater falls directly from the roof. However, the water should not be allowed to fall directly onto the ground and splash back against the walls of the building. Concrete paving, rock pits or gravel beds should be installed, or at the very least, ditches should be constructed around the building to carry the water away. The National Archives of Australia uses circular rock pits at its Darwin facility. Water falls from the roof into the pits and is drained away via underground channels. (See photo on page 15.)

The floors should be covered, preferably with vinyl sheeting or vinyl tiles. Carpet should only be used in public and staffing areas. It is not recommended in the storage area as it generally cannot sustain the wear and tear that vinyl can. Carpet also collects dust and can release small fibres. Bare concrete floors should also be avoided as they can give off contaminants that affect both records and people.

Ideally, there should be no windows or skylights in the storage area.

The principal entry point to the building should be located away from the direction from which the wind and storms normally come. The entry should be sheltered too. A reasonably sized porch or verandah is ideal.

Tight fitting external doors with good quality draught extrusion fittings should be fitted. These will help maintain stable environmental conditions inside the building and prevent the entry of dirt and dust.

4. THE REPOSITORY

The building's storage capacity should be able to accommodate existing record holdings, as well as anticipated annual growth rates for at least 10 years. In calculating capacities, remember to include records held by agencies that may require storage as soon as the new building has been completed.

All records should be boxed, preferably in archival quality containers. If they cannot be boxed they should be wrapped in paper (not newspaper). This will protect them

from major fluctuations in environmental conditions, and keep them free of any dirt and dust that may be in the area.

Records should always be placed on shelves, and never on the floor. It is preferable to use steel shelving, which has been treated to prevent corrosion. Wooden shelving should not be used as it may be susceptible to attack by termites, or damage by fire.

A storage area of approximately 240 square metres in size will hold about 2 kilometres of records if 8-high mobile shelving is used, about 1.76 kilometres of records if 7-high mobile shelving is used, and about 1.2 kilometres of records if 8-high static shelving is used. It must be remembered that while mobile shelving can hold more records than static shelving, the floor loading need to be far greater because of the greater weight.

5. WORK AREAS

A designated room or space should be set aside for records arrangement and description. In this area, staff can inspect records being transferred into the building to ensure there are no problems with pests or mould. They can also undertake repackaging, cleaning, sorting, listing and minor conservation tasks. The area should be provided with benches and large tables for sorting, and some static shelving to store the records when not in use.

A small store room should be provided to house empty boxes and office and other supplies.

6. STAFFING AREAS

An office should be provided for the director of the institution, and a designated area should be provided for assistant staff.

An amenities area should be provided for staff to have meals, as food and drink should not be permitted in or near the repository. Toilet and shower facilities should also be included.

7. PUBLIC AREAS

It is assumed that members of the public will wish to visit the building on a regular basis and undertake research, using the records held there. If this is the case a designated reading room and micrographics room should be provided. The reading room will enable researchers to access original items from the repository, while the micrographics room will house microfilm and microfiche copies of records. Some space should be allocated in the reading room for finding aids and guides to the collection. A large table will be needed for accessing map, plans and bulky volumes.

The latter need careful handling to protect their binding – a padded cushion will also help in this regard.

A small reception area is also very useful as it serves as the focal point for all visitors to the building. If funds allow, several wall mounted display cases can also be installed to display copies of items held in the repository.

Researchers will need assistance and supervision whilst accessing original records. This can be provided by the receptionist or a designated person based in or near the reading room.

8. MANAGING ENVIRONMENTAL CONDITIONS

Major environmental issues for record preservation in the tropics include extremes of temperature and relative humidity, and high levels of rainfall. Relative humidity levels can often remain well above 60% for prolonged periods. When this happens, mould spores are likely to become active and records will be adversely affected.

