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ASBESTOS CONTAINING BUILDING MATERIALS  
MANAGEMENT PLAN

Winnellie Warehouse

155 Coonawarra Road

Winnellie, NT 0821

Report Number 680.10420.00000

10 November 2017

Department of the Attorney General and Justice  
Cnr Cavenagh and Bennett Streets, Darwin NT

GPO Box 470  
Darwin NT, 0801

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## DOCUMENT CONTROL

Reference	Status	Date	Prepared	Checked	Authorised
680.10420.00000	10 November 2017	10 November 2017	Hayley Fletcher	Liam Munro	Liam Munro

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## 1 EXECUTIVE SUMMARY

The extent of asbestos building materials on the site is considered to be low. The risk associated with these asbestos materials is generally considered to be low providing that appropriate precautions are taken.

The occurrences of asbestos building materials are listed in the Asbestos Materials Register for the site (refer to **Section 6**). Appropriate recommendations are given in tabular form in the Asbestos Materials Management Plan (**Section 14**).

All of the items listed in **Section 14** are considered to be in good condition and constitute a low exposure risk, providing they remain undisturbed. The key recommendations for these materials are as follows:

- The asbestos register and management plan should be consulted prior to any demolition or refurbishment works planned for the premises;
- All items can be managed in-situ;
- The asbestos register and management plan should be reviewed by a suitably qualified person in November 2022.

All of the items remaining in-situ have been labelled appropriately.

## 2 SCOPE

SLR Consulting Australia Pty Ltd (SLR) was requested by Leonie Smith of the Department of the Attorney-General and Justice, on behalf of the Northern Territory Trustee to prepare an Asbestos Materials Management Plan (AMP) for 155 Coonawarra Road, Winnellie. The purpose of this Management Plan is to assist persons with control of the premises to comply with the prohibition of asbestos and prevent human exposure to asbestos while these building materials remain in the workplace.

This report is limited to addressing the asbestos building materials identified in the current Asbestos Materials Register (SLR Report No. 680.10420 ASR\_R01-v1.0 dated 19 October 2017) and is subject to the limitations therein.

## 3 LIMITATIONS

All sections of this report should be read in conjunction with each other and the current Asbestos Materials Register for the site, identified as SLR Report No. 680.10420 ASR\_R01-v1.0 dated 19 October 2017.

Work is conducted in a conscientious and professional manner. The nature of the task, however, and the likely disproportion between any damage or loss which might arise from the work or reports prepared as a result, and the cost of our services, is such that SLR cannot guarantee that all asbestos building materials have been identified and/or addressed.

Thus while we carry out the work to the best of our ability, we totally exclude any loss or damages which may arise from services we have provided to the Department of the Attorney-General and Justice and/or any other associated parties.

All work conducted and reports produced by SLR are prepared for a particular Client's objective and are based on a specific scope, conditions and limitations, as agreed upon between SLR and the Client. Information and/or report(s) prepared by SLR may therefore not be suitable for any use other than the intended objective. No parties other than the Client and the Client's asbestos materials Consultant should use any information and/or report(s) without first conferring with SLR. It is recommended that the Client's asbestos materials Consultant confer with SLR before using any information and/or reports produced by SLR.

Before passing on to a third party any information and/or report(s) prepared by SLR, the Client is to inform fully the third party of the objective and scope, and all limitations and conditions, including any other relevant information which applies to the information and/or report(s) prepared by SLR.

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## 4 BACKGROUND

The information in this report is based on SLR's previous involvement with the site (refer to SLR Report No. 680.10420 ASR\_R01-v1.0 dated 19 October 2017).

The site is located on the north side of Coonawarra Road towards the east end. For the purpose of this report, Coonawarra Road runs in an east-west direction, directly adjacent to the site.

The site consists of a single storey warehouse constructed circa 1980's with toilets, storage and office areas. Currently the building is used as a storage warehouse for the public trustee and only occupied intermittently.

No access was available to some areas at the time of the inspection. Inaccessible areas are outlined in **Section 6.1** of this report.

