Risk Assessments in Heritage Planning in Victoria


by
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Albury 2003
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Introduction

Australia is particularly prone to the occurrence and impact of natural disasters. Bushfires, floods, droughts, land slides and earthquakes are common. Despite this, to date little thought has been given by Australian heritage management agencies to the effects of natural disasters on cultural heritage places and items. The physical effects on heritage places caused by fast and slow acting disasters such as earthquakes (Collins 1991; Langenbach 2001; Wight et al. 1992), floods (Baldrica 1998; Bucher 1994), bushfires (Gleeson & Jones 2000; Traylor et al 1990), tornadoes (Reed 2000), cyclones (Nelson 1991), cyclonic surges (Spennemann 1998a), terrorist attacks (Osborne 2000), and salinity (Spennemann 1997; 2001; Spennemann & Marcar 1999), are comparatively well documented and understood. Likewise, a range of mitigation, stabilisation and repair techniques have been developed (cf. Allen et al. 1991; Bear 1991; Bonneville et al. 1991; Cox 1992; Croci 2000, 2001; Donaldson 1998; Spennemann 1999b). Despite this, whilst the picture is gradually changing in the USA (cf. Look & Spennemann 2000; 2001; Spennemann & Look 1998a–b; Spennemann 1999a; Tweedy 2000), there appears to be a lack of policy from both a heritage and emergency management point of view in Australia. Although the need for disaster preparedness for cultural heritage is well acknowledged, there appears to be a lack of application particularly in Australia (see also Riddett 2002).

If cultural heritage is able to withstand and survive the natural disaster itself it then faces a new risk: will it survive the decisions made during and after the disaster? (Spennemann 1999a). Some disaster management and recovery actions have actually exacerbated the effects on heritage sites (Craigo 1998; Kariotis 1998; Traylor et al 1990). As noted by Look & Spennemann (2000) this is perhaps the time when heritage is most vulnerable.

The 1990s were the official International Decade for Natural Disaster Reduction. Did the widespread educational activities during that decade make any impact on the community of heritage managers? A pilot study of the attitudes of heritage managers in New South Wales showed a widespread lack of awareness about the effects of natural disasters in heritage properties (Spennemann 1998b). A repeat study in 2002 confirmed the results (Graham & Spennemann in press; submitted).

This report assesses to what extent during the past five years, heritage management in Victoria took natural disasters into account, drawing on the body of conservation management plans written for heritage places on the Victorian Heritage Register.
Methodology

The Sampling Frame

The sampling frame is comprised of all conservation management plans written between 1997 and 2003, as they were available at the Central Library of the Department of Infrastructure, Melbourne.

Conservation Management Plans are shelved in the Central Library of the Department of Infrastructure, Melbourne under Dewey Code 720.9945 VHR and then consecutively numbered according to the property registration number of the Victorian Heritage Register (2003). All Victorian Heritage Register reports dating from 1997 onwards were pulled off the shelves on 29 and 30 May 2003. In addition, four as yet uncatalogued items were made available. A check of the loans register showed that eight reports had been on loan to departmental staff which fall into the sample period. As these were inaccessible, they are excluded from the analysis. Also not included are any reports that may have been completed but held by Heritage Victoria in the process of review and acceptance, and which have not yet been made public. Added to the sample were four conservation management plans which had been prepared for non-register properties (two) and for multi-property historic precincts (two). The total number of reports available for analysis was 98.

Methodology

All reports falling into the sampling period were examined as to whether they contained sections dealing with the identification of hazards and/or discussions of natural or anthropogenic-disaster related risks to the cultural heritage property under discussion.

Table 1. Chronological spread of the Conservation Management Plans included in the sample

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>19</td>
</tr>
<tr>
<td>1998</td>
<td>12</td>
</tr>
<tr>
<td>1999</td>
<td>19</td>
</tr>
<tr>
<td>2000</td>
<td>17</td>
</tr>
<tr>
<td>2001</td>
<td>15</td>
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<tr>
<td>2002</td>
<td>12</td>
</tr>
<tr>
<td>2003</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>98</td>
</tr>
</tbody>
</table>

Characteristics of the Sample Population

Table 2 shows the companies authoring the studies. In cases of multiple authorship, the lead company only has been shown. The conservation management plans are
dominated by Allom Lovell & Associates with almost one third of the market share. Helen Lardner and RBA Consultant follow (with eight each), while the now defunct Building Services Agency produced a series of nine plans for properties in Melbourne in 1997 and 1998.