Ideally, the repository should have a temperature of 20° Celsius $\pm~2^{\circ}$ and a relative humidity level of $50\% \pm 5\%$. But these conditions can be very difficult and costly to maintain. The best solution is an airconditioning system, which keeps the temperature lower and helps to remove moisture from the air. However, airconditioning systems can be expensive to install, operate and maintain. Further, they draw significant amps of electricity, which can cause unacceptable voltage drops on electrical supply lines that are inadequate for such systems.

Portable dehumidifiers can be used to help reduce excess moisture levels from the air and keep humidity levels under control. They require less power than a full airconditioning system. A small solar panel could provide power to such equipment. For very small rooms, containers of moisture-absorbing crystals such as $Damp\ Rid^{TM}$ or $Camel\ Closets^{TM}$ can be used, but the containers must be emptied regularly.

It is possible to maintain reasonable environmental conditions within a storage area if it is shielded from direct sunlight and there is a reasonable airflow around and through the area. Ceiling fans can help in this regard. It is most important that the air be kept in motion, as this reduces the likelihood of mould spores adhering to record surfaces, particularly if all records are boxed.

9. MONITORING ENVIRONMENTAL CONDITIONS

Environmental conditions within the storage area should be monitored. There are a number of ways that this can be done. Portable electronic dataloggers can be used. In a small repository area only one or two would be needed. They are powered by a lithium battery and can monitor conditions without interruption for over a year. The results can then be downloaded to a computer system. Electronic dataloggers,

however, are generally expensive, eg the Esis range of uSmart loggers SL series vary in price from AUD\$850 to AUD\$2,000.

Older style thermohygrographs can also be used but they need to be monitored more closely, recalibrated from time to time, their readings noted and the graph paper replaced at intervals depending on the speed of the instrument.

Less expensive hand-held devices that simply measure temperature and relative humidity levels can also be used, eg the Mini/Max thermo hygrometer which costs AUD\$125.

10. LIGHTING

The building should have good quality fluorescent lighting and (if possible) emergency lighting. All light fittings should be covered with diffusers (plastic covers) that reduce the glare and help to spread the light more evenly. To guard against the effects of ultraviolet light, which can damage records, lighting in the repository should be of the low ultraviolet type, or the fittings covered with ultraviolet filters.

The lights in the repository should be positioned to illuminate the spaces between the rows of shelving.

If the power supply is unreliable in terms of blackouts and/or brownouts (low voltage) then alternative lighting strategies should be considered. One possibility is to use emergency lights, with in-built Ni-Cd (Nickel-Cadmium) batteries, as normal lights in the building.

A standby power diesel generator could be used in the event of an emergency, but in reality is probably too costly.

Generally, electricity costs in tropical areas are quite expensive, and it may be worthwhile to consider installing solar powered panels as an alternative to mains power. In the Pacific region, where electricity costs are known to be high, the payback period for installing solar panels can be quite short. A basic solar panel is perfectly capable of powering lighting and simple equipment such as ventilation fans and dehumidifiers.

11. FIRE PROTECTION

To protect the building from the danger of fire the site should be kept clear of vegetation, leaves and rubbish.

Ideally, the building should have a fire alarm linked to the fire brigade, and a system of water based sprinklers mounted in the ceiling. Hand-held fire extinguishers should be distributed throughout the building. If limited finances

preclude a sprinkler system then, at the very least, smoke detectors should be installed. They are very cheap and can be installed by anyone.

12. SECURITY

Suitable security arrangements should be put in place to safeguard the records. Security lighting should be installed around the perimeter of the facility. Both the site and the building should be secured.

Ideally, an alarm system should be installed, with offsite monitoring. The system should cover all access points to the building, both doors and windows. However, if this is considered too costly, good quality locks to all main doors are essential.

The doors to the repository should be locked and connected to the alarm system. Only authorised persons should have access to the repository.

13. INTEGRATED PEST MANAGEMENT

It is imperative that the records held in the building be protected from the threat of pest infestation. A strategic pest management plan should be established as soon as the building is operational.

