

**PRESERVATION NEEDS ASSESSMENT**

**BENDIGO HISTORICAL SOCIETY  
COLLECTION**

**SEPTEMBER 2008**

**COMPILED BY**  
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## Introduction

This Preservation Needs Assessment was undertaken at the Bendigo Historical Society between the 26<sup>th</sup> of May and 28<sup>th</sup> August 2008 and was funded through the National Library of Australia, Community Heritage Grants program.

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## Executive Summary

**The Bendigo Historical Society** holds a large collection of books, documents, photographs, artworks on paper, textiles as well as objects. The Historical Societies earliest formation was in 1935 with it taking on various guises and interruptions to continuous operation over the next 73 years. In 1990 it was incorporated as the Bendigo Historical Society Inc. with the collection stored at various locations with its main public face at Dudley House in View Street, Bendigo. The requirement to move from this site meant the collection had to be rehoused and moved to different locations, with the Old Bendigo Goal being recently available for occupancy.

This survey viewed the collection at two sites, the Governor's residence at the goal as well as prisoner cell blocks in the complex and items held at the North Central Goldfields Library Bendigo. Some items which were not viewed are located with a local Gunsmith (firearms) and Bendigo Art Gallery (various photographs, illustrations and objects).

The most recent developments suggest the collection may be moved again, with tenure at the Gaol soon to end, however the Society may be given a permanent home in the future with the nearby Police barracks or a newly built repository being considered by the Shire.

Both scenarios would be very advantageous and highly recommended for the preservation of the historic collection held.

**AIMS:** The Bendigo Historical Society is run by a dedicated group of volunteers with the overall decision making determined by the elected committee.

The Society aims to care for donated cultural material related to Bendigo and the surrounding regions by providing a suitable repository for it and to preserve and maintain historically significant material for research and the people of greater Bendigo.

Several volunteers assist weekly with general maintenance of the collection cataloguing of items while assisting the public with research and information about the region.

**Experiences for visitors to the society include:**

- Access to the historic collection upon appointment
- Research facility available upon payment

## **Cultural Significance**

The Bendigo Historical Society has an important photographic and document record of the city in terms of culture, business and social development over 160 years.

A cultural significance survey of the collection was completed in 2007 as part of the Collections Management Strategy by Lauretta Zilles.

The report outlines some aspects of the historical significance in the general collection but does not detail specific significant items for rarity, national significance, or cultural importance.

We are unable to assess the full cultural significance of the collection other than to impress that many of the photographs and documents held by the Society are irreplaceable and it has an unusually high representation of rarer photographic types such as tin, albumen, and ambrotypes/daguerreotypes and those which represent architectural development in the region.

The collection's monetary valuation has not been undertaken and would include artworks, furniture, objects and collectable curios. We believe that the value of the collection would exceed \$900,000.00

It should be noted that with the wide variety of items in the collection, particularly the early photographic material, manuscript, regional publications, and some objects, replacement of them would be impossible.

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## ***NEEDS ASSESSMENT AIM***

The aim of the Bendigo Historical Society in commissioning this survey was to examine the building where the historic collection is presently held and make an assessment of the existing storage areas within the building. Each of the storage areas have been examined closely with an assessment made for their suitability as a repository for a mixed collection while also looking at them in terms of future housing and preservation needs.

Other aims of the needs assessment were to appraise the physical and chemical condition of the paper based collection including book, art and documents, how they are being cared for, and strategies which could be implemented to preserve and manage them for the long term.

## **Overview of the Needs Assessment**

Issues emerged regarding the storage and housing deficiencies in the Old Bendigo Gaol complex. Many photographs and paper based artworks showed a need for hands-on conservation treatment to arrest the deterioration and to make items chemically and physically stable. The majority of the collection was dirt and particulate contaminated and requires some form of preservation treatment.

- Certain parts of the buildings including the cells and Governor's residence require detailed repair and modification in order to provide a satisfactory museum/archive standard.
- Most photographs in the collection pre 1940 require detailed conservation to make them physically stable.
- Storage of the collection requires improvement to protect all items from impact damage, dirt and mould contamination and fluctuations in temperature and relative humidity.
- The collection is showing signs of advanced deterioration in objects such as rust, timber cracking, oxidation, paint loss, acid burn, spotting, adhesive show through and chemical reactivity.
- The environmental conditions in all storage areas and the presence of pollutants are rapidly accelerating the deterioration of the collection held.
- Security, health and safety and house keeping are current issues to be addressed by management.

## Recommendations made from our assessment include:

1. Repair and modify the Governor's residence and cell blocks to meet an archive/museum standard.
2. Repair and conserve significant photographs, books, and documents in storage.
3. House all items in appropriate shelving or archival quality boxes.
4. Improve security of the collection as well as health and safety.
5. Control the environment such as temperature, relative humidity, pollutants and insect management.
6. Have volunteers and members attend a preservation workshop to improve handling of items, understand the notion of conservation, and museum/archive management techniques.
7. Develop a conservation and preservation policy and commence a conservation program.
8. Develop a Disaster plan specific to the collection and a Disaster recovery plan.
9. Endeavour to find a permanent home for the collection with suitable environmental controls, storage furniture, space, public access, and possibly display.

## Key issues to address in order to complete the recommendations are:

- Apply for funds to repair cell storage areas and Governor's building
- Apply for funds to complete hands on conservation of photographs, books and documents
- Apply for funds to purchase materials to improve storage of the collection
- Have volunteers complete a Disaster response workshop.
- Meet with the Bendigo Shire infrastructure unit and other interested parties to establish a **permanent home** for the Bendigo Historical Society and its collection.

## Bendigo Historical Society Management

The Society is governed by an elected committee who make decisions through consultation with members on the development and operation of the organization.

The Society does not have general public opening hours but the public can access the collection by appointment. Volunteers are present on site on Tuesday and Thursday 10.00am to 3.00pm to undertake general duties including research.

**On the days of our survey no public visitors accessed the collection.**

- No specialist curatorial or museum qualified personnel is employed to oversee the preservation of the collection.

## Collection Management

An enthusiastic core of volunteers assist in the areas of cataloguing the collection, research and housing the collection. Over 140 members exist and approximately 12 members assist twice a week with various duties.

- **The volunteers have achieved a good standard of curatorial care for the paper based material such as books, documents and photographs held in the Governor's residence given the lack of resources and conservation expertise.**
- Processes such as wrapping items in tissue, interleaving pages with tissue, and enclosing degraded items in polyethylene bags is very sound practice and completed well.

The material held in the prisoner cells has been stored in various boxes together with large timber and metal items.

**These have been stored by volunteers in a more haphazard way.** This is partly explained by the insecurity of building tenure and requirement to move the collection elsewhere without much notice.

A large proportion of the collection has been catalogued, however some of this work may be inaccurate due to different cataloguing methods and location of items in the last 20 years.

Cataloguing by volunteers is ongoing using Mosaic Plus, version 9.5, with hand written catalogue sheets being transferred to the data base. Over 1400 photographs have been scanned as part of a digitization program.

- We noted that some catalogue sheets were **inaccurately filled out** in particular the **description of condition**. Some items described as good were in fact in poor condition. Volunteers should attend a preservation workshop to learn better descriptive techniques and recognize problems with the various material types.
- The collection has not been fully catalogued to the currently used software program.

Much of the work completed by the Management of the Bendigo Historical Society and members in the last 4 years has concerned vacating the collection from Dudley House and other locations, housing it in spaces provided at the Old Bendigo gaol, and formulating a future for the collection including applications for a new permanent home for the Society and collection.

From viewing the collection some resources have been spent on the purchase of archival standard boxes, tissue, and polyethylene sleeves and bags. To this end the society is doing the right thing for the objects housed in this way.

**\*It should be noted that the conservation and preservation of specific items has not been done over the last 40 years. As a result many significant items are showing advanced signs of deterioration.**

- It is of the utmost importance that the Society not be entirely consumed by looking for a 'new home' and political engagement at the local government level but be **equally** concerned with correct storage of items as well as the conservation of the rare and significant material. Failure to address this aspect of management will result in an archive which has a sub standard collection which although significant is badly degraded and threatened with imminent loss of historic information.
- No staff or volunteers have any formal training in the preservation of library and paper based archive collections.

### **Collection policies**

- A collection policy document written in 2000, exists for the collection. This should be revisited and updated especially if the Society locates to a new home.

### **Conservation program**

- No conservation program exists for the library and paper based archive material. This would be an urgent priority to develop.

### **Disaster Plan**

- No disaster plan or disaster recovery plan exists for the collection. This would be an urgent priority to develop.

### **Permanent exhibitions**

- The most interesting objects in the collection have been on permanent display at various times, particularly when the Society had use of Dudley House. This building provided area for some furniture and other objects to be displayed in a museum like atmosphere.
- No permanent display exists for the collection at the current location or is feasible without major renovation the Governor's residence and cell area.

### **Travelling exhibitions**

- No travelling exhibitions are present at the site nor are there any suitable facilities available to do so without major renovation the Governor's residence and cell area.

## Policy needs

Since no specific conservation, preservation or disaster plan policies have been written by the Bendigo Historical Society, these should be developed.

In particular a **priority list of items to be conserved and those to have specialized storage**. These items will be culturally significant and at times monetarily valuable material.

Such policies can be in most cases simple paragraph statements. A conservation and preservation policy can be gleaned from this document as well as aspects from the 2007 Collection Management Strategy.

- One specific policy for development is for the **usage of the collection by members and the 'hands on' aspect of cataloguing**.

\*Members observed cataloguing the collection at **no time wore cotton gloves** while each had **poor skills** in removing items from boxes, sleeves and enclosures. Some of these processes were causing damage to each item retrieved for cataloguing.

- **Eating in the cataloguing area was commonplace** even with the current provision of a kitchen /lunch room. The worst offenders referenced material while eating sausage rolls with sauce and **placing pieces of fruit on pages of archives** to keep them open.
- **Photographs, documents and books are extremely vulnerable to these types of physical and chemical damage.**

Simple measures for the committee to implement are the wearing of cotton gloves when handling items, eating lunch in a designated area (kitchen) and working on a cleared and uncluttered table.

## Collection usage

The inclusion of the community and promotion of public visitation and access to the collection should be encouraged as presently the Society has a '**member club**' mentality. Without a suitable repository for the collection, promotion of the Society and public usage of the collection is not easy.

As the collection belongs to the people of Bendigo access to it by them should be a high priority in any future developments.

It should be noted that over 90% of the paper based collection is in boxes which are permanently taped shut thus making **any usage** very difficult. Locating specific items which are boxed is currently extremely difficult.

## Description of the collection

The majority of the collection is currently housed in two buildings, the brick eight roomed Governor's residence building and the stone cells in the Old Bendigo Gaol dating from about 1864.