Table 2. Companies authoring the Conservation Management Plans

<table>
<thead>
<tr>
<th>Author</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allom Lovell &amp; Associates</td>
<td>31</td>
<td>31.63</td>
</tr>
<tr>
<td>Authentic Heritage Services</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>Beauchamp, David</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>Building Services Agency</td>
<td>9</td>
<td>9.18</td>
</tr>
<tr>
<td>Butler &amp; Associates</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>Claude Calleja and Associates</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>Coleman, Ian &amp; Coleman, Roselyn</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>Doring, C. &amp; Doring, M.J.</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>Falkinger Andronas</td>
<td>3</td>
<td>3.06</td>
</tr>
<tr>
<td>Gasparetto, Nadia</td>
<td>2</td>
<td>2.04</td>
</tr>
<tr>
<td>Giovanelli, Pip</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>Heritage Alliance</td>
<td>2</td>
<td>2.04</td>
</tr>
<tr>
<td>Jacobs, Wendy</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>Jean, Amanda</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>Jellie, Pamela</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>Lardner, Helen</td>
<td>8</td>
<td>8.16</td>
</tr>
<tr>
<td>McDougall &amp; Vines</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>McKenzie, Allison</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>Meredith Gould Architects</td>
<td>2</td>
<td>2.04</td>
</tr>
<tr>
<td>Neale, Anne &amp; Robert Sands</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>Nelson, Ivar</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>Nigel Lewis Richard Aiken</td>
<td>3</td>
<td>3.06</td>
</tr>
<tr>
<td>Orr, Jill and City of Port Phillip</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>Patrick, John</td>
<td>4</td>
<td>4.08</td>
</tr>
<tr>
<td>Public Heritage Unit</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>Raworth, Bryce</td>
<td>2</td>
<td>2.04</td>
</tr>
<tr>
<td>RBA Architects &amp; Conservation Consultants</td>
<td>8</td>
<td>8.16</td>
</tr>
<tr>
<td>Richard Petersen Pty Ltd</td>
<td>2</td>
<td>2.04</td>
</tr>
<tr>
<td>Rowe, David</td>
<td>2</td>
<td>2.04</td>
</tr>
<tr>
<td>Sands, Robert</td>
<td>3</td>
<td>3.06</td>
</tr>
<tr>
<td>Sinclair Knight Merz</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>Westmore, Trevor</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>Grand Total</td>
<td>98</td>
<td></td>
</tr>
</tbody>
</table>
Table 3.
Breakdown of the types of properties in the sample of Conservation Management Plans

<table>
<thead>
<tr>
<th>Site Class</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>16</td>
<td>16.33</td>
</tr>
<tr>
<td>Government</td>
<td>14</td>
<td>14.29</td>
</tr>
<tr>
<td>Office Bldg</td>
<td>9</td>
<td>9.18</td>
</tr>
<tr>
<td>Religious</td>
<td>8</td>
<td>8.16</td>
</tr>
<tr>
<td>Education &amp; Science</td>
<td>8</td>
<td>8.16</td>
</tr>
<tr>
<td>Commercial</td>
<td>5</td>
<td>5.10</td>
</tr>
<tr>
<td>Gardens</td>
<td>5</td>
<td>5.10</td>
</tr>
<tr>
<td>Industry</td>
<td>5</td>
<td>5.10</td>
</tr>
<tr>
<td>Sport &amp; Recreation</td>
<td>5</td>
<td>5.10</td>
</tr>
<tr>
<td>Hospital</td>
<td>4</td>
<td>4.08</td>
</tr>
<tr>
<td>Hall</td>
<td>3</td>
<td>3.06</td>
</tr>
<tr>
<td>Railway</td>
<td>3</td>
<td>3.06</td>
</tr>
<tr>
<td>Museum</td>
<td>3</td>
<td>3.06</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>3</td>
<td>3.06</td>
</tr>
<tr>
<td>Precinct</td>
<td>2</td>
<td>2.04</td>
</tr>
<tr>
<td>Social</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>Fountain</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>Post Office</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>Cemetery</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>Harbour</td>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>Grand Total</td>
<td>98</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.
Number of Allom Lovell & Associates authored Conservation Management Plans with and without risk assessments (as sampled in the Department of Infrastructure Library)

<table>
<thead>
<tr>
<th>Year</th>
<th>without</th>
<th>with</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>5</td>
<td>—</td>
</tr>
<tr>
<td>1998</td>
<td>1</td>
<td>—</td>
</tr>
<tr>
<td>1999</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>2000</td>
<td>4</td>
<td>2</td>
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<tr>
<td>2001</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>2002</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2003</td>
<td>—</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>7</td>
</tr>
</tbody>
</table>
Results

Of the 98 conservation management plans only 9 (9.18%) contain statements regarding risks to the structures:

- Royal Exhibition Building (Allom Lovell & Associates)
- Rio Vista (Pip Giovanelli)
- The Former Long Gully Primary School n° 2129 (Amanda Jean)
- St Kilda Synagogue (Allom Lovell & Associates)
- Beaurepaire Centre (Allom Lovell & Associates)
- Bendigo Mining Exchange (Allom Lovell & Associates)
- Beechworth Historic Precinct (Allom Lovell & Associates and John Patrick)
- St Mary of the Angels (Allom Lovell & Associates)
- Royal Australasian College of Surgeons (Allom Lovell & Associates)

Seven of the nine studies were written by the firm Allom Lovell & Associates. However, as table 4 shows, the inclusion of statements regarding risk in conservation management plans written by Allom Lovell & Associates is not automatic. A review of the authorship attribution given in the reports by Allom Lovell & Associates seems to suggest that the inclusion of risk assessments is due to a single individual (Robyn Ridett) who has taken a personal interest in the matter.

The level to which risk is addressed in these studies varies significantly. The number of studies that contain a risk assessment is so small that the studies can be discussed individually.

Royal Exhibition Building

The conservation plan for the Royal Exhibition Building in Melbourne (Allom Lovell & Associates 1999) contains only a brief section relating to overall security (p. 75) and a section of fire hazard and the need to maintain a non-smoking policy (p.75). Other hazards, such as windstorms, hailstorms or earthquakes are not addressed at all.

Rio Vista

Rio Vista Homestead, Mildura, has been the focus of a heritage study that *inter alia* considered fire hazards for the operation of the homestead. The homestead has already been isolated by a fire wall from the adjoining museum and gallery building. Because the homestead building is open to the public, fire safety works are mandated. The conservation plan discusses the impact of the fire safety issues (equipment, travel paths and escape doors) on the historic fabric of the property (Giovanelli 2002, p.18). The main impact identified was visual (due to the required standard signage) and physical.
The retrofitting of a sprinkler system as well as its undifferentiated activation in the case of a localised fire outbreak, would impact on the fabric of the structure and, more importantly, on any furnishings in the homestead. Concerns were also raised with regard to emergency exit doors that can be opened from the inside and thus can provide unauthorised access to the building.

Apart from highlighting slow acting decay issues, the section on risk assessment (Giovanelli 2002, pp. 19-20) only makes reference to fire and vandalism (which is deemed low). No other anthropogenic or natural hazards have been identified.

The Former Long Gully Primary School n° 2129

The conservation management plan for the former Long Gully Primary School n° 2129, 17 Jackson Street, Long Gully, Bendigo cursorily lists natural hazards ('lightening strikes, storm damage, hail and fire,' Jean 2002, p. 42) and makes reference to 'man-made risks' without detailing them. Mitigation options addressed are limited to the installation of lightening conductors and regular maintenance.

St Kilda Synagogue, Beaurepaire Centre, Bendigo Mining Exchange and Beechworth Historic Precinct

The conservation plan for the St Kilda Synagogue, contains a lengthy section on risk assessment (Allom Lovell & Associates 2000, p. 70). The full text of the risk assessment has been reproduced as Appendix 2. The risk assessment identifies 'natural events include lightening strikes, storm damage, particularly wind and rain but possibly hail' as the most probable hazards.

A comparison of the text with that used for the study on the Beaurepaire Centre, Melbourne University (Allom Lovell & Associates 2001a), the Bendigo Mining Exchange (Allom Lovell & Associates 2001b) and the Beechworth Historic Precinct (Allom Lovell & Associates and John Patrick 2000) showed that much of the text is actually boiler-plate and is carried from one study to the next with little alteration. Only here and there allowances are made for the specific property such as roof design variations or the presence of vehicular traffic.

The plan for the Beechworth Historic Precinct (Allom Lovell & Associates and John Patrick 2000) includes a more detailed discussion of the hazards, mainly aimed at the museum collection and the landscaping of the public garden. Intriguingly, this is also the only report where the authors recommend that a Risk Preparedness Plan be developed. This recommendation is specifically for the the Burke Museum and its collections.

St Mary of the Angels Geelong, and Royal Australasian College of Surgeons, Melbourne

The conservation plans for the Royal Australasian College of Surgeons, Melbourne (Allom Lovell & Associates 2002) and for St Mary of the Angels Geelong (Allom Lovell & Associates 2003), differ from the previous inasmuch as the risk assessment is

set out in tabular form. The full text of the risk assessment for St Mary of the Angels has been reproduced as Appendix 3. They set out the hazard, its probability and a suggested response to mitigate the hazard impact and manage the risk.