Baits and blunder traps should be placed throughout the building in order to eliminate insects and other pests. They are cheap to purchase and are quite effective. They should be checked regularly and replaced when necessary.

The building's exterior, including the roof and gutters, and the grounds, should be inspected regularly to ensure there are no pest infestations.

As records are brought into the repository they should be inspected to ensure there is no evidence of damp or mould, or pest infestation.

The building should be cleaned regularly. Foodstuffs and empty food and drink containers should be promptly removed from the site. Food and drink should never be permitted inside the repository, or the reading room.

14. COSTS

Once the size of the building and the various additional components required have been determined, a design brief can be written. Attachment A is a sample of a typical brief, and Attachments B and C are drawings of a possible layout of a small archival building.

A quantity surveyor would be able to give a preliminary cost estimate for the project in a particular country.

At a rough estimate, a building of 384 square metres as described in this specification would cost AUD\$700 per square metre to construct. This cost does not include airconditioning or shelving.

15. BUILDING STANDARDS AND OTHER REFERENCES

There are few formal standards that deal with the storage of records and the building of archival repositories. However, the following publications are quite useful:

- British Standard BS5454-2000 Standard for the storage and exhibition of archival documents
- Australian Standard AS4390.6 Storage

The following Australian Standards, or their international equivalents, can also be of use when designing a records repository:

- AS 1562 Design and installation of sheet roof and wall cladding;
 - AS 1562.1-1992 metal
 - AS/NZS 1562.3-1996 plastic
- AS 1139 Installation code for metal roof and wall cladding
- AS 2870-1996 Residential slabs and footings construction
- AS 3600-1994 Concrete structures
- AS 3700-1988 Masonry in buildings (known as the SAA Masonry Code)
- AS 1170 Minimum design loads on structures

Further information on the storage of records in the tropics can be found in the following publications:

- Rene Teygeler, *Preservation of Archives in Tropical Climates: An Annotated Bibliography*, International Council on Archives, Paris, 2001
- Ted Ling, *Solid, Safe, Secure: Building Archives Repositories in Australia*, Chapter 7, 'Building in the Tropics', National Archives of Australia, Canberra, 1998
- Mary Alice Baish, 'Special problems of preservation in the tropics', *Conservation Administration News* 31, pp. 4–5
- Steve King, 'Building for Conservation: Appropriate Design for Environmental Control in the Tropics', *Cultural Heritage in Asia and the Pacific: Conservation and Policy*, Proceedings of a Symposium, Honolulu, 1991
- Karen Coote, Care of Collections: Conservation for Aboriginal and Torres Strait Islander Keeping Places and Cultural Centres, Australian Museum, Sydney, 1998

16. ATTACHMENTS

The design brief at Attachment A can be used as part of the planning process for building a new archival building. It describes the key internal elements of such a building, and the relationships between particular areas of the building.

Attachments B and C are drawings of a possible layout for a typical archival building.



The National Archives of Australia uses circular rock pits at its Darwin facility to drain water away from the building. Water falls from the roof into the pits and is drained away via underground channels.

ATTACHMENT A

DESIGN BRIEF FOR A SMALL ARCHIVAL BUILDING

The following description and drawings (Attachments B and C) are for a typical small archival building of 384 square metres in size. The principal areas of this building may be categorised as:

- storage for approximately 2 kilometres of records;
- work for arrangement and description of records, and minor conservation tasks;
- office for three or four staff members; and
- public for researchers who will visit the building on a regular basis.

Storage area

1. Repository	224 sqm
Work area	
2. Arrangement and description room3. Store room	18 sqm 10 sqm
Office area	
4. Director's office5. Assistant staff6. Kitchenette and lunch area7. Toilet and shower	18 sqm 22 sqm 22 sqm 7 sqm
Public area	

8. Reading room	18 sqm
9. Micrographics room	18 sqm
10. Reception	22 sqm
11. Public toilet	5 sqm

Total 384 sqm

1. Repository (224 square metres)

Uses

Function: Secure storage of records in a wide variety of formats, eg files,

maps, plans, volumes, photographs and films. No staff would be permanently located in this area, however, they would access the area on a regular basis to retrieve and return

records.