The Governor's residence has eight rooms housing boxed and filed items. It includes a large paper based archive made up of photographs, manuscript and books as well as a number of varied objects such as metal, glass, wood and textiles. The objects differ in size and material type with most items dating from 1860 to 1960 with the majority being pre 1930.

### The cell blocks

Several stone and brick prisoner cells each hold a variety of material, paper, metal, ceramic, timber and textile based. The majority of large furniture and metal items in the collection are currently stored in the corridors of the cell wings and the gymnasium. Many boxes contain books and ephemeral items as well as the framed art and some of the photographic collection.

- Much of this archival material is now **generally inaccessible** due to the cells containing many stacked boxes of items which have been tape sealed in the Dudley House relocation process.

## Material types in the collection:

### Artworks

The museum stores a large number of framed artworks and photographs in its collection. Some are by notable artists such as Lionel Lindsay, S.T Gill, as well as a number of illuminated addresses and engravings by English artists.

The works include:	approximate no.
-Etchings	(30)
-Woodcut mono prints	(2)
-Pencil drawings	(10)
-Watercolours	(10)
-Gouache	(0)
-Lithographs	(100)
-Steel engravings	(30)
-Acrylic and oil paintings	(10)

## Book types in the collection

The majority of books held by the society include library style cloth bound and half leather bindings. A number of full leather account style ledgers also exist.

As a general estimate, the collection consists of:

	<b>approximate no.</b>
- Library style cloth bound books dating from 1860 to 1960	(2500)
- Half leather library style books dating from 1860 to 1960	(300)
- Half leather ledger style books dating from 1860 to 1960s	(100)
- Full leather ledger style books dating from 1860 to 1950	(80)
- Paper bindings, journals dating from 1870 to 1960	(2000)

Most books have decorative covers with blind tooling and printed designs. Some gold tooling of spines is evident as well as embossed leather and cloth labels, typical of the Victorian era of book design. Most books have decorative printed endpapers, some with French marbling.

Most are printed on machine made paper with over 400 books having coloured lithographic or steel engraved illustrations. All these bindings have been bound by machine, either sewn with a cotton thread or held together with metal staples.

The cloth to the spine and covers of the books are attached with animal glue and gauze material which is acidic in composition.

## Documents

Over 20,000 individual documents and paper-based ephemera exist.

These include receipts, handwritten letters, typed letters, business advertising, and printed material. Inks used include iron gall, carbon black, blue writing as well as oil based printing ink and typing inks.

The predominant paper types are machine made wove and blue feint paper 90-120 g/m<sup>2</sup> manufactured pre 1930.

We see watermarked hand made wove and laid paper dating pre 1880 evident. Some of these earlier papers and envelopes had evidence of stamps and seals.

Most pages and sheets are stored in non-museum quality boxes and folders.



## Photographs

We viewed an extensive collection of early photographs relating to Bendigo and the outer regions, in particular mining, architecture and social images. The photographic collection numbers over 4000 items with the majority of these pre 1960. Negatives and glass plates held are in addition to this and number approximately 1200.

The photographs vary in size from 70mm X 120mm to 250mm X 305mm with many retaining the original photographer's board.

Approximately 100 photographs are in original timber frames and mats dating from 1870 to 1950. Of note are the South Bendigo Cricket Club 1897, Sandhurst Post Office View Street 1861, Jacksons Corner Viewpoint 1875.

Photograph type	Approximate no.
- Albumen types	(1000)
- Gelatine types	(2500)
- Collotype	(10)
- Carbon prints	(20)
- Collodion type	(400)
- Milk glass portraits	(4)
- Ambro/ Daguerreotypes	(8)
- Film	(10)
- Other types	(50)
- Glass plate negatives	(50)

Approximately 2000 photographs of various sizes are stored in room 1 and 3. These are mostly housed in folders and plastic sleeves.

**Note:** The photographs housed have not been cleaned, consolidated or conserved with the majority of early types requiring urgent future treatment.

## Maps and plans

Approximately 600 maps and plans are stored in the cell area and date from 1870.

Most maps are lithographically printed while some are hand coloured or drawn with annotations in ink or pencil. Some are lined onto a linen material and include varnished surfaces typical of the period

All vary in size and condition with many requiring detailed conservation treatment.



## Newspapers

Bound volumes dating from 1860 represent a small holding in the collection with other more recent newspapers and cuttings housed loose in polyethylene sleeves or boxes. Most newspapers are all in the broadsheet format and printed on poor quality ground wood based newsprint. Earlier editions have a slightly thicker paper with heavier fibre pulp content.

## Objects

A large amount of small objects are stored throughout the cell areas. These include items such as prams, signs, pottery, textiles, small tools and wooden items. Many small objects are stored in boxes with larger items free standing or leaning against walls.

Of note is the large quantity of pre 1910 furniture, where we see Victorian examples of cedar, oak and Australian hardwood chairs, sideboards, tables and cabinets.

## Costume and textiles

A large collection of textiles such as dresses, baby bonnets and christening gowns and hats are represented in the collection with most material being cotton based although wool and silk is also evident.



Early Daguerreotype photograph showing material types such as leather, brass, tin, paper, board, gold, glass, pigments and velvet cloth

## Collection deterioration

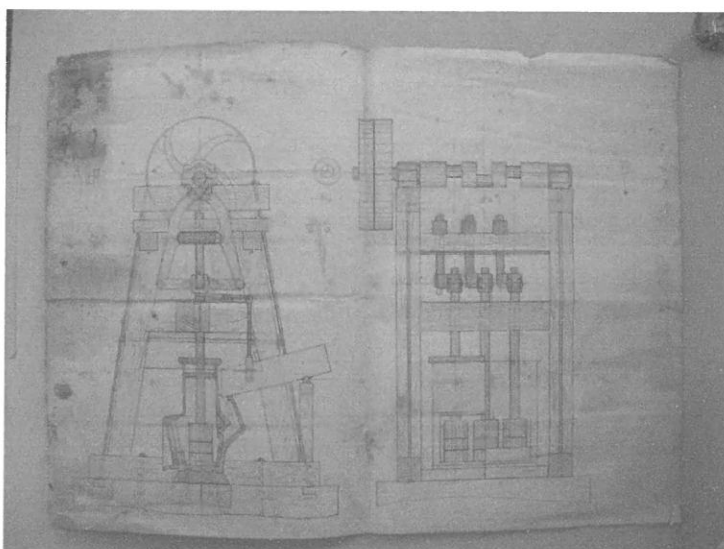
**The most common items in a state of advanced deterioration are:**

- Pre 1940 photographs
- Artworks on paper
- Original frames on artworks and photographs
- Leather bound books pre 1950
- Cloth library style books pre 1930
- Metal and timber objects including furniture

**All the above material types are in an urgent need of conservation and would be the basis for funding applications.**

**The deterioration has been caused by:**

- Poor environmental control over the lifetime of the item
- Poor standard of housing over a 50 year period
- Poor handling by previous owners
- Inherent physical and chemical deterioration of fabric, animal glue, gauze, paper, and leather over the item's lifetime
- Inappropriate display of items
- Failure to recognize deteriorated items and hence instigate a preservation/conservation program over the last 30 years
- Inappropriate building and storage facilities over the last 20 years: Dudley House and Finn Street recreational reserve
- Inappropriate building and storage facilities over the last 3 years.



Drawing showing mould contamination, spotting, and acid burn due to poor housing

## Visitor impact on collection

The Bendigo Historical Society collection is not accessed regularly by visitors with the cell blocks and other storage areas currently having restricted access.

Since visitor numbers are low and hence usage of the collection by the public is very low, there is little **current physical influence by visitors on the collection's deterioration.**

- If the paper and photographic collection was to be relocated to a new room within a new building and visitor numbers increase 20 fold, we might see an **adverse environmental impact on the collection because of raised temperature and relative humidity levels.**

We noted that the cell area and Governor's residence has **no temperature control** with changes in temperature and relative humidity of the building **a major environmental issue for the collection held there.**

- Visitation by the public to the Bendigo Historical Society at current levels will not have any great impact on the fabric of either the Governor's residence or cell blocks other than minor wear and tear to floor surfaces over a 10 year time frame.



This photograph shows damage to the Governors building from a projectile thrown from outside. Several windows throughout the complex showed such damage.



## Analysis of the collection (physical and chemical)

### Books

The majority of the books in the collection are in a **sound physical and chemically stable condition**. Most leather bindings however show **advanced deterioration** of the binding material.

- All the book collection requires refurbishment in order to stabilise the condition of each binding.

Such a program could be undertaken by trained volunteers or outsourced to a book conservator.

- Approximately **600 books** require more extensive preservation with treatment outside the scope of volunteers.

The damage to these books is to the external binding and corners of the cloth bound, half leather and full leather ledger bindings which require repair due to impact, abrasion and full or partial detachment of the covering material and hollow from the covers.

The majority of books have book blocks (pages) in a sound condition with little physical or chemical damages. The sewing structures and joints in 75% of the books are in a sound condition.

We see major chemical deterioration of the covering leather on most pre 1930 books, as well as abrasion damage to the buckram and paper covering of boards.

- Of serious threat is the degraded leather dust contaminating some book blocks and will result in the rapid deterioration of the paper.



Account style half leather binding showing leather deterioration and damaged binding structure. Over 200 books are in this state of deterioration

## **Pamphlets, Paper bindings**

The majority of paper bindings are in **a good condition**.

About 400 pamphlet style publications are dirt stained and have damage to pages. Some have rusted metal staples. These rusted staples should be removed and replaced with cotton thread before housing in archival boxes.

A number of the outside covers of the paper bindings are damaged showing tears, missing areas and abrasion.

### **The main preservation problems to be addressed immediately are:**

- Control environment in the storage area
- Eliminate dust, dirt and insect contamination of the books held
- Clean all books to remove particulate contamination
- Stabilize the condition of each book
- Consider removing modern catalogue labels C1960s from the spine of books (consult a book conservator)

### **Conservation recommendation:**

- Refurbish all books, clean and complete small repairs
- Tie up books which have detached covers with cotton tape so as to retain with the book until conservation treatment
- Have culturally significant books conserved
- Have sticky numbering labels removed from spines (consult a conservator)

### **Storage recommendations:**

- House books on clean shelving.
- House oversized and thick volumes horizontally on shelving.
- Maintain the temperature and humidity levels at those recommended under environmental conditions to control the possibility of bacteriological contamination and accelerated oxidation.
- Make up purpose-made museum boxes for rare books and store them flat on suitable shelving
- Provide book supports for those items on display
- Instruct volunteers and researchers in the safe handling of book material e.g. Wearing of white cotton gloves (see Archive management, housekeeping, cleaning).
- Provide book supports for readers and visitors.