## 5 HOW TO USE THIS DOCUMENT

This document is an Asbestos Materials Management Plan (AMP) for 155 Coonawarra Road as outlined in the scope of this report. It covers the management of asbestos building materials which have been identified in a previous inspection by SLR (refer to SLR Report No. 680.10420 ASR\_R01-v1.0 dated 19 October 2017). This AMP should be read in conjunction with the above mentioned Asbestos Building Materials Survey Report.

The purpose of this Management Plan is to assist the Client in compliance of the prohibition of asbestos and prevent human exposure to the identified asbestos building materials while these remain in the workplace. The ultimate goal is for the workplace to be free of asbestos materials.

The Site Manager responsible for the building surveyed should hold this document on site. It is to be made available to any persons having a legitimate interest in it. It is a requirement that each time action is taken on one of the asbestos materials listed in the Asbestos Materials Management Plan that the action is recorded and signed off (refer to **Section 14** of this report). It is recommended that SLR be consulted prior to any asbestos materials management works being undertaken in order to ensure that the works are completed to a satisfactory standard in accordance with relevant codes, standards and guidelines.

Any queries regarding the interpretation and/or implementation of this Management Plan should be directed to SLR before work is undertaken.

## 6 ASBESTOS MATERIALS REGISTER

SLR Asbestos Building Materials Survey Report No. 680.10420 ASR\_R01-v1.0 dated 19 October 2017 constitutes the current Asbestos Materials Register for the site.

### 6.1 Inaccessible Areas

The following areas of the building surveyed were inaccessible at the time of the inspection (see Table 1). If any asbestos containing/potentially asbestos containing building materials are found during further renovation and/or demolition of the building, the material should be sent for identification and expert advice sought.

**Table 1 Inaccessible locations or materials**

Location	Explanation
Warehouse, External Roof - north elevation	No access due to roof height
Kitchenette	Internal lining to hot water system
Storage room to rear, east	Internal lining to old combination safes

Additionally, and unless specifically noted, the survey did not cover:

- Wall/ceiling panelling behind laminations/coverings.
- Concealed floor coverings beneath carpet or superficial floor coverings.
- Fuses within 'live' electrical panelling. Fuses of a certain age may contain asbestos containing flash guards.
- Hidden and/or inaccessible locations such as in or under concrete slabs, in or under vinyl/linoleum/carpet, wall cavities, hidden storage areas and the like. If the vinyl or linoleum is tested, this does not necessarily mean that the resin/glue is included in the analysis.
- Lift wells and inaccessible/unidentified shafts, cavities and the like.
- Air conditioning, heating, mechanical, electrical or other equipment.
- General exterior ground surfaces and subsurface areas eg asbestos in fill/soil.
- Materials dumped, hidden, or otherwise placed in locations which one could not reasonably anticipate.
- Materials other than normal building fabric, materials in laboratories or special purpose facilities and building materials that cannot be reasonably and safely assessed without assistance.

Materials other than asbestos are generally outside the scope as identification can require specialised analysis/inspection techniques.

Settled dust is generally not sampled or commented on. Settled dust may contain asbestos, particularly if it is in the vicinity of ACMs or areas where ACMs have been removed.

### 6.2 General Potential Occurrences

In addition to the specific hazardous material occurrences identified in the hazardous materials register the following potential occurrences are also noted:

- Fibrous cement sheeting (FCS) may be present under the ceramic tile floors to the bathroom/toilet. If present, the FCS may contain asbestos. It is not possible to investigate this without removing tiles.
- Heater banks (if present) and the ducting of older air conditioning systems may contain asbestos millboard, unless a more detailed inspection and/or sample analysis confirms otherwise.
- Old fluorescent lights may house capacitors containing PCBs unless a more detailed inspection and/or sample analysis confirms otherwise.

## 7 RISK ASSESSMENT CRITERIA

It is a legal requirement to identify hazards in the workplace. An assessment of the potential risk of harm to health and safety arising from the identified hazards must also be undertaken. Such a risk assessment assists in identifying and selecting appropriate management options.

Risk levels associated with the identified asbestos building materials have been assessed using the following criteria:

- Product type;
- Extent of damage or deterioration;
- Surface treatment; and
- Asbestos type.