Proximity: Adjacent to the arrangement and description room, and easily

accessible to staff retrieving archives for delivery to

researchers in the reading room.

Physical requirements

Area: The space will accommodate 2,016 shelf metres of records,

if 8-high (2.5 metre) mobile shelving is used, as depicted in

the attached drawing (Attachment C).

Ceiling height: 3.5 metres (particularly if an airconditioning system is

installed).

Door access: A single door should connect the repository with the staffing

area. Double emergency exit doors should be located at the

rear of the building.

Floor loading: Capable of supporting fully laden shelving. An 8-high

double-sided run of shelving five bays long (as depicted in the attached drawing) can hold over 400 boxes, with each box

weighing about 5 kilograms.

General structure: Compatible with high security levels, as well as cyclone and

flood resistance. Walls and floors must be impermeable to moisture and the walls should be thermally insulated. There

should be no windows.

Equipment

Fire protection: A fire alarm directly linked to the fire brigade, internal smoke

detectors and a sprinkler system are all highly desirable. Hand-held fire extinguishers should be distributed

throughout.

Security: Secure from rest of building with motion detectors and

magnetic door contacts linked to an external security source.

Electrical: GPOs (general power outlets) should be distributed

throughout.

Telephone: 1 extension.

Shelving: Double-sided mobile steel shelving units measuring

approximately 2,475 mm high (excluding the bases), 400 mm deep on each side, with each bay being 900 mm wide. A movable aisleway of 1 metre between rows of shelving

should also be included.

Environmental

Temperature: Constant 20° Celsius $\pm 2^{\circ}$.

Humidity: Constant $50\% \pm 5\%$.

Airconditioning: Ideally, the repository should be airconditioned at all times.

The system should be isolated from the rest of the building so that it can operate continuously, and so that no contaminants, such as mould spores, can be transmitted from other parts of the building. If airconditioning is not provided, at the very least ceiling fans should be installed and kept in motion at all

times.

Lighting: Low ultraviolet fluorescent tubes to illuminate at 200 lux.

Fittings should be covered with diffusers.

Finishes

Walls: Suitable for the maintenance of constant environmental

control.

Floor: Vinyl tiles or sheeting.

Ceiling: Suitable for the maintenance of constant environmental

control.

Ambience: Light-coloured paint finishes on walls and shelving.

2. Arrangement and description room (18 square metres)

Uses

Function: A dedicated area for sorting, listing, cleaning or reboxing

records coming into the building.

Proximity: Adjacent to the repository and offices.

Physical requirements

Door access: A single inwards opening door.

Nuisance: Possible dust and mould from incoming records which needs

to be isolated from the rest of the building and removed via

an exhaust fan.

Equipment

Electrical: Several GPOs (general power outlets) should be distributed

throughout.

Telephone: 1 telephone extension.

Shelving: Some static metal shelving should be placed around the walls

to store records while they are being treated.

Furniture: A large sorting table or bench should be located in the middle

of the room. Provision should also be made for cupboards for

the storage of equipment, as well as chairs or stools.

Environmental

Airconditioning: Standard office temperature and humidity.

Ventilation: An exhaust fan should be installed to remove dust and

contaminants from the room.

Lighting: Low ultraviolet fluorescent tubes to illuminate at 200 lux.

Fittings should be covered with diffusers.

Finishes

Walls: Hermetically sealed.

Floor: Vinyl tiles or sheeting.

Ceiling: Hermetically sealed.

Windows: There should be no windows.

3. Store room (10 square metres)

Uses

Function: A small room in which to store archive boxes and general

supplies.