## **Framed artworks and photographs**

The Bendigo Historical Society has many framed works in storage with the majority retaining the original frame and mats.

**\*Many artworks and photographs are in serious threat of damage due to active mould in the cell storage area. Mould was present on a number of items with evidence of ongoing activity and dampness in the storage area. The artworks must be removed immediately to a dry area.**

Due to time, nature of the original framing materials and environmental effects, the mount boards and backings have badly deteriorated and are chemically unstable.

- The original framing materials and methods are causing **major deterioration** of the items framed whether it is a photograph, document or an artwork.
- In most cases it is not only necessary to replace all backings and mounts with museum standard material but more importantly **have the item conserved**.
- 100% of the items framed do not meet a museum standard.
- Most frames were dirt and dust contaminated while the mats and backing boards were deteriorated, brittle and acidic. Evidence existed of some insect contamination, water staining of mats and advanced chemical deterioration.
- A large proportion of the original frames were damaged in some way such as broken and missing compo moulding, loss of gilding, impact damage to timber edges and broken glazing material.

***NOTE:* The society is fortunate to have many impressive and valuable frames in the collection and it is very important that where possible the original frames are retained with the item when any conservation work is undertaken.**

- Some of the large original frames have had the gilt and bronzed surface painted over with gold paint. This practice should cease.



Active mould on the walls of artwork storage area. Items held are also affected.



## Newspapers

The bound newspapers stored are in a poor condition, being brittle and chemically unstable. All require conservation treatment however this may be cost prohibitive.

We see tears, missing areas, and dirt contaminated paper.

In all cases the newspapers show signs of acidity and are chemically deteriorating.

### **Conservation recommendation:**

- Remove surface dirt from newspapers.
- Have worst of most culturally valuable editions conserved by a paper conservator.
- House loose newspapers in large polypropylene boxes and store flat.

### **Storage recommendation:**

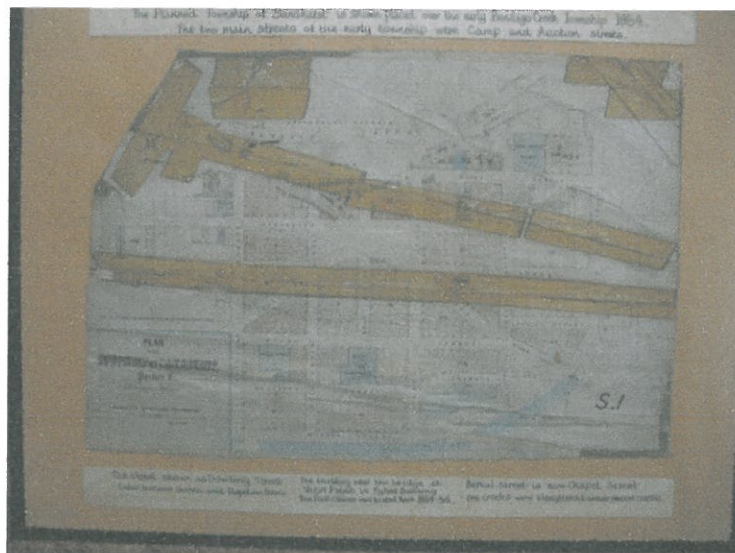
- House newspapers away from photographs and other paper based material due to their high acidity and chemical reactivity.

## Documents/letters/ephemera

We would classify these items as chemically stable except for those heavily dirt contaminated, spotted, or stained which affects about 30% of the collection (6000 pages). Many documents had pins, paper clips, bulldog clip marks and some Sellotape repair

Common damages include tears at edges, rusted staples, folds, creases, rust offset, dirt contamination and acidic paper. Some documents showed losses and previous water damage and with inks rubbed and faded.

- Many documents showed chemical deterioration with evidence of spotting, discolouration of the paper and brittleness.



Map glued to acidic board, Sellotape repairs, crease and tears

## Documents/letters/ephemera

### **Conservation recommendations:**

The majority of paper based material housed in boxes show various forms of damage mostly due to the housing method but also through the nature of the paper stock, pigments and inks used and in house repair methods e.g. Sellotape. Some documents are more than 150 years of age and many should be conserved, housed in a more appropriate way, and significant items digitised to minimize physical use and make research access easier. In all cases the earliest material requires closer inspection and conservation treatment to preserve important paper based correspondence and records.

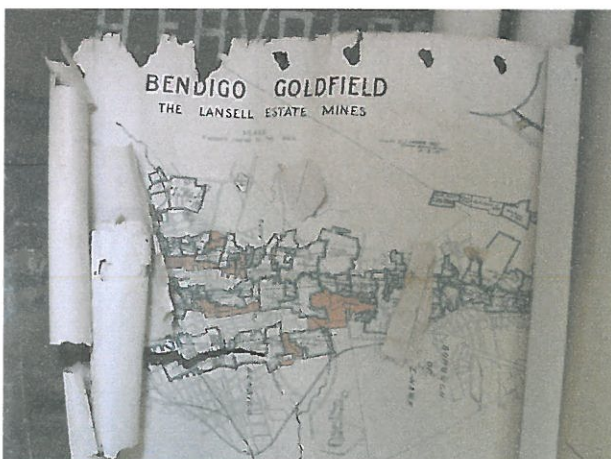
- Dry clean all items to remove surface dirt.
- Treat items for chemical deterioration and repair tears.
- Remove metal staples, pins, paper clips, ribbon, Sellotape.
- Dispose of non archival enclosures and envelopes.
- House most important items in polypropylene enclosures and sleeves.
- Dispose of unrelated material and photocopies.

### **Storage recommendation:**

- House documents in polypropylene boxes and store flat.
- House rare documents in polyethylene sleeves and store in polypropylene folders.

**All boxes or enclosures considered should be chemically inert and archival sound. Importantly they should fit the items well with approximately 3-10 mm around the largest item. If an item is stored in a museum quality box, a sleeve is not required as protection for it unless fragile, torn, chemically unstable, or consulted regularly.**

- Remove letters and paper from the non-archival folders and envelopes.
- Maintain the temperature and humidity levels at those recommended under environmental conditions to control the possibility of bacteriological contamination.
- Reduce the number of items in file/filing cabinet to avoid compression damage.



Map, note rolling & rodent damage



## Photographs

The photographic collection is in an **advanced state of deterioration** and in many cases **chemically and physically unstable**.

- **We estimate that approximately 2000 photographs require urgent conservation treatment.**

Many photographs viewed have lost up to 20% of the original tones and detail. Some housed photographs display image loss of up to 50%.

Over 1500 photographs in storage have highly acidic backings or framing material, are dirt contaminated and show deterioration of the emulsion surface. This includes lifting and crazing of the image surface, tears, cracks, staining, spotting of the photographic paper and severe oxidation and reduction.

The T.C Watts collection of architectural photographs are mostly glued to the original photographer's board. Many are still in a sound condition, however 200 are showing spotting and discolouration as a result of the chemically unstable backing board and the adhesive deteriorating. The use of freezer bags as storage sleeves should cease immediately as the plastic used to manufacture these sleeves is of a non archival nature. The insertion of the handwritten catalogue sheets within the plastic sleeves should not continue and all paper sheets should be removed as they can chemically interact with the emulsion surface of the photographs.

Many smaller photographs in the collection had animal adhesive/paper residue on the backs as well as some with Sellotape adhesive staining.



Photograph on acidic and brittle back board. Requires urgent conservation treatment

## **Photographs cont.**

Evidence existed of insect attack to the emulsion surfaces.

- **We recommend the photographs in storage and framed are an urgent priority for conservation, preservation storage and copying to digital or other media is highly recommended.**

It should be noted that a few original photographs have new mats. In all cases the photographs have not been conserved or preserved to make them physically and chemically stable. Further the matting material for these photographs is inappropriate and may contribute to their deterioration.

### **Conservation recommendations:**

- Identify and isolate for conservation the most damaged photographs held.
- Prioritize all pre 1920 photographs, particularly albumen, and daguerreotypes for urgent conservation treatment.
- Remove photographs from chemically reactive photographic albums.
- Repair and consolidate original photographic albums.
- Remove degraded adhesive tape from photographs and album pages.
- Interleave albums with photo-text barrier paper.
- Clean the surfaces of photographs where necessary.
- Remove photographs from degraded backing boards and mats, retaining original photographer's notations.
- Repair tears and consolidate lifting emulsions.

## **Members and volunteers must not attempt cleaning or backing removal of photographs**

### **Storage recommendations:**

- Removal of photographs from overcrowded boxes and drawers to avoid physical damage.
- Interleave larger conserved photographs with soft tissue when storing them flat. (This may be buffered or un-buffered depending on the photographic type).
- Store smaller photographs in polypropylene folders and sleeves.
- Support cracked photographs in suspended files with light weight museum board behind each.
- Glass plate negatives and opalotypes should have specialised storage enclosures constructed as well as interleaving with acid free tissue
- Negatives should be stored in polyethylene sleeves

## **Artworks on paper**

There are several artworks on display and in storage which require **urgent conservation treatment**.

These show signs of deterioration such as brown spotting, acid burn, paper discolouration and adhesive show through. Most of these works are also adhered to acidic backing boards.

One watercolour showed signs of previous bleaching (Johnson's Reef Mine by T.J.Moyle) thus causing pigment change and chemical instability.

- A number of paper based artworks are mould contaminated

In many cases the frames were dirt contaminated and the mats of a non-museum standard which contribute to the artworks' **rapid deterioration**.

## **Oil and acrylic paintings**

There are a few oil paintings which show:

- Dirt contamination
- Yellowed and degraded varnished surfaces
- Crazing of pigment, missing paint
- Loose stretchers.

In most cases the original frames are dirt contaminated and have broken or chipped compo mouldings and loss of gilding.

Many items in storage are dust and dirt contaminated while some have acidic mats and backings.

### **Conservation recommendation:**

- All significant paper based artworks should be conserved and museum framed.
- All paintings should be cleaned, frames inspected and repaired and archival backing boards placed on the back of each frame to protect the painting from impact damage.
- In a number of cases the paintings require the removal of degraded varnished surfaces, canvas repair and stretcher tightening.

### **Storage recommendation:**

The framed works held by the museum do not have specialized storage furniture. It would be a high priority to make padded racks to support stored artworks vertically and to protect the frames and glazing from impact damage.

Valuable artworks on display require a sound hanging system to prevent theft and accidental damage (falling off the wall).



## Maps/plans

Approximately 600 maps and plans are housed in timber plan drawers in the corridors of the cell blocks. Most maps are heavily dirt contaminated with tears at the edges and horizontal creases and fractures in the paper. Some have a varnished surface which is typical of the period; this is heavily discoloured and crazed.

