Asbestos Register

Blue Mountains City Council maintains asbestos registers ("registers") and asbestos management plans ("plans") relating to each of the buildings owned or occupied by the Council. The registers and plans record information about the existence and location of any known or presumed asbestos containing materials ("ACM") within those buildings.

The Council's governing body has adopted the Council's corporate [/asbestos-registers]Asbestos Policy, which is available on our website.

The registers and plans are in two forms. First, the Council maintains a corporate asbestos register and a corporate asbestos management plan. Second, the Council has prepared individual registers and individual plans for each building that contains or may contain ACM. Hardcopies of those individual registers and plans are held in the building concerned.

Whenever work is carried out on a Council building the hardcopy register and the hardcopy plan are each amended by hand, as required. This action ensures that Council employees or contractors who work from time to time within that building have access to accurate information about the ACM that it contains or may contain.

The electronic versions of each of the corporate plans and registers, and of the plans and registers for individual buildings, are periodically updated. However, the key documents are the hardcopy registers and the hardcopy plans for each building which must be inspected before any work is carried out on that building.

NOTES:

(1) The Council's electronic registers and plans are valid as dated, and ARE NOT to be relied upon as definitive records and ARE NOT to be used for reference purposes for any construction, demolition, maintenance or any other onsite works. IN ALL CASES, the onsite hardcopy building specific asbestos register and building specific asbestos management plan MUST BE CONSULTED prior to the commencement of physical works on the building concerned. While the electronic versions of the Council's registers and plans provide guidance concerning the presence or possible presence of ACM it is the onsite hardcopy registers and plans which will remain up to date.

(2) The Council's electronic registers and plans relate to Council owned or managed buildings. The electronic registers and plans do not relate to structures (such as picnic shelters, bus shelters and other freestanding structures). Before any work is carried out on such structures the Council's Hazardous Materials Team ("HMT") MUST BE CONSULTED. The HMT may be contacted at **council@bmcc.nsw.gov.au**. The HMT will provide information concerning any ACM that may be present in the structure concerned.

Further information: Further information on safe asbestos management may be obtained by contacting Councils Hazardous Materials Management Team at **council@bmcc.nsw.gov.au**.

global environmental solutions

ASBESTOS CONTAINING BUILDING MATERIALS RESURVEY REPORT

4 Station Street

Katoomba NSW 2780

Report Number 610.17816.00000.0690-R01-ASR

16 August 2018

Blue Mountains City Council
Locked Bag 1005
Katoomba, NSW 2780

Version: 1

ASBESTOS CONTAINING BUILDING MATERIALS RESURVEY REPORT

4 Station Street

Katoomba NSW 2780

PREPARED BY:

SLR Consulting Australia Pty Ltd
ABN 29 001 584 612
2 Lincoln Street Lane Cove NSW 2066 Australia

(PO Box 176 Lane Cove NSW 1595 Australia)
T: 61 2 9428 8100 F: 61 2 9427 8200
E: sydney@slrconsulting.com www.slrconsulting.com

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610.17816.00000.0690-R1-ASR	Version 1	16 August 2018	Matt Hemingway	Nathan Aust	Neil Kumar

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TABLES

APPENDICES

1 SCOPE

SLR Consulting Australia Pty Ltd (SLR Consulting) was requested by Jason Adams of Blue Mountains City Council to undertake an asbestos building materials resurvey of 4 Station Street, Katoomba NSW 2780 to ascertain the location, extent, type and condition of Asbestos Containing Materials (ACMs). The resurvey was conducted on 11 August 2018 by Matt Hemingway from SLR Consulting, and was based on the previous Asbestos Building Materials Survey undertaken in 2014 by Air Safe (Report AS25132).

Upon completion of the on-site assessment, this report presents the results of the inspection.

2 INSPECTION DETAILS

2.1 Site Description

The site is located on the west side of Station Street. Station Street is taken to run in a north south direction, directly adjacent to the site. A Locality Map is presented in **Figure 1** for the purpose of this report.

The site comprises a single-story building, constructed early 1900s. Since this time, there have been many additions and 'patching'. The site is used as an office. The site was not occupied at the time of the inspection.

Relevant photographs of remaining ACMs are provided in **Appendix B**.

No access was available to some areas at the time of the inspection. Inaccessible areas are outlined in **Section 4.3** of this report.