Discussion

The result of the survey confirms anecdotal evidence: risk assessments for impacts caused by natural disasters are largely absent from conservation management plans drawn up for heritage properties in Victoria. A overwhelming majority, 91%, does not address such issues. Nine studies are the laudable exception. Of the nine studies discussed in the previous section, six come from the heritage consultancy firm of Allom Lovell and Associates. Common to all studies is that Robyn Riddett is a co-author, and it seems to have been her personal interests and influence that a risk management section has been included in the plans. That this is by no means standard practice by that firm is evident from table 4.

Four of the plans use textual presentation, while two set out the information in table form. None of the plans actually provide any evidence or critical discussion for the nature of the hazard and its probability. The tabular assessments are more site specific than the textual ones, which tend to be more generic.

Giovanelli’s assessment of Rio Vista addresses the implications of fire safety measures on the fabric in differentiated fashion, outlining that the installation and use fire suppression equipment may in fact have a detrimental impact on the fabric of the heritage property (Giovanelli 2002, p. 18).

What should be contained

In view of the devastating impact caused by natural and anthropogenic disasters on cultural heritage properties, modern conservation management plans should include risk assessments for the most common types of hazards, namely:

- wind storms
- hail storms
- urban fire (bush fire where appropriate)
- flooding (riverine and/or sheet flooding)
- earthquakes
- vandalism
- civil disturbance
- vehicle impact due to traffic accidents

Where appropriate due to the environmental setting of the property, hazards such as railway accidents, aircraft crashes (if under the flight path), the impact of snow
loading, avalanches and landslides and the like may need to be considered and included.

If the property has a high strategic or symbolic value, or is in close proximity to such a property (which in itself may not have heritage value), it may well be exposed to the impact of urban terrorism. In this case the hazard needs to be assessed.

To facilitate the management of risk the information should be discussed in reasonable detail and then summarised in tabular form, setting out the hazards, their probability (with evidence for the probability level determination presented in an appendix for independent verification), the potential impact of the hazard if unmitigated, and the suggested risk management strategy. Where applicable, reference should be made to applicable standards. Where 'standard' hazards (see list above) are non-applicable this should be spelled out.

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Probability</th>
<th>Potential Impact</th>
<th>suggested Risk Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>wind storms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>hail storms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>urban fire</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>bush fire</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>riverine flooding</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sheet flooding</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>earthquakes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vandalism</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>civil disturbance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vehicle impact</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Given that conservation management plans are drawn up for the benefit of both the property owner and the administering authority, i.e., Heritage Victoria, the inclusion of such information should be mandated.

If a risk matrix were included in all conservation management plans for Victorian Heritage Register properties, appropriate management action could be ensured. This could entail mechanisms that mandate the preparation of disaster management plans for properties.

More importantly, in the event of a natural disaster Heritage Victoria would be able to cross-reference the extent of the disaster with the probability that heritage properties were affected according to the data provided in the conservation management plans and thereby be capable of immediately engaging in appropriate disaster response activities as specified in the plans.
The new Conservation Plan Standard Brief

In March 2003 Heritage Victoria released a new standard brief for conservation management plans (Heritage Victoria 2003b; 2003c). For the first time such briefs include a mandatory section on risk assessments. This possibly was in response to by the destruction of heritage sites during the January 2003 bushfires.

The new brief requires:

"Environmental risk

This section should identify risks to the place such as fire, flood, earthquake, and propose risk management strategies."

The suggested outline includes a corresponding section

"5.7 Environmental Risk

• risks

• risk management strategies"

There are no performance criteria provided.

In addition to semantic issues, ie that hazards are identified and risks are assessed or determined, the brief is short on detail. Unless this section is developed in more detail, risk assessment will remain perfunctory.

Conclusions

The survey of the conservation management plans completed between 1997 and 2002 has shown that risk assessments for the impacts of natural and human-induced disasters are rare. In the absence of formal requirements for such information (until March 2003), consulting companies had little incentive to include unpaid-for information.

Until such time that all conservation management plans include risk assessment of impacts by natural, and where relevant, anthropogenic disasters, heritage places are put at risk. The mandated inclusion of a section on environmental risk in the new standard brief for conservation management plans is step in the right direction, provided that Heritage Victoria enforces this provision, and as long as heritage consultants address the matter with the detail necessary for a good assessment.
Bibliography


Albury: Association for Preservation Technology (Western Chapter) and The Johnstone Centre, Charles Sturt University. Pp. 17-24.