Some maps show weakness of the paper where they were pinned or attached to timber rods with now rusted tacks. A few maps and plans had evidence of previous water damage and mould contamination while most show evidence of previous rolling causing stresses to the paper fibre and fractures.

Plans include blueprints, diazo and printed cloth materials.

The pen, pencil and watercolour washes on some maps show abrasion damage, as well as loss and fading of pigment. Some Sellotape and paper tape repairs are evident causing discolouration and transparency to the paper.



The photograph shows contact adhesive on design surface, previous water staining, glued to acidic board

### **Conservation recommendation:**

- The plans should be cleaned, humidified and stored flat either in drawers, Mylar or polyethylene encapsulations.
- Culturally significant plans and maps should be fully conserved, museum framed or stored in a clean plan chest.
- Over sized maps should be unrolled, interleaved with acid free tissue and rolled up on a large acid free tube, then housed in a calico or polypropylene sleeve.

### **Storage recommendation:**

- Store in clean metal or timber plan chests
- Timber plan chests must have internal surfaces sealed
- The current plan chests had **too many plans or maps in each drawer** thus causing severe compression damage to each item as well as tears

## **Timber objects, chairs, tables, sideboards**

A large amount of furniture in various states of repair are evident in the collection and date from about 1870. Several pieces of furniture are broken or incomplete.

- All furniture is heavily dirt and dust contaminated.
- Oxidation is evident on the ferrous screws and nails
- Some separation of the dovetailed jointing is present on tables, drawers and sideboards
- The leather seats where present are worn with some fracturing of the leather and surface abrasion
- Damage to the timber exteriors includes lifting veneer, scratches, small dents and splits.

### **Conservation recommendations:**

- Surface dust can be removed with a soft brush and vacuum cleaner.
- Oil and dirt can be removed from the timber surface (to be done by a conservator)
- Rust may be treated with a phosphorous based converter (completed by a conservator)
- The timber surface can be protected with microcrystalline wax (can be done in house by trained volunteer)
- Paper labels and painted surfaces can be consolidated (to be done by a conservator)

### **Storage recommendations:**

- House small timber items on a shelves or display support.
- Have furniture supported when on display or in storage.
- Make up protective cotton cloth (calico) enclosures around valuable items.
- Maintain the temperature and humidity levels at those recommended under environmental conditions to control the possibility of bacteriological contamination, accelerated oxidation and drying out of the timber causing cracking.
- Instruct volunteers or researchers in the safe handling of items e.g. Wearing of white cotton gloves (see Archive management, housekeeping, cleaning).
- Do not stack furniture with excessive amount of weight when in storage.
- Do not have timber surfaces directly in contact with each other thus avoiding abrasion damage.
- Check furniture and timber objects in storage area monthly for any borer, white ant, rodent or other contamination.
- Store furniture and objects a minimum of 100mm above floor level to protect it from possible water damage.

## **Costume and textiles**

Textiles such as dresses, baby bonnets and christening gowns and hats are represented in the collection with most material being cotton based although silk is also evident.

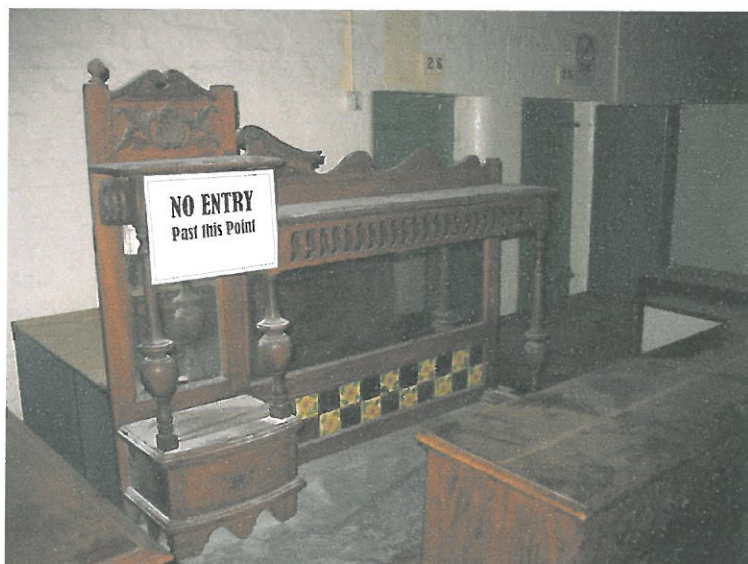
The costume and textile collection appear to be in a sound physical and chemical condition, with our main concerns being the contamination by dirt, and improper handling. Some of the applied details are also becoming detached or loose, and may become lost. Some items are inappropriately boxed in non archival boxes and lack padded support.

### **Conservation recommendations:**

- Have an academically qualified textile conservator inspect the items for chemical and physical deterioration.
- Pad hangers when used to support the costume and reduce stresses in the textile.

### **Storage recommendations:**

- Consider constructing mobile or specialized storage racks for costume
- Make up cotton or Tyvek covers for costumes when hung on racks
- Ensure that any wooden storage wardrobes have protective cloth curtains on the front and that the items are hung on appropriately padded hangers.
- Ensure timber wardrobes are painted with a polyurethane finish to reduce polluting chemical vapours emitting from the wood.
- Support silk programs with a stiff archival card until further advice from a textile conservator can be obtained.
- Place heavy textiles or costumes flat with buffered tissue supports at the folds i.e. arms, trousers. Do not place heavy items on top.
- Make up chemically inert supports for hats and headpieces.



Photograph shows heavily dirt contaminated furniture in the cell storage area



### **Project 3 Urgent priority: Illuminated addresses: approximately 100**

Some illuminated addresses in the collection are bound in leather. They require refurbishment treatment at an approximate cost of **\$250.00 per item**.

The refurbishment treatment includes cleaning of particulate contamination, pigment consolidation, small repairs, and consolidation of the leather surfaces and interleaving facing surfaces to avoid abrasion damage.

The illuminated addresses which have been framed will require de-framing, removal from board, washing (if possible), and archival housing in window mats and backing boards at an approximate cost of **\$600.00 per item**.

### **Project 4 Urgent priority: Leather/cloth bound books/paper bindings**

<b>Title</b>	<b>Proposed treatment</b>	<b>Cost</b>
Conservation and repair of significant books found in collection including account and ledger books.	clean, repair, house	allow \$500.00/vol.

### **Project 5 Urgent priority: Maps and plan conservation**

<b>Title</b>	<b>Proposed treatment</b>	<b>Cost</b>
-Plan of Township of Sandhurst Ca 1854	de-frame, remove from backing, remove sticky tape and staining, wash, deacidify, mat into archival window mat and backing	\$900.00
-Amalgamated Miners Assoc. Of Australasian Bendigo Branch 17 July 1891	remove from backing, remove staining, wash, deacidify, mat into archival window mat and backing	\$440.00
-Victoria Police Gazette 2.Feb 1881	wash, deacidify, repair tears and missing areas, store in archival enclosure	\$250.00
-technical drawings for a gold Stamp/pump c.1870 (10x)	wash, deacidify, reduce staining, kill mould, repair tears, store in archival enclosures	\$950.00
-truck lubrication chart 1920's	remove clear plastic film, remove adhesive, wash, deacidify, repair item, house in archival enclosure	\$520.00
-Ravenswood Estate c1880's	remove varnish, remove item from cloth backing, wash, deacidify, line item onto support, encapsulate in Mylar sleeve	\$900.00
-Bendigo survey map 1910	remove dirt, remove from backing, wash, deacidify, line onto support, house in Mylar sleeve	\$400.00

### **Project 6 High priority: refurbishment of leather bound books**

<b>Title</b>	<b>Proposed treatment</b>	<b>Cost</b>
Refurbishment of all Leather bound books	refurbish books	\$25.00/vol.

### **Project 7 High priority: refurbishment of timber furniture**

<b>Title</b>	<b>Proposed treatment</b>	<b>Cost</b>
Antique, pre 1940 furniture Timber objects	clean and consolidate surfaces	\$160.00 @

### **Project 8 High priority: Storage of book collection**

It is estimated that six new shelves approximately 2100mm high by 1500mm wide and 300mm deep is required to house books in the collection currently housed in cardboard boxes. We would envisage that these would be powder coated metal units.

Additional funding should be allowed to refurbish and clean existing metal shelving and any **original bookcases** and to purchase several archival book boxes to house rare volumes.

### **Project 9 High priority: Storage of photographic collection**

The society already has a number of filing cabinets and folders housing photographs. An aim would be to obtain further filing cabinets and polypropylene folders to house all of the photographic collection.

Specialized museum drop back boxes are desirable for daguerreotypes, and glass plate negatives.

### **Project 10 High priority: Preservation workshop and disaster planning workshop for society.**

Approximate cost: \$1500.00



## Building condition assessment

As part of the needs assessment we looked at the buildings and storage areas currently used to house the Bendigo Historical Society collection

**The three current buildings used to house the collection are:**

1. Governor's residence where the majority of photographs are held
2. Old prison cells where the majority of boxed documents, books, textiles and objects are held including framed artworks.
3. The Bendigo City library where three metal cabinets hold some books and small items.

### Condition of the Governor's residence and cells

The Governor's residence is in a **poor condition, especially the upstairs rooms** with evidence of water penetration on the ceilings as well as **very heavy dirt, particulate and insect contamination on all interior surfaces.**

- We see **rot** in the internal and external timbers.
- All painted surfaces show signs of wear and weather attack.
- The paint is flaking and blistering off the timber in many areas both internally and externally.
- There is **rot** in the external side of the timber window sills and fascia boards.
- There is evidence of rising and falling damp in walls
- The slate roof is lichen and moss contaminated with rust in some areas and on down pipes.
- Air vents allow insects and dust to contaminate the building.
- The electrical wiring and switches in the building are old.
- The floor is uneven with heavily dirt contaminated carpets upstairs.

The ground floor rooms are generally in a good condition with main areas of concern being broken glazing in the computer room, worn paint surfaces and carpets and poor standard of locks to windows and external doors on the newer addition



Damaged paint surfaces on timber windows, external rot, water penetration.

## Cell storage area

The prisoner cells house a large amount of the Societies collection and have a number of major problems to overcome if they are to meet a minimum archive standard.

The stone and brick building is in **fair condition** with evidence of water penetration on the ceilings and evidence of water leaks and rising damp where the framed artworks are held and in several cells.