The results of the risk assessment are documented in **Section 14** of this Asbestos Materials Management Plan. Appropriate management options have been selected on the basis of the level of risk determined for each asbestos material identified.

## 8 CONTROL OPTIONS

The following hierarchy of controls should be consulted when implementing control measures to eliminate the risks arising from asbestos materials.

- Elimination/removal;
- Isolation/enclosure/sealing;
- Engineering Controls;
- Safe Work Practices (administrative controls); and
- Personal Protective Equipment.

A combination of these controls may be required in order to manage asbestos materials. The documents outlined in **Section 13** of this report should be consulted whenever developing/implementing a control measure.

Since the ultimate goal is for the workplace to be free of all asbestos materials, preferential consideration should be given to removing asbestos materials during renovation, refurbishment and maintenance activities, where removal is practicable.

Notwithstanding the above, asbestos materials and any areas of a workplace that contain asbestos materials including plant, equipment and components should be signposted with appropriate warning signs to ensure that asbestos materials are not unknowingly disturbed without the correct precautions being taken. These signs should be placed at all of the main entrances to the work areas where asbestos materials are present and should conform with Australian Standard 1319-1994 *Safety Signs for the Occupational Environment*. The number of labels and the location of signage are to be determined by a competent person.

## 9 RESPONSIBILITIES

Responsibilities of parties involved in the management of asbestos materials are outlined below. It should be noted that this is not an exhaustive list and reference should be made to the legislation, codes and standards identified in **Section** Error! Reference source not found..

### 9.1 Controller of Premises

Under the *Work Health and Safety Regulations 2011*, management responsibilities and workplace obligations fall upon the following three groups of people:

- Person in Control of Business or Undertaking (PCUB).
- Person with Management or Control (PWMC).
- Person Carrying out Demolition or Refurbishment Work.

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- Person in Control of Business or Undertaking (PCUB).
- Person with Management or Control (PWMC).
- Person Carrying out Demolition or Refurbishment Work.

Under the *Work Health and Safety Regulations 2011* the above mentioned persons must:

- Identify any foreseeable hazard arising from the premises that has the potential to harm the health or safety of any person accessing, using or egressing from the premises.
- Identify hazards arising from the layout and condition of the premises and the presence of materials containing asbestos.
- Ensure that hazards are identified during any design of the premises and before the premises are provided for use as a place of work.
- Assess the risk of harm to the health or safety of any person arising from a hazard.
- Eliminate or control any risk to the health or safety of any persons accessing, using or egressing the premises that arise from the premises.
- Ensure all measures adopted to eliminate or control risks are properly used and maintained.
- Review risk assessments (refer to **Section 11**).
- Provide other persons with the information necessary to fulfil their responsibilities in identifying hazards and assessing, eliminating and controlling the associated risks.
- Provide employers with information on foreseeable hazards, assessments of risks that have not been eliminated by the controller, risk control measures and any measures an employer may need to adopt to control risk.

Under the Code of Practice *How to Manage and Control Asbestos in the Workplace 2011* persons with control of premises used as a workplace have a duty of care to:

- Develop, implement and maintain an Asbestos Management Plan.
- Investigate the premises for the presence/possible presence of asbestos containing materials. This responsibility may not be abdicated to the Contractor.
- Develop and maintain a register of identified asbestos containing materials, including details of the location and condition of asbestos materials, risk assessments and control measures.
- Assess the condition of any asbestos containing materials that are found and the associated asbestos risks.
- Develop measures to remove asbestos materials or minimise the risks and prevent exposure.
- Ensure control measures are implemented as soon as possible and are maintained as long as asbestos materials remain in the workplace.
- Consult with any person who may be affected by the presence of asbestos materials (eg building occupants, neighbours and/or all relevant contractors).

The *Work Health and Safety Regulations 2011* and Safe Work Australia Codes of Practice require full consultation, information-sharing and involvement by everyone in the workplace (including employers, workers, contractors and others) throughout the process of identifying asbestos materials, developing an Asbestos Materials Management Plan, assessing risks and developing and implementing control measures.