Graham, Kristy and Spennemann, Dirk H.R. (submitted) Heritage managers and their Attitudes towards Disaster Management for cultural heritage resources in New South Wales, Australia. Local Environment.


http://www.doir.vic.gov.au/doi/doielect.nsf/2a6bd98dee287482ca256915001cf00c10a00cb7ad3b84d50ca256ced001562d2/$FILE/conplan%20March%202003.pdf


Victorian Heritage Register (2003a) Victorian Heritage Register on-line: 

Appendix 1:—Reports assessed in this Survey


Appendix 2—Sample Text A

The following sample text has been taken from


Non-boilerplate text has been set in italics.

"5.9 Risk Preparedness

Risks to the building can be categorised into two principal areas: risks from natural events and man-made risks. The most likely risks caused by natural events include lightning strikes, storm damage, particularly wind and rain but possibly hail, to the dome and windows. While these cannot be prevented their effects can be mitigated by the installation and maintenance of lightning conductors and through regular repairs and maintenance to the building fabric. Protective screens, discussed elsewhere, can be used to cover over windows from wind-borne projectiles.

Given Melbourne's meteorological history, damage from cyclonic winds or tornadoes is a low probability. If such conditions occurred, the damage could be quite extensive. The site appears to be high enough to discount flooding as a likely threat, other than perhaps through blocked drains which may be in the vicinity. While earthquakes occur frequently around Melbourne, their impact has not been great and they are seldom publicly reported. In the event of an earthquake of some force, it is probable that the dome would sustain structural damage, at least cracking and possibly collapse. Given the history of structural failure of the building, it is likely that further damage would be sustained.

The most likely man-made disasters are flooding, due to blocked, burst or leaking rainwater goods and pipes, fire caused by electrical faults and equipment, candles or lamps, or smoking, and vandalism from missiles, including thrown objects such as stones, bottles and the like, or more serious attack. In part these can be mitigated through the installation monitored smoke detectors and alarms, and extinguishers (sprinklers, hand-held extinguishers) which should be maintained and regularly tested. It would be prudent to establish a means of entry through the security fence and the building with the fire brigade as a standing arrangement, so that they are not inhibited from extinguishing the fire in event of an emergency when the site is unattended. Regular inspections of gutters, rainheads, sumps and general plumbing should be undertaken to the reduce risk of water ingress as a result of blockages. In the case of vandalism and attack, the perimeter security fence is a deterrent from low level attack. Protective screens can be installed elsewhere to glazing in a manner which is functional but less visually intrusive than the existing screens. Further security measures would be dependant upon the degree of risk perceived and accepted."
Appendix 3—Sample Text B

The following sample text has been taken from

5.7 Risk Preparedness

A risk preparedness analysis, outlining the most likely threats and hazards posed to the fabric and contents by environmental and social factors, indicates that greatest threats to the building would seem to be:

<table>
<thead>
<tr>
<th>Threat</th>
<th>Probability</th>
<th>Preparation/Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire</td>
<td>Moderate</td>
<td>Install and maintain a monitored fire suppression system and upgrade as required; inspect all possible fire sources regularly and maintain electrical systems in good order; maintain liaison with fire brigade to regularly test and monitor systems</td>
</tr>
<tr>
<td>Storm Damage</td>
<td>Moderate</td>
<td>Maintain roof in good order, inspect fixings; inspect and maintain windows and doors in good order; maintain lightning conductor in good order, regularly inspect and clean eaves gutters and downpipes</td>
</tr>
<tr>
<td>Theft, Vandalism and Civil Disturbance</td>
<td>Moderate</td>
<td>Roster people to be present in church during opening hours; maintain current monitored security system and liaison with police.</td>
</tr>
<tr>
<td>Vehicle Impact</td>
<td>Low</td>
<td>Given that there is a solid perimeter fence and that access to the grounds by car is limited, the level of risk is low but could cause damage to cast iron elements.</td>
</tr>
<tr>
<td>Flood</td>
<td>Low</td>
<td>Maintain drains in good order to avoid localised flooding. The hilltop location of the church further decreases the risk of flood from water sources.</td>
</tr>
<tr>
<td>Water ingress</td>
<td>Moderate</td>
<td>Maintain and keep clear all rainwater goods (gutters, downpipes, sumps). Regularly inspect and maintain roof and winflows.</td>
</tr>
</tbody>
</table>

Prepare an evacuation and emergency response plan, The Emergency Management Manual prepared by CFA in association with the MFESB and AS 3745 - 2002, Emergency control organization and procedures for buildings, structures and workplaces, prepared by Standards Australia, and the would be of some assistance. The first two may be ordered from either of the above organizations or from brochures@cfa.vic.gov.au or Tel. 9262 8403 and the latter from Standards Australia from www.standards.com.au or via telephone (1300 65 46 46)."