- Ceiling vents and open areas provide an uncontrolled environment within each room
- All painted surfaces show signs of wear and weather attack. The paint is flaking and blistering off the timber in many areas.
- There is **rot** in some external timbers, window frames and facia.
- The metal roof is lichen and moss contaminated with rust in some areas and on down pipes.
- The roof barge board and facia have evidence of rot.
- Air vents allow water, insects and dust to contaminate the building.
- Floors in the cells are heavily dirt contaminated, and are odorous
- Floors were damp with evidence of mould

Electrical wiring throughout the building appeared to be in a safe condition with much of it disconnected.

**Note:** No new wiring is evident in either the Governor's residence or cell block building with some wiring, power points and light switches more than 50 years old and possibly suspect.

Locks in both the Governor's and cell building are functional and were operational on the days of the visit.

- The locks on the sliding door in the newer extension to the Governor's residence offer a substandard form of security.
- No movement activated security lights or alarm system are presently operational in either the cells or governors residence.

## Bendigo City Library

The location of some material is held on the second floor of the Bendigo Library. Here three metal cupboards hold a variety of book, and paper based items.

The building is in a sound clean condition and provides an air conditioned environment.

This area meets a suitable museum/archive standard and hence is a suitable repository for this material and there are no housing issues in regards to the library building or the current storage methods.

## Windows

Windows exist in the Governor's residence and are of the timber sash type and allow natural light to enter the rooms.

- A number of timber framed windows were in an **unsound condition** with the timbers showing some rot, flaking paint and broken glazing material. The old style finch lock mechanisms offer a **low standard of security** however many windows have external bars or grillage thus preventing external entry.
- Some windows had blinds which were old and ineffective at reducing U/V light from outside.
- A number of windows had no blinds to exclude sunlight in particular where the T.C.Watts photographic collection is held.

## Lighting

The Governor's residence and cells were lit through both incandescent light and fluorescent tubes.

- No purpose designed lighting exists for the current storage or research areas
- Some rooms were in darkness with light having no detrimental impact on the collection.
- The cell areas had low natural light levels, therefore having a very low detrimental impact on the collection held.

## Environmental control in the current repositories

There are no environmental control devices in the Governor's or cell repository areas other than some curtains to control sunlight and electric heaters in some rooms.

- There is no air-conditioning unit in any of the storage areas.
- No heating exists in the cell storage area.
- There is no appropriate insulation in any of the current repository sites or buildings.

## Inadequacies in the Governor's residence and cell area

- No First Aid Kit location sign
- No displayed emergency exit plan
- No wheelchair access signs
- No wired in smoke detectors in cells, upper area of Governor's residence
- Inadequate control of dust and dirt contamination in the cell area and upper floors of the Governor's residence

- No insect traps at ground level in any storage area e.g. sticky traps
- Lack of movement activated security lights on all buildings
- Poor condition of internal and external painted surfaces of all buildings
- No environmental control in the buildings
- Lack of directional signs/emergency and information to visitors
- No Disaster/ recovery plan for the object and general collection
- No Disaster response kit/bin
- Difficult access to cells and upstairs area of Governor's residence

## Assessment of the current buildings housing the collection

The Governor's residence, cells as well as the area in the Bendigo Library provide sufficient space to house the current collection with the Governor's residence and library also suitable in size regarding visitor and research access.

- **Both gaol buildings are however unsuitable in their present condition and layout to meet an appropriate museum/archive standard. Further the poor condition of the buildings as well as lack of environmental control is contributing to the rapid deterioration of the collection held.**

The buildings are over 140 years old, therefore maintenance and repair are an ongoing requirement. To this end both buildings have undergone some repairs and renovation however **neither is watertight, clean, insect resistant, nor of a reasonable condition to house the collection.**

**The design of both buildings does not provide a sound ergonomic environment with access to the storage rooms disjointed and cause fragmentation of the collection.**

- Both these buildings have suspect structure due to damp penetration of walls and damage to timber components such as bearers, and window frames.
- Both require timber repair and attention to the roof, guttering and drainage.
- Both require the removal of the internal linings and roof to install adequate insulation, sisalation and dust proofing.
- Both require repair of windows and external painting.
- Both buildings have old wiring and poor security in regards to locks, lighting and alarm systems.
- The Governor's residence has had a recent collapse of plaster from the ceiling and water penetration onto the collection
- The Governor's residence poses the **highest risk of fire or flood due to the location of a kitchen** in the centre of the building



## Archive storage furniture description and condition

### Shelving

The storage of the collection includes a wide variety of shelving constructed from metal and timber. Older timber plan chests, filing cabinets and timber bookcases also exist. The timber shelving and plan chests are structurally sound yet worn and heavily dirt contaminated condition. Some drawers of the plan chests stick making the retrieval of the contents difficult and adding to the potential damage of the items housed.

- All timber surfaces require cleaning, sealing and modification to assist in the housing of all books and maps.
- Edges (runners) of timber drawers should be waxed to facilitate better opening
- The majority of metal filing cabinets and shelving was in very good condition with some signs of rust and exterior damage.

### Display Cases (future use of timber cases found in cell area)

The internal wooden linings of the display cases should be sealed with polyurethane based varnish and all woollen or velvet linings must be removed as these materials can leach out harmful gases such as sulphur in the enclosed environment.

- Such gases cause oxidation of metal items (such as tarnishing silver trophies) and cause pigment change and image loss in photographs and artwork.

Only chemically stable materials should be used as a base lining in display cases such as cotton material or museum board.

## Description of current storage boxes and enclosures

Approximately 90% of the collection is stored in **non archival cardboard boxes** which sit on the floor in the Governor's residence and cells and on some shelving. Most of these boxes are sealed with packaging tape and have some form of descriptive label or catalogue number on the outside.

A small proportion of the collection is housed in archival polypropylene boxes or in the case of some photographs polypropylene or polyethylene sleeves.



## Boxes:

Thousands of items are stored in non-archival cardboard boxes, mostly corrugated cardboard produce boxes.

Some boxes were tested for pH level to ascertain how acidic they are. Each box tested showed a pH reading between pH 4.3 and pH 5.2 with most tests being at the lower levels.

- **Acidic environments accelerate the chemical process involved with the deterioration of paper and organic based materials**

These boxes are **not suitable enclosures** for the long-term storage of book and paper based archives and they will have a direct effect on the deterioration of the items held inside them.

Any archival material stored in boxes should be stacked well to make sure that each item is stored flat and will not be crushed by heavy items on top.

- Most boxes opened were filled to capacity with items causing compression damage. Boxes should never be filled to full capacity as the resulting weight can also make retrieval very difficult resulting in paper tears.

The box should be larger than the item housed so as to provide adequate protection from dust, sunlight, insect and impact damage. Additionally any material in contact with the books should be of an **archival museum quality**. This reduces contamination of the stored items.

- The majority of boxes were **too full** including the archival quality enclosures.

Hundreds of boxes sat in **direct contact** with the floor. In the case of boxes in the cell area, these would be absorbing moisture from the concrete floor thus making the items held susceptible to mould contamination and water damage.

- **In order to protect the collection from possible mould and water damage it is strongly recommended to store all items off the floor by at least 100mm.**
- **A temporary measure would be to place boxes on a vapour barrier to the floor such as builders plastic.**



Too full boxes



## Identification of storage deficiencies

### Metal furniture

No purpose made metal shelving or cabinets exist for the art, book and textile collection.

### Timber storage units

No purpose made timber storage units exist for the small object collection.

### Display cases

No purpose made display cases exist for the general collection. If some of the collection was to be displayed in the future, these would be required.

### Plastic enclosures

Only a few archival polymer enclosures are used to house specific books or small objects.

### Mylar encapsulations

Only a few Mylar encapsulations were seen to house photographs and documents.

### P.V.C

P.V.C enclosures were evident in the collection and should be disposed.(electrostatic photo albums)



Water damaged illumination showing mould and acid burn. This item requires full conservation treatment and a specialised storage enclosure.

## Recommendations for the improvement of storage

### Plastic enclosures

Most photographs and some paper based documents are enclosed in a polyethylene sleeve to protect them from handling and dirt.

Samples of some polymer was taken from the electrostatic photograph albums and tested for the presence of Chlorine. Our tests showed that some of these did contain Chlorine and are unsafe to use in order to protect paper-based items.

- Plastic bubble wrap is also not considered to be archivally sound. This material was evident in the storage rooms to wrap framed works and objects.

We point out that the polymer tests undertaken **were not for all chemical contaminants**. Other chemicals and compounds such as Halogenated plasticisers can be present in certain polymers, which severely deteriorate paper-based archives. This can also include certain objects on display, made of PVC or other plastics and adjacent to chemically sensitive materials.

- We recommend that the chemical composition of the enclosures should be sought from the distributor and assessed for any contaminants, which may be present in their manufacture.

Polyethylene is recommended as a safe enclosure for archives, however should only be used in relation to the following information.

Items completely enclosed in a pocket or sleeve can **deteriorate faster** if the item is chemically reactive and has not been conserved for such deterioration.

- We recommend that objects, in particular significant paper based material, be neutralised chemically (deacidified) before an enclosure is considered.

Consideration should also be made as to whether the enclosure be sealed or have one side open. We recommend the latter given a controlled and clean storage environment. Sealing all sides of an encapsulation should only be used for very limited display, eg.4 weeks

**Note: Many of the fragile albumen and gelatine photographs currently housed in polypropylene sleeves should be conserved as part of an ongoing preservation program.**



## Mylar encapsulations

Mylar is a popular polymer for the manufacture of enclosures and is presently deemed as being inert and safe to use for encapsulating items such as large maps and plans. This is a sound alternative for the society to house important individual manuscripts and selected documents.

We suggest that if Mylar enclosures are being used, they should be manufactured with heat welded joins, thus eliminating any potential danger to the object.

Double sided tape constructed enclosures can be problematic when a paper item comes into contact with the tape and if the tape decomposes allowing the thermoplastic nature of the adhesive to flow.

## PVC

Polyvinyl Chloride plastics were and still are common for the manufacture of folders, photographic albums and enclosures. This material has been confirmed as causing harm to paper based items and other chlorine sensitive materials such as textiles and silver.

Any plastics, which appear to be suspect such as older plastic bags should be disposed of and replaced with paper or polyethylene material. This will include older style photographic folders, coloured ring binders and many of the plastic enclosures more than five years old.

- The archive had a few suspect plastic enclosures as well as envelopes and folders housing items. Modern records which are housed in PVC binders should be stored away from the photographic and paper based collection.
- Where possible the new catalogue sheets should be printed onto an archival copy paper and stored in polypropylene binders.

## Artworks

- Framed artworks and framed photographs not on display should be housed in purpose built racks with padded support beneath and at the sides of the structure. The new racks should protect the frames and glazing material from damage while allowing easy retrieval of them.
- Artworks on display should have an improved hanging system so the works cannot be removed from the wall by visitors.
- Artworks should not be hung above heaters or below windows. As a general rule artworks should be hung on internal walls rather than outer walls. This will reduce the possibility of moisture and heat transferring from outside the building into the hung work.
- Artworks should not be displayed beneath known water or waste pipes.