Proximity: Adjacent to the repository and arrangement and description

room.

Equipment

Electrical: GPOs (general power outlets) not required.

Telephone: Not required.

Furniture: Cupboards or static shelving for stores and equipment.

Environmental

Airconditioning: Not necessary.

Finishes

Standard office finishes. Floor should be tiled.

4. Director's office (18 square metres)

Uses

Function: Office for the director of the Archives.

Proximity: Adjacent to area for assistant staff, near Reception.

Equipment

Electrical: Several GPOs (general power outlets) should be distributed

throughout.

Telephone: 2 extensions (1 for telephone and 1 for a computer).

Furniture: Desk and chair, computer and work station, printer, filing

cabinet, bookcase, conference table and chairs.

Environmental

Airconditioning: Standard office temperature and humidity.

Finishes

Standard office finishes. Floor should be carpeted.

5. Assistant staff (18 square metres)

Uses

Function: Area for 2–3 assistant staff.

Proximity: Adjacent to the director's office and near Reception.

Equipment

Electrical: Several GPOs (general power outlets) should be distributed

throughout.

Telephone: Each staff member should be provided with extensions for a

telephone and a computer.

Furniture: Desks and chairs, computers and work stations, photocopier

and printer, filing cabinets, and bookcases.

Environmental

Airconditioning: Standard office temperature and humidity.

Finishes

Standard office finishes. Floor should be carpeted.

6. Kitchenette and lunch area (22 square metres)

Uses

Function: Amenities area for staff, and possibly researchers (as food

and drink should never be permitted in the repository or the

reading room).

Proximity: Adjacent to the staffing areas and the reading room.

Equipment

Electrical: Several GPOs (general power outlets) should be distributed

throughout.

Telephone: Not required.

Furniture: Tables and chairs, benchtop and cupboards for the storage of

eating utensils, tap and sink, and a small hot water system.

Environmental

Airconditioning: Standard office temperature and humidity.

Ventilation: An exhaust fan should be installed to remove odours from

the room.

Finishes

Standard office finishes. Floor should have vinyl tiles or sheeting. The area behind the sink should have ceramic tiles.

7. Toilet and shower (7 square metres)

Uses

Function: For use of staff.

Proximity: Adjacent to offices.

Physical requirements

Door access: Single standard door to each area.

Standard: 1 cubicle and wash area, 1 shower outlet.

Equipment

Electrical: 1 GPO (general power outlet) near wash-basin.

Sanitary: 1 toilet pan, 1 wash-basin.

Environmental

Airconditioning: Standard office temperature and humidity.

Ventilation: An exhaust fan should be installed to remove odours from

the room.

Finishes

Standard finishes. Walls and floors should be tiled.

8. Reading room (18 square metres)

Uses

Function: Public reading room where researchers and visitors are

provided with access to archival records, which are stored in the repository. Sufficient seating and table facilities to accommodate up to 2–3 visitors are required, and possibly a counter for staff use. The area requires sufficient space to

operate library style trolleys loaded with archives.

Proximity: Adjacent to Reception and near the repository.

Physical requirements

Door access: 1 set of double doors for entrance from Reception.

Nuisance: Away from noisy areas, such as photocopiers.

Equipment

Security: Staff should be located at counter to supervise researchers

accessing archives. Alternatively, the receptionist can monitor

the area.

Electrical: Several GPOs (general power outlets) should be distributed

around the room for use of computing and audio equipment

by researchers.

Telephone: No telephones.

Furniture: Several tables and chairs, a small trolley to move records to

the area from the repository, cloak and baggage locker, and a small counter for the issue and return of records. Low height shelving along one wall is needed to house finding aids,

guides and publications.

Environmental

Airconditioning: Standard office temperature and humidity.

Finishes

Walls: Internal walls to Reception area should be glazed.

Floor: Carpet.

Windows: Possibly facing a garden area. Direct sunlight should not

reach research tables.