Under the Code of Practice *How to Safely Remove Asbestos 2011* any person with control who commissions asbestos removal is responsible for the following:

- Ensuring an asbestos removalist carries out the removal of asbestos containing materials.
- Nominating person(s) to liaise with the asbestos removalist.
- Requesting asbestos removal licence details from the asbestos removalist if such a licence is required for the removal being undertaken.
- Establishing an Asbestos Register before asbestos removal commences.
- Providing the asbestos removalist with a copy of the site Asbestos Register before removal commences.

If asbestos containing materials are to be removed, the Code of Practice *How to Safely Remove Asbestos 2011* requires full consultation, information sharing and involvement by everyone in the workplace, including employers, workers and contractors at each step of the removal process using established consultative mechanisms. Persons in adjoining properties that might also be affected by the removal must also be consulted.

## 9.2 Employers

Under the *Work Health and Safety Regulations 2011* employers must take reasonable care to identify any foreseeable hazard that may arise from the conduct of the employers undertaking and that has the potential to harm the health or safety of an employee or any other person legally at the employers place of work. In particular the employer must take reasonable care to identify hazards arising from, but not limited to, work practices and work systems, repair, maintenance, dismantling and disposal of plant, hazardous substances and the presence of asbestos installed in a place of work, the condition of a place of work and the physical working environment including exposure to a contaminated atmosphere.

An employer must ensure that effective procedures are in place and implemented to identify hazards including, but not limited to, those present immediately prior to using the premises for the first time as a place of work, before and during the installation, erection, commissioning or alteration of plant in a place of work and whilst work is being carried out.

An employer must assess the risk of harm to the health or safety of an employee of the employer, or any other person legally at the employer's place of work, arising from any hazard identified.

An employer must eliminate any reasonably foreseeable risk to the health or safety of an employee of the employer, or any other person legally at the employer's place of work, that arises from the conduct of the employers undertaking. If it is not reasonably practicable to eliminate the risk, the employer must control the risk.

An employer must ensure that all measures (including procedures and equipment) that are adopted to eliminate or control risks to health and safety are properly used and maintained.

An employer must regularly review risk assessments as outlined in **Section 11** of this report.

An employer must ensure that each new employee receives induction training that covers, but is not limited to, workplace arrangements for management of occupational health and safety, health and safety procedures relevant to the employee including the use and maintenance of risk control measures, and accessing health and safety information required under the *Work Health and Safety Regulations 2011*.

Particular provisions also apply to construction processes where asbestos exposure may occur (refer to the *Work Health and Safety Regulations 2011*).

### **9.3 Employees and Contractors**

Under the *Work Health and Safety Regulations 2011* an employee must, while at work, take reasonable care for the health and safety of people who are at the employee's place of work and who may be affected by the employee's acts or omissions at work. An employee must also, while at work, cooperate with his or her employer or other person so far as is necessary to enable compliance with any requirement under the *Work Health and Safety Act 2011* or *Regulations* imposed in the interests of health, safety and welfare on the employer or any other person.

Employees and contractors should not carry out any work that may disturb asbestos materials without adequately referring to the site Asbestos Materials Register and Asbestos Materials Management Plan and liaising with management.

### **9.4 Asbestos Removalists**

The asbestos removalist must hold an appropriate asbestos removal license before being permitted to remove asbestos containing material. A Class A (friable) license is required for friable asbestos removal and a Class B (non-friable) license is required for non-friable asbestos removals >10 m<sup>2</sup>. The removalist must provide their license details to their clients. Other requirements include:

- For friable asbestos removal, and removal of >10 m<sup>2</sup> of non-friable asbestos, permission to proceed with removal must be obtained from WorkSafe NT prior to any work commencing.
- Asbestos removal operatives to complete appropriate Risk Assessments and Safe Work Method Statements prior to work commencing.
- The asbestos removalist to develop a site specific asbestos removal control plan in consultation with their client before commencing any asbestos removal work. The client should receive a final copy of this plan.
- The asbestos removalist to ensure the removal is adequately supervised and carried out by competent persons in a safe manner.