## Books

- All shelving should be a minimum of 100mm above floor level in case of flooding and to prevent rising damp from the floor.
- Consideration should be made to house rarer volumes and those severely damaged in polypropylene boxes.
- Those books with detached spines and boards should be tied with cotton tape so as to keep their components together.
- Books when put on display require supports for the covers and book block.
- Heavy books such as account ledgers should be housed lying horizontal on the shelf to reduce possible damage to spines and sewing structures.

## Documents

The Society has approximately 20,000 paper-based documents and ephemera. The items include receipts, manuscript letters, purchase orders and advertising. These items vary in condition from poor to good with 6000 items showing physical damage such as tears and creases as well as ink loss, spotting and staining.

We recommend that each group of documents is unfolded, metal pins removed and stored flat in an appropriately sized polypropylene box. Groups of associated pages should be kept together. Approximately 250 documents can be stored flat in each enclosure before compression damage becomes an issue.

With rehousing of the documents in this way additional shelving space will become available while the polypropylene boxes protect the pages from light, insect and dust contamination.

- Rarer paper documents can be individually housed in polyethylene sleeves and stored in polypropylene folders/enclosure awaiting future conservation.

## Maps/Architectural plans

The maps and architectural plans were badly creased and cockled due to rolling and poor care. These should be conserved where necessary and placed in polyethylene or Mylar enclosures for handling and protection purposes.

The oversized maps should be unrolled, then interleaved with acid free tissue and stored rolled up enclosed in polypropylene or calico sleeves.

## Newspapers

These are evident in a small quantity but are one of the more chemically reactive a paper based archive can hold.

- The current storage in a book format on metal shelving would be adequate. Bagging in polyethylene enclosures is appropriate.
- Due to the nature of newspaper (it is usually made from poor quality paper which becomes highly acidic and brittle) they should be stored away from valuable paper based material such as photographs and textiles.

## General storage recommendations for collection

We believe that the following strategies should be implemented to enhance the preservation of the collection held.

- Remove from the floor boxes of archival material and loose items. These should be housed on shelves or in archival quality enclosures.
- Increase storage capacity of the storage rooms through new shelving
- Shelves should be spaced at 300mm centres.
- Ensure all bottom shelves are a minimum of 100 mm above the floor level.
- Refurbish storerooms including insulation, new wiring, and blinds for windows.
- Sand and varnish floors. Ventilate for **4 weeks** before relocating collection.
- Dispose of all empty and non-archival boxes, in particular produce boxes.
- Dispose of any suspect plastic enclosures, folders and albums.
- House documents in polypropylene sleeves, albums and boxes.
- Purchase polypropylene boxes/files for rare books and documents.
- Place large and heavy volumes horizontally on the shelving.
- Implement a cleaning and insect control program, use sticky insect traps at 2 metre spacing's, and around door openings.
- If display cases were to be used for the collection, they should be lined with cotton based material e.g. washed calico.

**NOTE: We believe that the current storage and housing of the paper based collection is of a poor standard and is leading to the continued deterioration of the items held.**

## Display of the collection

There is currently no interpretive or permanent display of the collection for visitors.

### Recommendation for future display:

Any new storage or display area for the collection should not only protect the item shown but offer the visitor some historic context to its existence.

To this end an interpretation board should be provided.

- All display cases and the way items are displayed should meet a museum standard, e.g. the use of supports.



This photograph shows metal cupboards in the Bendigo Library housing reference books and some archives. Note shelves with items stacked in an ad hoc way causing compression damage to items held.

<b>Environmental conditions and control in the storage areas</b>
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Over the survey period the temperature, relative humidity and light levels were recorded in the Governor's residence, cell area and library on an hourly basis. They are averaged as follows.

<b>Temperature Celsius</b>	<b>Maximum</b>	<b>Minimum</b>	<b>Average reading</b>
Governor's residence			
26/27-5-2008	24.8 <sup>0</sup> C	14.8 <sup>0</sup> C	19.8 <sup>0</sup> C
28/8/2008	25.8 <sup>0</sup> C	14 <sup>0</sup> C	19.9 <sup>0</sup> C
Cell block			
26/27-5-2008	17 <sup>0</sup> C	14 <sup>0</sup> C	15.5 <sup>0</sup> C
28/8/2008	15 <sup>0</sup> C	12 <sup>0</sup> C	13.5 <sup>0</sup> C
Library			
27-5-2008			21 <sup>0</sup> C

<b>Relative Humidity %:</b>	<b>Maximum</b>	<b>Minimum</b>	<b>Average reading</b>
Governor's residence			
26/27-5-2008	62% R.H.	51% R.H.	56.5% R.H.
28/8/2008	65% R.H.	58% R.H.	61.5% R.H.
Cell block			
26/27-5-2008	65% R.H.	61.2% R.H.	63.1% R.H.
28/8/2008	68% R.H.	65% R.H.	66.5% R.H.
Library			
27-5-2008			49%R.H.

## Light Levels UV

The visible light levels were recorded and these were as follow

Governor's residence rooms 1-4	90- 400 Lux
Cells	650 Lux

- In proximity of cataloguing room windows 3500 Lux

All light readings were taken at a height of 2.00 metres from ground level.

## Interpretation of the environmental conditions

It is well known that variations in relative humidity (R.H.), high temperatures, intense light and air pollution can have serious detrimental effects on archives, especially photographic, watercolour, paper based and most organic materials. The corrosion of metal objects is frequently a direct consequence of, or is severely aggravated by, pollutants and high humidity present in the air.

**For a paper based collection the temperature and Relative Humidity are at levels, which will accelerate the deterioration of the collection. Relative Humidity levels are far too high for object based material especially metal and timber materials.**

The accepted parameters for temperature and Relative Humidity for a collection such as this should be:

☞ **Temperature:** 18-20° Celsius

☞ **Relative Humidity:** 45% to 50%

The maximum internal temperature recording of 25.8° is **above the recommended range**.

Over the day of recordings the temperature rose steadily in the Governor's building due to the use of heaters and sunlight coming into the building.

We saw in this room a temperature change of 10°C in a 7 hour period which is a rapid rise. The temperature change from 14 to 25.8°C in this building will **dramatically influence and increase the deterioration of the items held**.

It should be noted that if the current or proposed new archive will hold photographic material it is desirable to reduce the internal temperature of the storage room to 16-18°C.

- High temperatures accelerate the chemical processes which lead to the deterioration of paper based items as well as leather.



- The Relative Humidity is well above the recommended level for an archive in both the governors' and cell buildings. With recordings of 65.0% -68% RH the environment would be rapidly accelerating the deterioration of the collection housed.
- With these high R.H. readings the likelihood of mould development and the encouragement of micro organism and insect attack is a real one (as seen in the art storage area and cells).
- Silverfish and moths enjoy a damp environment to breed and feed.
- Active mould was evident on walls, floors and ceilings.

Over the survey period we found that both the temperature and R.H. were **not controlled** other than through the natural stabilising nature of the buildings' construction and high ceilings. The stone and brick building controls to some extent the variability of temperature and R.H., however we saw **notable changes** between morning and afternoon readings.

The **temperature and R.H variations** cause physical stresses on all the items displayed and stored through physical expansion and contraction especially timber furniture.

- It is not possible to reduce the variation without an **effective air-conditioning system** which may be costly and only marginally reduce the variation in the large uninsulated Governor's building while **impossible in the cell block area**.

**The key to improved regulation of temperature and R.H. in the Governor's building will be with the installation of a high R rating insulation to walls, ceiling and subfloor.**

It should be noted that temperature and R.H. will also change due to seasonal fluctuation.

- **The greatest danger to the general collection is damp and raised R.H. levels due to the nature of the heritage building, especially during winter and spring.** We noted previous water penetration in all buildings.



Partial ceiling collapse in Governor's residence storage area through water penetration

## Lighting

An efficient boxing, filing and shelving system in a storage area substantially removes the danger of ultra violet light (UV) and visible light. Low light levels in display and storage areas substantially reduce the levels of photochemical damage to paper and pigments and assist in the preservation of all items in the collection.

- **The current light levels in most storage areas are low and meet a safe standard for the items held especially since most are boxed.**

The Lux readings at the windows in the cataloguing room and where the T.C.Watts photographic collection is held **exceeded 3500 Lux**, with the centre of the room being **850 Lux**.

☞ At these levels we would see binding materials fade while **accelerating** the chemical deterioration of paper, cloth and leather.

The aim is to reduce all light levels of storage and display rooms to **below 100 Lux**.

- **The exclusion of sunlight and heat coming through the windows would be a solution. This can be done with the installation of good quality curtains or roller blinds.**

We recommend a maximum light level of **50-100 Lux at floor level** (low light: e.g. 60 watt globes/ single 36 watt tubes 2.5 metres from displayed material).

Fluorescent tubes should not exceed 36 watts while incandescent lights should not exceed 60 watts. The fluorescent tubes should be u/v excluding type or have filters on them.

## Sunlight/UV

**Cell block:** very little sunlight enters the cells through the small window and causes no problem to the boxed collection.

**Governor's residence:** Certain rooms within the building pose **some risk to the collection due to excessive sunlight entering** from windows, especially the new section. The sunlight plays onto items in the room especially during cataloguing days.

We saw items **left on tables in direct sunlight for several hours**. This would cause the rapid deterioration of the item due to heat, UV light. It can also cause fading of pigments and can cause an increase in the rate of chemical deterioration of paper and leather.

The windows in this room need blinds or other methods to exclude the sunlight.



## Insect and pest control

On the days of our visit we witnessed **some insect contamination** of the collection such as spiders, flies, silverfish and moths.

This also applied to the building with some evidence of **borer attack to timbers**. The insect damage appeared to be both old and current, with some book blocks having live animals present.

We did not see any **pro-active control of insects** such as sticky traps or reduction of the problem through vacuuming contaminated spaces.

It is necessary that an integrated pest management system be adopted. Such a system will include fortnightly vacuuming of the floors and shelves as well as the use of sticky insect traps.

- **The books or other items in storage should not be fumigated by pest controllers as this can cause major damage to the collection.**
- The installation of sticky insect traps is highly recommended. These sticky traps should be placed on each shelf in dark places and spaced every 2 metres.
- A surface insect spray applied every 3 months at the floor /skirting board area may also assist in the control of crawling insects.
- **Do not spray the surface of bindings, paper based material or objects.**
- Vacuuming on a fortnightly basis is required to control the dust contamination.



One of several insects found in the collection, most prevalent were silverfish.