9. Micrographics room (18 square metres)

Uses

Function: A dedicated area where researchers and visitors can access

microform copies of archival records, which are stored in the

repository.

Proximity: Adjacent to the reading room.

Physical requirements

Door access: 1 single door for public entrance from the reading room.

Nuisance: Microfilm/fiche readers can be noisy; hence they should be

located towards the rear of the room and well away from the

reading room.

Equipment

Security: A staff member should be located at the counter to supervise

researchers accessing archives. Alternatively, the receptionist

can monitor the area.

Electrical: Several GPOs (general power outlets) should be distributed

throughout around the room for the use of micrographic

equipment.

Telephone: Not required.

Furniture: The area should house one or two microfilm/fiche readers,

and provide sufficient seating and table facilities for several researchers. Cupboards or drawer units are needed to house

copies of films, fiche, etc when not in use.

Environmental

Airconditioning: Standard office temperature and humidity.

Finishes

Walls: Internal walls to the reading room should be glazed.

Floor: Carpet.

10. Reception (22 square metres)

Uses

Function: Public entrance area to building.

Proximity: Adjacent to reading room and offices.

Physical requirements

Door access: 1 external double-glazed door set for public entrance.

1 internal double door set to reading room and single

entrance doors to offices.

Equipment

Electrical: Several GPOs (general power outlets) should be distributed

throughout.

Telephone: A small switchboard system with connections to most parts

of the building.

Furniture: Reception counter, 1 high chair and 2 lounge chairs for

visitors, computer, wall mounted display cases to display

copies of records from the collection.

Environmental

Airconditioning: Standard office temperature and humidity.

Finishes

Walls: Internal walls to reading room should be glazed to allow the

receptionist to monitor the room.

Floor: Carpet.

Windows: Beside the entrance door only.

Ambience: Suitable for public Reception area.

11. Toilet

Uses

Function: For use by public.

Proximity: Adjacent to public areas.

Physical requirements

Door access: Single standard door to each area.

Standard: 1 cubicle and wash area.

Equipment

Electrical: 1 GPO (general power outlet) near wash-basin.

Sanitary: 1 toilet pan, 1 wash-basin.

Environmental

Airconditioning: Standard office temperature and humidity.

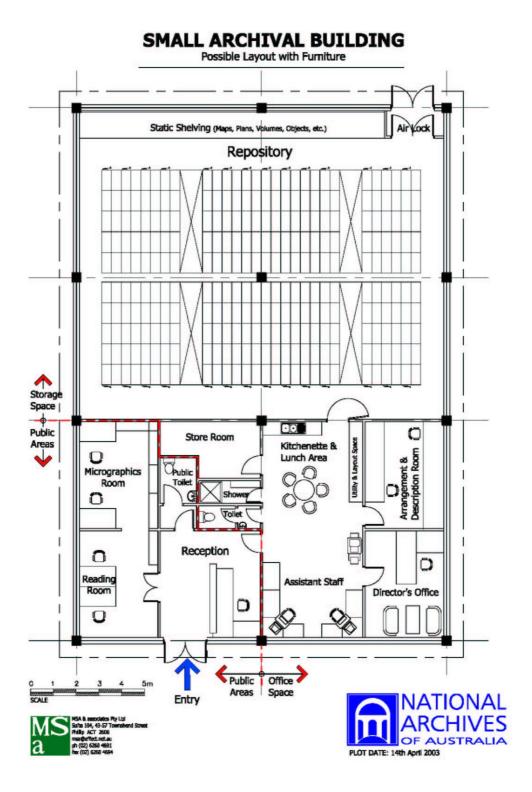
Ventilation: An exhaust fan should be installed to remove odours from

the room.

Finishes

Standard finishes. Walls and floors should be tiled.

ATTACHMENT B



ATTACHMENT C

SMALL ARCHIVAL BUILDING Possible Layout Without Furniture