## 10 AWARENESS AND TRAINING

All workers, contractors and any other persons on site who may be exposed to asbestos materials as a result of being on the premises must be provided with full information on the occupational health and safety consequences of exposure to these asbestos materials and appropriate control measures. The provision of this information should be recorded.

Information and training must be provided to persons who may come into contact with asbestos materials in the workplace including workers, contractors and others. The training may include the following:

- The purpose of the training.
- The health risks associated with the asbestos material.
- Types, uses and likely occurrence of asbestos material in workplace buildings/plant, etc.
- Roles and responsibilities of the trainee under the Asbestos Materials Management Plan.
- Location, access and use of the site Asbestos Materials Register.
- Timetable for removal/remediation of asbestos materials.
- Process and procedures required to eliminate exposure.
- Maintenance and control measures, personal protective equipment and work methods required to minimise asbestos material risk including potential contamination of other areas.
- Control levels and exposure standards for asbestos materials.
- The purpose of any air monitoring or health surveillance undertaken.

## 11 REVIEW

This Asbestos Materials Management Plan should be reviewed whenever the Asbestos Materials Register is reviewed. These reviews should critically assess all asbestos material management processes and their effectiveness.

The site Asbestos Materials Register, including any risk assessments, should be reviewed every 5 years or earlier where a risk assessment indicates the need for reassessment or asbestos materials have been removed and/or disturbed. Visual inspection of asbestos materials should be included in any review of the Asbestos Materials Register.

Risk assessments should be reviewed regularly in accordance with Australian Government and State Legislation and whenever:

- There is evidence a risk assessment is no longer valid.
- There is evidence that any control measures are not effective.
- A significant change is proposed for the workplace or work practices/procedures relevant to the risk assessment.
- There is a change in the condition of the asbestos material.
- The hazardous material has been removed, enclosed or sealed.

Only competent persons should perform and revise risk assessments.

A provisional timetable for review of risk assessments, the site Asbestos Materials Register and Management Plan is outlined in **Table 2**.

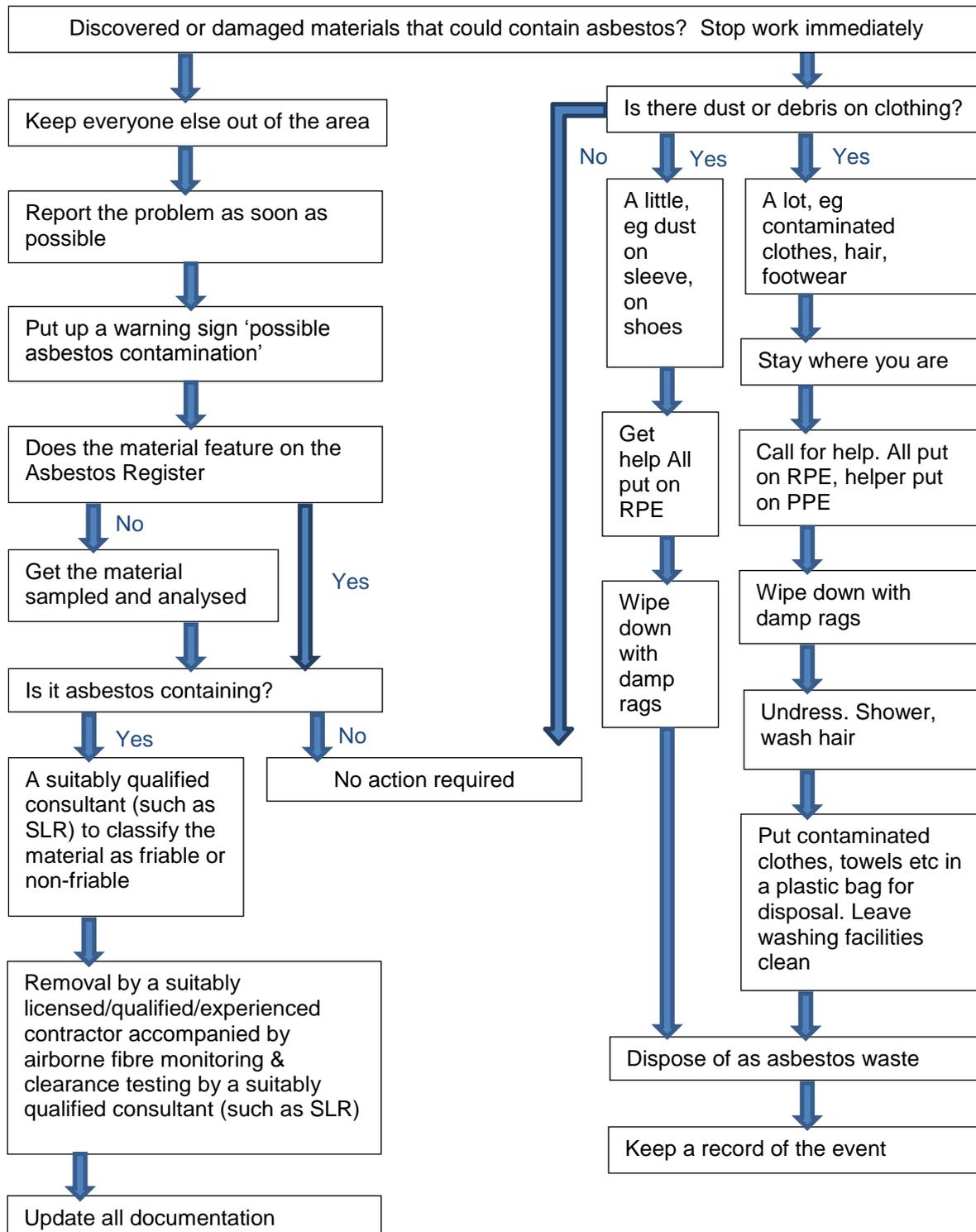
**Table 2 Provisional Timetable for Review**