## Airborne particulate control

The collection was **very heavily contaminated** with dust, dirt and other particulate material. This is mainly due to the building's condition, lack of dust excluders at doors and window openings and open faced shelving.

It was apparent there has been an infrequent cleaning schedule with vacuuming of shelves, boxes, furniture and floor being inadequate.

### Recommendation:

- All floors should be vacuumed weekly
- All shelving should be vacuumed fortnightly
- Tops of books should be vacuumed monthly (not fragile books)
- Furniture and objects should be protected from dust and dirt contamination
- Windows should be vacuumed and cleaned monthly
- Draft excluders to doors and windows should be installed

## Future paper based display

Any books for future display must have supports and be in a dust free environment. Existing shelving and display cases if used require cleaning and refurbishment in order to improve the care and preservation of each book.

Items, which may be displayed such as photographs and paper based items should be museum framed and shown in low light areas. If this cannot be achieved the works should have UV excluding material as the glazing material in the frames.

In addition to this any original photographs pertaining to the collection should be **copied** and these displayed in the future building with the originals conserved and stored.

Light sensitive objects such as some textiles may be displayed in purpose made display cases or frames, which exclude UV light.

- All fragile material including some objects should be displayed for limited periods each year. We would suggest no more than **4-12 weeks per year**.

## Door/window security

The main visitor access to the Governor's residence is via timber doors. The locks on all doors are in good condition and operational. All padlocks to the cell doors are sound and operational.

Most windows in the complex have external metal bars making them secure to intruders. Windows have older styled finch lock mechanisms and do not provide a high level of security.

- The bathroom window was permanently open on all days of our visit.

## Security/safety

- No movement activated local alarm is evident in the cell storage areas for the collection.
- No wired in smoke detectors are evident in the cell storage areas for the collection.
- Three fire extinguishers are present in the building of Type 2 A. These were last checked in **2007** with two showing a lower than expected charge rate.

**Note:** The fire extinguishers in the Governor's residence were few in number given the large holding of paper based material. Three rooms had no fire extinguishers present.

- No exit plan or disaster plan were displayed in the current storage areas for the collection.
- No movement activated security lights were evident in the cell or Governor's residence area.

The location of a **kitchen** in the Governor's residence poses an increased risk of fire and environmental contamination of the collection through high humidity and the potential for **rodent and cockroach infestation**.

- **It was noted on the days of the survey that the urn was operating all day boiling water. A large amount of steam was evident in the kitchen raising relative humidity and temperature in the building.**
- Access to the collection in the cells means the **alighting metal ramps**. No hand rail exists which can **increase the risk** of visitor injury, especially for the elderly and young.
- The upstairs area of the Governor's residence is accessed by timber stairs. These are narrow to navigate and again are **not suitable for the elderly or young**.

## Key security risks to displayed and stored items

The most valuable items in the collection in terms of appeal for theft are most likely the antique furniture held in the cell area as well as smaller curio objects. These are stored without purpose built security systems.

The threat of theft is possible due to the fact that the cell complex is surrounded by a permanent population of people, and appears to be visited by council workers, and other onsite workers. As the historic cell complex is now empty and has a vandalised and vacant appearance on the inside, it would be a target for entry even just for curiosity sake.

Upon finding a secure home for the collection, the most valuable items in a monetary and historically significant sense should have secure areas where they are housed or displayed. Insurance for these items should also be taken by the Society.



## Disaster planning/disaster response

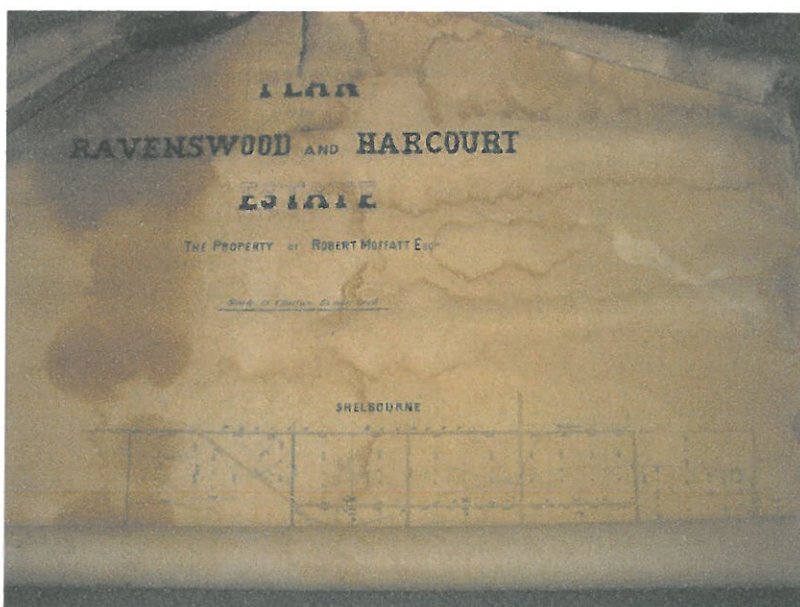
- The Bendigo Historical Society does not have a specific collections disaster and disaster response plan.
- Staff and volunteers have not undertaken specific collections response training.
- There is no list of emergency contact numbers displayed in the Governor's residence or cell block.
- A disaster risk assessment has not been done for the collection.
- The collection is not specifically insured against loss or damage.
- A Disaster bin has not been compiled to respond to an incident, e.g. roof leak.

## Training needs and curatorial development

- The Society does not employ an academically trained museum curator.
- The personnel caring for the collection have no formal training in the preservation of paper based collections.

### Recommendation:

- All personnel caring for the collection should attend a preservation workshop to attain some basic management, preservation and handling skills of museum items.
- Consider the employment of a part time curator of collections.
- Increase volunteer attendance for cataloguing purposes to three days a week. This may require some payment or enticement to do so.
- Direct volunteers to clean storage areas.



Water damage to map caused by poor housing and handling of the item.

## Summary of Preservation Needs Assessment

The Bendigo Historical Society has several problems to overcome in order to meet a higher museum standard of preservation and display of the collection.

- ☞ The majority of the concerns are related to the poor condition of the buildings the collection is housed in, and the extent that the buildings require major repair and modification if they were to meet a minimum museum/archive standard.
- ☞ Due to the size of the collection, a large budget is required for the installation of new and refurbished shelving.
- ☞ Retaining the collection in its current home has no historical purpose as the amount of historic material relating to the Old Bendigo Gaol is virtually nil.
- ☞ Many hundreds of items require conservation treatment and preservation housing to arrest their deterioration. This area of the Societies management being the most wanting.
- ☞ The cultural significance of certain items in the collection requires to be defined in greater detail by the Society. This will enable many items which are not fundamentally significant to Bendigo **be disposed**. In our opinion over 40% of the material held has only curiosity interest and much of it no historic link to the Bendigo region other than it was donated by someone who lived in the area.
- ☞ The collection should also be valued for insurance purposes.
- ☞ The two most important management aims are to complete the cataloguing of the collection and training of volunteers in simple preservation and handling techniques.
- ☞ The two most urgent practical aims are to find a suitable permanent home for the Society and the collection and to dispose of non significant material.
- ☞ The two most urgent conservation tasks are to remove the artworks from their present location to a drier space and to commence a treatment program for items such as photographs, artworks, documents and books.
- ☞ The two most urgent preservation tasks are to house significant material in museum standard enclosures and control the environment within storage areas.

**In all aspects of the Bendigo Historical Societies operation, considerable funds and dedication will be required to meet the conservation and preservation aims outlined.**



## Key recommendations and Action plan

### Building

- Decide on/find a permanent location for the Society and collection or
- Repair Governor's building/refurbish rooms
- Improve second floor access
- Install a high level of insulation to walls, ceiling and floor
- Improve wiring and light switches
- Install security lights to site
- Reduce sunlight from windows
- Improve locks
- Improve disability access
- Acquire thermostatically controlled air conditioner for archive store/research area if funds permit.

### Health and safety

- Provide additional emergency exit sign
- Provide and display an emergency exit plan
- Provide a first aid kit in the chosen building
- Reduce dust and insect contamination in the chosen building by blocking out drafts and filling gaps in walls, windows and doors.
- Develop a disaster and collection recovery plan
- Improve fire prevention and response equipment in the chosen building
- Provide disability access

### Archive environment

- Improve control of the temperature and humidity in the chosen building
- Install new blinds to windows
- Reduce dust contamination in rooms
- Install sticky pest traps to control insects in the museum and all storage areas
- Improve cleaning program in the building, archive, and display areas
- Prioritize most valuable and historically significant material for conservation treatment and museum standard housing

- Increase storage capacity by improving and adjusting existing shelving.
- Consider de-accessioning books, documents, ephemera that do not specifically pertain to local history. This may include Government Gazettes, associated state statutes, 'In Britain magazines', 'Encyclopaedia Britannica' (61 volumes) religious books, and duplicate copies of material.
- Dispose of broken furniture, insignificant objects, curiosities
- Store rare and oversized items in new metal shelving or archival boxes
- Provide archival standard boxes for rare books and fragile items.(acidic pamphlets, newspapers)
- Copy acidic and fragile document material onto digital media
- Remove and conserve original framed photographs as well as historically significant items in storage
- Copy original photographs and display copies
- Copy original photographs onto digital media for research
- Keep all aisles and walkways clear of boxes and items to assist in the free circulation of air and for health and safety reasons
- Catalogue all material

### **Storage systems**

- Replacing over time all the non-museum quality boxes with archival sound material.
- Removing all suspect PVC plastic enclosures.
- Purchase Mylar/polyethylene encapsulations for the oversize items such as newspapers/letters.
- Changing/check the size of archival boxes and shelf heights to increase the storage capacity.
- Seal the surface of all timber storage units by painting with an acrylic or polyurethane varnish. Line with museum board or Mylar.
- Construct new storage units for over-sized works such as maps, large books and newspapers.