Figure 1: Site Location

Source: Google Maps 2018

3 LIMITATIONS

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

Due to the possibility of renovations and additions to the building(s) over time, ACMs may have been concealed (for example behind new walls, flooring, ceilings, within boxing, etc.), such areas were inaccessible during the inspection. It is recommended that prior to any refurbishment/demolition works at the site that a full destructive asbestos building materials refurbishment/demolition survey is undertaken by a suitably qualified and experienced consultancy, such as SLR Consulting. If any materials reasonably suspected of containing asbestos are found on site, which are not identified within this report, the client's independent consultant, SLR Consulting, should be contacted to complete additional confirmatory sampling and analysis as required.

A change in building use/nature of activities could affect the control actions recommended within this report and a re-survey may be required.

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 Blue Mountains City Council and/or associated parties.

Where potentially ACMs are identified these are normally reported on to the best of the consultant's ability. Analysis is not normally included and there is no guarantee that all such materials have been identified and/or addressed.

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

Before passing on to a third party any information and/or report(s) prepared by SLR Consulting, 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 Consulting.

It is the responsibility of third parties to investigate fully to their satisfaction if any information and/or report(s) prepared by SLR Consulting are suitable for a specific objective.

The report(s) and/or information produced by SLR Consulting should not be reproduced and/or presented/reviewed except in full.

4 SURVEY STRATEGY

4.1 Resurvey Purpose

The purpose of this resurvey is to locate, as far as reasonably practicable, the presence, type and extent of any suspect ACMs in the building(s), using the original survey as a guide, and to assess their condition or any change in condition from previous the inspection. This is done to provide a suitable risk assessment/rating and recommended control actions based on the condition of the materials at the time of the resurvey.

Where multiple rooms of similar type occurred in the same building, a representative selection of these rooms was inspected in detail, and a limited walkthrough conducted in the remaining rooms, rather than a detailed inspection of all rooms.

The resurvey consisted of a visual inspection primarily focused on previously identified materials, with one additional sample collected. This sample, as well as materials from the original survey, were assumed to contain asbestos where:

- Laboratory analysis confirmed the presence of asbestos in a visually similar material; or
- Materials visually appear to be asbestos containing but no sample was collected, for example due to access restraints.

Samples from the survey and resurvey were collected using a hand tool or core borer. Hand drills and other tools are used where required. Power tools were not used.

4.2 Sample Analysis

Samples obtained from materials suspected to contain asbestos were analysed by our 'In House' NATA accredited laboratory using a combination of stereo microscopy, polarised light microscopy and dispersion staining technique. Due to the limited extent of asbestos fibres within certain manufactured or installed materials, including but not limited to, vinyl floor tiles and decorative sprayed coatings (such as vermiculite); and where the aforementioned analytical methods determine that asbestos was not detected, it may be advisable that additional analysis be considered using Scanning Electron Microscopy (SEM) or X-ray diffraction.

4.3 Exclusions

Certain areas of the buildings were inaccessible at the time of the survey inspections. This includes areas/materials that were inaccessible due to being 'live electrical' or 'moving parts' equipment. **Table 1** lists those areas/materials that were inaccessible.

Table 1: Inaccessible Areas and/or Materials

Location	Explanation
Underfloor storage accessed from rear of property	Locked
Ceiling void	Inaccessible

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 flashguards.
- 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.
- Inaccessible/unidentified shafts, cavities and the like.
- Air conditioning, heating, mechanical, electrical or other equipment.
- General exterior ground surfaces and subsurface areas e.g. 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.

Limited access was available within the Ceiling Cavity Areas, Risers and Plant Room Areas at height due to the concentration of services, limited safe walking paths (where applicable) and lighting.

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.

4.4 Risk Assessment, Control Actions & Asbestos Classification

4.4.1 Material Assessment

In order to assess the potential for fibre release from an ACM a Material Assessment is undertaken for each identified (sampled or assumed) material noted during the survey inspection.

The four principle parameters determining the amount of fibre released from an ACM when subject to disturbance are:

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

Each of these variables are given a score of between 0 and 3 which can then be added together to obtain a Material Assessment Rating of between 2 and 12. A low Material Assessment Rating indicates a low potential for fibre release and a high Material Assessment Rating indicates a high potential for fibre release. Please note that all assumed ACMs are scored as crocidolite (ie Asbestos Type score = 3) unless there is strong evidence to show otherwise to indicate a worst case scenario. Non-asbestos containing materials are not scored.