	<b>Risk Assessments</b>	<b>Asbestos Materials Register</b>	<b>Asbestos Management Plan</b>
Last updated	October 2017	October 2017	November 2017
Review required before	October 2022	October 2022	Upon review of the Asbestos Materials Register

## 12 EMERGENCY PROCEDURES

If an Asbestos Containing Material or a material that is suspected to be asbestos containing is discovered or damaged, the procedure in **Figure 1** should be followed.

**Figure 1 Emergency Procedures Chart**



In summary, the procedure is:

- Stop work immediately
- Follow the chart
- Minimise the spread of contamination to other areas
- Keep exposure as low as you can
- Decide on a method for the clean-up of the contamination

## **13 LEGISLATION**

Occupation health and safety in the Northern Territory is regulated under the *Work Health and Safety Act 2011* and the *Work Health and Safety Regulations 2011*. There are also a range of related Codes of Practice, Standards and guidelines to be adhered to when managing asbestos materials as outlined below.

### **13.1 Asbestos**

Safe Work Australia has developed the following codes of practice for asbestos:

- Code of Practice for How to Manage and Control Asbestos in the Workplace 2011.
- Code of Practice for How to Safely Remove Asbestos 2011.

The National Occupational Health and Safety Commission (NOHSC) have developed the following Guidance Notes for asbestos:

- Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003(2005)].

## 14 ASBESTOS MATERIALS MANAGEMENT PLAN

Where recommendations are made to re-inspect the condition of materials (eg every 5 years), the period until the next re-inspection commences immediately (eg re-inspection is to be undertaken within 5 years of the issuing of this report).

Item Location & Material Type	Condition	Risk Assessment Rating*	Recommendations	Action Taken and Date	Site Manager Name and Signature
Ground floor bathroom Internal wall linings throughout (fibrous cement – patterned “tilux”)	Good	Very Low	Manage the material in-situ and reinspect every 5 years; Engage a suitably qualified person to remove prior to refurbishment/demolition in accordance with relevant legislation;	Material labelled – 08/11/2017	
Ground floor bathroom Internal wall linings throughout (fibrous cement – patterned “tilux”)	Good	Very Low	Manage the material in-situ and reinspect every 5 years engage a suitably qualified person to remove prior to refurbishment/demolition in accordance with relevant legislation;	Material labelled – 08/11/2017	
Ground floor kitchenette Hot water system (insulation, assumed asbestos)	Good	Medium	The material is encapsulated in the body of the item; engage a suitably qualified person to further inspect the item prior to refurbishment/demolition or to dispose of the item as asbestos waste in accordance with relevant legislation; Reinspect every 5 years	Material labelled – 08/11/2017	
Ground floor storage room x2 combination safes to rear east (insulation, assumed asbestos)	Good	Medium	Manage in-situ and reinspect every 5 years The material is encapsulated in the body of the items; engage a suitably qualified person to further inspect the item prior to refurbishment/demolition or to dispose of the item as asbestos waste in accordance with relevant legislation;	Material labelled – 08/11/2017	