## **Time frame to complete the recommendations**

### **Short term 12 months**

1. Find a permanent home for the Society and to house the collection
2. Repair/refurbish the building which is to house the collection
3. Install a high level of insulation to the walls and ceiling of all storage rooms
4. Install bookcases and furniture of a museum standard to house the collection
5. Attend a hands-on preservation workshop to improve the standard of care of collections

### **Medium term within 3 years**

6. Catalogue the collection, locate the most significance items in the collection, select significant items to be conserved. (see Project priority list)
7. Develop a new collection policy on usage, acquisition and aims
8. Refurbish all leather bound books and relocate onto a shelf
9. Have original timber display cases and shelving cleaned and repaired for use
10. Have significant books conserved by a book conservator

### **Long term 5 to 10 years**

11. Maintain condition of building through yearly maintenance repairs
12. Acquire significant books, photographs and paper based documents relating to the Bendigo region
13. House and conserve acquired material in the collection
14. Develop a visitor information centre/research room so the collection can be better accessed by the public.
15. Develop displays and educational lectures for schools in the region

## Appendix

### FUNDING REQUIREMENTS FOR IMPROVED STORAGE (approximate)

- Purchase of 100 archival storage boxes, sizes to suit documents,  
letters, books, ephemera (Albox) \$20.00 @, total: \$2000.00
- Purchase 30 polypropylene photographic albums and sleeves  
(3000), sizes to fit photographic collection total: \$2000.00
- Sticky traps for silverfish 200 X 70cents @ total: \$140.00
- Refurbish current shelving, purchase new shelving,  
bookcases, plan chest, build storage for framed artworks total: \$20,000.00
- Purchase 1 lockable 4 drawer filing cabinet for rare  
photographs total: \$300.00
- Purchase one lockable two door metal cabinet to house  
rare books and small objects total \$500.00
- Purchase blinds for storage/archive area windows total: \$1000.00
- Acquire display boards, book supports total: \$500.00
- Installation of air-conditioning system to governors residence total: \$5000.00
- Materials for establishing a disaster response kit total: \$260.00

**Total estimate: \$31,700.00**

### Building refurbishment: Governor's residence and cell blocks

It is not possible to quote accurately for the refurbishment of the Governor's residence and cells if they are to be used in the future. As stated elsewhere they are not the ideal constructions for housing the collection nor for easy public access.

In all cases extensive repair is required to the buildings including the installation of insulation to walls and ceiling, treatment of the sub floors, damp proof repair, roof repairs, environmental control systems, painting and security systems.

☞ **An estimate cost of repair would be in excess of \$450,000.00.**

☞ A lower cost option would be to find a suitably sized building in the shire which is in a better condition and more suited to the function of the Society and preservation of the collection. Such a building would need to be between 300 and 400 square meters in size with room to build a 100 square metre specialized display/storage facility.

The Ballarat Historical Societies submission to council 'Planning for a Permanent Facility. 2008' adequately covers what the Society needs in a repository for which we endorse.



## **Archive management, cleaning**

The following recommendations are made to improve the preservation of the collection and are based on our observations over the visit. Some of the suggestions may already be in place and only require modification to be more effective.

### **Rearrangement of layout, furniture, and equipment:**

There are instances where furniture or objects obstructs the easy access to shelves and cabinets. The furniture and collection should be arranged so as to maximise space and assist with airflow in the room. All boxed material on the floor should be removed and housed.

#### **We recommend the following:**

- Set up the archive into clearly distinct material types such as leather bound books; cloth bound books, paper bound journals, documents, photographs, textiles and objects. This will reduce the chemical interaction between items.
- Prevent visitors and researchers accessing fragile material without supervision.
- Provide members, visitors and researchers with white cotton gloves to wear when they are to handle **any** valuable material from the collection, particularly rare documents and books and metal objects.
- Seal off all air vents since it is a major source of dirt and insect contamination

### **Book/archive acquisitions**

Items either donated or acquired by the Bendigo Historical Society should go into a processing area where volunteers, curators or conservators can view the work and diagnose it according to its condition and its possibility of contaminating the main collection.

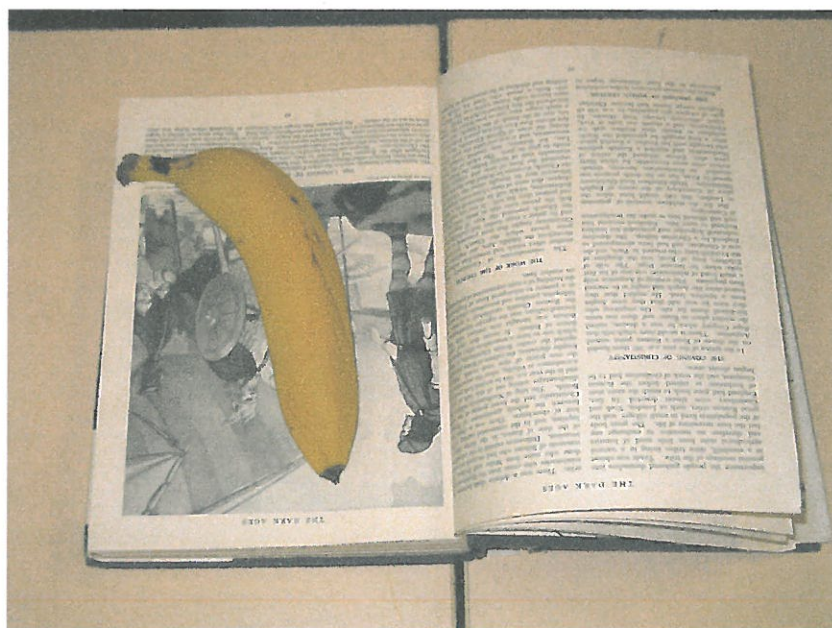
#### **Each new item should be scrutinised for mould; insects or chemical contamination before it is boxed and stored with the main collection.**

- It was evident that a few books, artworks and other paper based items in the collection show evidence of previous water damage and mould growth. The mould was mostly inactive due to the generally dry environment however this affected material should not be put into the general collection without prior conservation treatment.
- Any item showing mould should be isolated, dried, and housed in a polythene bag. The artworks as already stated require removal from their present location into a stable environment. All mouldy packaging material should be disposed of.

## Recommended practice for handling books and pamphlets

Books, pamphlets and documents are to be read; yet with this use they can become damaged. It is however possible to minimise damage through proper care and handling.

- Readers should ensure that they have a clean, clear space on which to place the item before it is removed from the shelf. This is particularly important when large volumes are being consulted.
- Hands should be clean and free from grease.
- One of the safest ways to remove a book from the shelf is to push the neighbouring books in slightly. The reader can then remove the chosen volume by gripping the sideboards and spine.
- When the book is carried from the shelf to the reading desk, it should be held in both hands and carried as near horizontally as possible.
- A reading stand or book support should be provided and be used by researchers when consulting rare and fragile books. They should never be placed flat on the reading desk, or damage to the binding structure will occur.
- Researchers should open books and pamphlets gently and turn pages with cotton gloved hands.
- Never mark a page by folding down a corner, the fold will eventually tear and paper losses may occur.
- **Photocopying** old, rare or fragile books is not recommended: the light, heat and physical pressure involved is damaging.



Banana used to hold open a book from the collection while being catalogued

## Recommended practice in handling works on paper

- Drawings, prints and watercolours should never be handled in a hurried manner. Time should be taken to consider any manipulation **before** undertaking it.
- When lifting an object **both** hands should hold and support the sheet, with the fingers fanned out underneath and the edge of the sheet in the crook of the thumb. Generally speaking the hands are best placed at top and bottom corners diagonally opposite one another, **never** suspend a sheet from a single corner or edge.
- When carrying a work of art on paper for any distance, it should be placed in a suitable folder.
- When viewing an object it is advisable to lay it on a support of clean, smooth, white paper and this support should be moved during viewing rather than the object itself. The support sheet should be lifted, rather than the work of art.
- When turning a work of art over to see the verso, it should be held in both hands in such a way as to minimise flexing. It should not be allowed to ‘trail’ across any surface during this operation. The image area of a work of art should never be touched with anything. This applies particularly to soft pigments and photographic surfaces.
- Researchers should take notes in pencil.

In regards to photocopying of items we suggest that this be done only by a nominated volunteer. Great consideration should be given that the item will not be harmed. A photograph or computer scanning of the item is preferable since it involves less physical and photochemical damage.

The above recommendations also apply to the photographic collection and generally throughout the storage area.

☞ *Every effort must be made to minimise any potential physical damage to an item through movement, display or consultancy by a visitor or researcher.*



Pest control, a quaint but unproven method to control silverfish. Sticky insect traps are the preferred method.



## Housekeeping

Over the survey period we found that the book and paper collection is very heavily dust, dirt and insect contaminated. Attention should be paid to the following.

- Vacuum the floors and vacant spaces around the shelving every fortnight.
- Wipe surfaces of the shelving (metal or painted) with a damp cloth once a month **without** a detergent or cleaning agent.
- Vacuum the tops of closed boxes once a fortnight.
- Vacuum on a low setting and with gauze or fly wire covering the nozzle to reduce the likelihood of sucking up any fragments of an item. If this occurs for some reason all fragments of the item should be kept.

☞ **Do not wipe any of the objects or apply a vacuum onto fragile items**

## Further preservation suggestions

- Push all shelved books 4 cm into the shelving to avoid physical damage to the spines and to reduce overhead water damage and dust contamination.
- Remove or make secure electrical cables lying on the floors.
- Double stack archive boxes end-on where possible to save storage space.
- Store empty boxes and plastic enclosures outside the main storage area.
- Boil kettle in kitchen only prior to use
- Do not eat around archival material or objects
- Wash hands before handling any item/ wear cotton gloves



Albumen photograph

C1870 requiring removal from board, cleaning and emulsion consolidation. Over 800 items are in this condition and require urgent conservation treatment.



## **Material suppliers**

Albox Australia, 56 North Terrace, Kent Town, S.A, 5067

[www.albox.com.au](http://www.albox.com.au)

Telephone 1300 555 717

**Polypropylene boxes, photographic enclosures**

Archival Survival Pty Ltd, PO Box 2394, Hawthorn, Vic, 3122

[www.archivalsurvival.com.au](http://www.archivalsurvival.com.au)

Telephone 1300 781 199

**Archival storage boxes and enclosures**

Conservation Resources Pty Ltd, PO Box 538, Coburg, Vic, 3058

[www.conservationresources.com.au](http://www.conservationresources.com.au)

Telephone 1300 132 570

**General conservation supplies, archival storage enclosures, photographic albums**

C.Rudduck Pty Ltd

Unit 2/47 Ingles Street, Port Melbourne

Telephone 9676 4444

Fax 9676 4455

**Insect sticky traps**

Officeworks Superstores Pty Ltd

[www.officeworks.com.au](http://www.officeworks.com.au)

Telephone 1300 633 423

**Four drawer metal filing cabinets, chairs, tables**

Zetta Florence, 187 Gertrude Street, Fitzroy, Vic, 3065

[www.zettaflorence.com.au](http://www.zettaflorence.com.au)

Telephone 1300 555 124

**Archival boxes, paper, preservation materials**

**Dehumidifiers:** Dehumidifiers are used in the case of flooding of the archive or museum. They are set up to extract moisture from the air and to stabilize the relative humidity in the building.

**Munters Pty Ltd**

1 Blission Street, Springvale, 3171

Telephone 03-95623677

1800 800 849 Freecall Emergency

*\*Specify 4 litre per hour de-humidifier model with Humidistat.*