Item Location & Material Type	Condition	Risk Assessment Rating*	Recommendations	Action Taken and Date	Site Manager Name and Signature
External meter box east elevation (zelemite backing board, assumed asbestos)	Good	Low	Manage in-situ and reinspect every 5 years Consider engaging a competent person to sample the material prior to refurbishment/demolition or engage a suitably qualified person to remove in accordance with the relevant legislation;	Material labelled – 08/11/2017	
External flammables cupboard east elevation (door seal, woven product)	N/A	N/A	Item encapsulated and disposed of as asbestos waste by a licensed asbestos removal contractor – update the Asbestos Control Log in <b>Appendix A</b> of SLR Report No. 680.10420 ASR_R01-v1.0 (a hand written update is sufficient).	Item disposed of – 08/11/2017	
External roof gable fascia north elevation (fibrous cement, assumed not to contain asbestos)	Good	Very Low	The material was assumed not to contain asbestos based on the sampling of a similar material, however the material should be sampled by a competent person prior to refurbishment/demolition. If the material is found to contain asbestos it should be removed by a suitably qualified person prior to any works that may affect the material	Material labelled – 08/11/2017	

\* The Risk Assessment Rating is based upon the Material Assessment Algorithm in SLR Report No. 680.10420 ASR\_R01-v1.0 dated 19 October 2017. Photographs of the materials listed in this AMP can be found in the same document.

**GENERAL INFORMATION****ASBESTOS****Asbestos: Description, Properties and Uses**

Asbestos is the generic term given to a group of naturally occurring fibrous minerals, based on hydrated silicates, which are found in various rock formations. Differing ratios of oxygen, hydrogen, sodium, iron, magnesium and calcium elements account for several different types of asbestos minerals, the most common varieties being Amosite (brown asbestos), Chrysotile (white asbestos), Crocidolite (blue asbestos). Other types include Anthophyllite, Actinolite and Tremolite.

The immense popularity of asbestos as a building material is attributed to its near unique properties of fire resistance, high abrasion resistance and superb acoustical characteristics coupled with its relatively low cost. Prior to 1973, asbestos was the material of choice for fire proofing, thermal insulation, sound insulation and abrasion resistance. It was used as a spray-on insulation of ceilings and steel girders; as a thermal insulation of boilers, pipes, ducts, air conditioning units, etc; as an abrasion resistant filler in floor tiles, vinyl sheet floor coverings, roofing and siding shingles; as a flexible, though resistant joining compound and filler of textured paints and gaskets; as the bulking material with the best wear characteristics for automobile brake shoes and in countless domestic appliances such as toasters, grills, dishwashers, refrigerators, ovens, clothes dryers, electric blankets, hair dryers, etc.

**Asbestos: Health Effects**

Many asbestos bearing materials or products are of no significant health risk whatsoever when used in the normal course of events. A health risk exists when asbestos fibres are released into the air and when that air is inhaled into the lungs. Even then, it appears that most people exposed to relatively small amounts of asbestos do not develop any related health problems. There is however no "safe" level of asbestos exposure since the risk is dependent on numerous factors including the time since exposure, exposure duration and concentration, asbestos type, the attributes of the particular individual and environmental factors such as exposure to cigarette smoke and other airborne pollutants.

There are three main diseases associated with airborne asbestos fibres:

**Asbestosis** - A fibrosis (or scarring) of the lung associated with relatively massive exposure to asbestos.

**Lung Cancer** - Indistinguishable from that caused by smoking and a common cause of death. The risk of lung cancer is much higher when there is exposure to both cigarette smoking and to airborne asbestos.

**Mesothelioma** - A cancer of the chest and abdominal lining, it is specific to asbestos exposure.

A feature of these diseases is that symptoms take a long time to appear, generally 5 to 40 years. Once symptoms are evident the disease progresses rapidly.

There is some evidence that Chrysotile asbestos is less carcinogenic than Amosite, and that Amosite is less carcinogenic than Crocidolite in causing mesothelioma, but the evidence is less clear for lung cancer.

**Measurement of Airborne Asbestos Fibres**

The *Work Health and Safety Regulations 2011* and the Safe Work Australia Asbestos Codes of Practice & Guidance Note set the maximum allowable time weighted average for all forms of asbestos at 0.1 fibre/mL of air.

Air monitoring is used to determine airborne fibre levels. SLR is NATA certified for Asbestos Fibre Counting and Volume Measurement to carry out such monitoring.

The Safe Work Australia Code of Practice *How to Safely Remove Asbestos 2011* states that air monitoring should be performed whenever Asbestos Containing Materials (ACMs) are being removed, to ensure the control measures are effective.

The onus to provide a safe environment rests with persons in control of a business or undertaking, persons with management or control and persons carrying out demolition or refurbishment work. To meet these obligations it is recommended that SLR be engaged by the site controller, or their representative, and not an asbestos removal contractor as there could be a conflict of interest in the latter arrangement.

**Asbestos Survey**

Asbestos surveys are undertaken to identify any asbestos materials/hazards and assess the risk associated with the material/hazard.

Surveys are conducted through visual inspection by experienced personnel. During the inspection material samples are taken as appropriate for analysis.

**GENERAL INFORMATION**

Limitations

Due to the nature of the task all asbestos surveys are limited. Since asbestos can occur in so many forms and in so many locations, and as there is no instrument to detect asbestos, it is never possible to guarantee all asbestos has been identified. Access is usually restricted, and there may be asbestos hidden behind walls or other structures. Building plans are of great assistance to consultants undertaking surveys.

**Asbestos Register**

An asbestos register is a record of the location, type and condition of all asbestos containing products identified in a building. Under the Codes of Practice and legislation, any place of work constructed after 31 December 2003 must have an Asbestos Register. A SLR Asbestos Survey Report includes an asbestos register.

Registers must be maintained and changes in the condition or extent of any asbestos present should be recorded. Registers should also detail the next review date, at present annually since the condition of asbestos materials, legislation, guidelines and standards change.

**Management Plan**

An asbestos management plan is required where asbestos materials have been identified and are to remain on site. The plan would normally be a component in the overall Hazard Management Plan for the site.

Control Options

Asbestos judged to constitute a health risk should be removed, enclosed or encapsulated by an approved asbestos contractor.

**Enclosure**

This involves the installation of a permanent, solid, non-porous, impervious barrier between the asbestos material and the surrounding environment. Examples include building boxes around steam pipes etc. A suspended ceiling is not permanent and, since occasional access is necessary above a suspended ceiling, enclosure is negated. Furthermore, many suspended ceilings act as return air plenums so enclosure is impossible.

**Encapsulation**

Encapsulation involves coating the material with a sealant. Good sealants penetrate through the asbestos material to the substrate. The encapsulating substance then hardens and binds all the asbestos fibres into a solid matrix. This is usually a short to medium term management option.

**Removal**

Removal is not without hazards to the occupants of the building. If not strictly controlled, the removal process can result in increased fibre counts in other areas. Technical competence, experience and integrity are of prime importance in evaluating asbestos removal plans.

We advise clients to work within the usual practised time frames of the experienced asbestos removal companies under strict supervision by a qualified person. Pressing for quicker turnaround times may result in low quality workmanship and unnecessary asbestos risk. Building owners may be in part responsible for risks created by the removal Contractor due to carelessness or negligence.

An independent consultant such as SLR, experienced in the supervision of asbestos removal, should be retained to act on the client's behalf.

**Clearance Inspection**

Following the removal of an ACM, a licensed asbestos assessor should be engaged to carry out a clearance inspection and provide a clearance certificate.