The Material Assessment Algorithm used during the resurvey is provided in **Table 2** overleaf.

4.4.2 Risk Assessment Rating

The purpose of a Risk Assessment Rating is to allow informed decisions to be made about ACMs, including control measures or required remedial actions, induction and training, air monitoring, health surveillance requirements, etc. It also assists in the prioritisation of the implementation of management actions.

Further to the positive or assumptive identification of an ACM and the completion of the Material Assessment (**Section 4.3.1**), a Risk Assessment Rating is compiled for each item. The Risk Assessment Rating categories as detailed in **Table 3** have been compiled in order for appropriate ACM management procedures to be implemented.

The Risk Assessment Rating categories are described as ‘High’, ‘Medium’, ‘Low’, or ‘Very low’ and have been assigned to each positive or assumptive identification of ACMs during the resurvey. A ‘High’ Risk Assessment Rating indicates a material that will more readily release airborne fibers if disturbed.

Table 2: Asbestos Risk Assessment (Material Assessment) Algorithm

Sample variable		Score	Examples of scores
A	**Product type (or debris from product)**	1	Asbestos-reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, BEBB, asbestos cement etc.).
		2	AIB, millboards, other low-density insulation boards (LDB), asbestos textiles, gaskets, ropes and woven textiles, asbestos paper and felt.
		3	Thermal insulation (eg pipe and boiler lagging), sprayed asbestos, loose asbestos, asbestos mattresses and packing.
B	**Extent of damage/deterioration**	0	Good condition: no visible damage.
		1	Low damage: a few scratches or surface marks, broken edges on boards, tiles etc.
		2	Medium damage: significant breakage of materials or several small areas where material has been damaged revealing loose asbestos fibres.
		3	High damage or delamination of materials, sprays and thermal insulation. Visible asbestos debris.
C	**Surface treatment**	0	Composite materials that are sealed by nature (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, BEBB), or Encapsulated FCS, AC
		1	Unsealed FCS, AC, or Encapsulated AIB, millboard, other LDB (with exposed face painted/encapsulated), asbestos textiles, gaskets, ropes and woven textiles, asbestos paper, card. Enclosed Insulation (lagging, sprays, loose asbestos, mattresses, packing).
		2	Unsealed AIB, millboard, other LDB, asbestos textiles, gaskets, ropes and woven textiles, asbestos paper and card, or Encapsulated Insulation (lagging, sprays, loose asbestos, mattresses, packing.
		3	Unsealed Insulation (lagging, sprays, loose asbestos, mattresses, packing).
D	**Asbestos type**	1	Chrysotile.
		2	Amphibole asbestos excluding crocidolite.
		3	Crocidolite.
Total			

Table 3: Risk Assessment Rating Based Upon Materials Assessment Algorithm

Score	Potential to release asbestos fibres
10 or more	High
7-9	Medium
5-6	Low
4 or less	Very Low

4.4.3 Control Actions

Based upon a combination of our surveyors judgment on site and the Risk Assessment Rating for each identified/assumed ACM noted on site, recommended Control Measures as detailed in **Table 4** have been applied to each occurrence in the Asbestos Containing Materials Register in **Section 5**.

4.4.4 ACM Classification

ACMs are classified as friable or non-friable in accordance with the *Occupational Health and Safety Regulations 2007*. SLR consulting has classified all identified/assumed ACMs noted on site as friable or non-friable in accordance with the criteria set out in the Regulations (as noted in the Asbestos Containing Materials Register in **Section 5**). This will assist the Client with the on-going management of ACMs and any necessary abatement works.

Generally, asbestos abatement works require a license issued by a regulator. The requirement for an asbestos licence to undertake asbestos abatement works are as follows:

Class A (or friable) licence is required for works involving:
- Friable asbestos;
- Asbestos contaminated dust associated with the removal of friable asbestos.

Class B license (or bonded) (or Class A (or friable)) licence is required for works involving:
- More than $10m^2$ of non-friable asbestos;
- Asbestos contaminated dust associated with the removal of more than $10m^2$ of non-friable asbestos.

No license is required for works involving:
- Up to $10m^2$ of non-friable asbestos;
- Asbestos contaminated dust:
    - That is associated with the removal of up to $10m^2$ of non-friable asbestos.
    - That is not associated with the removal of friable/non-friable asbestos and is only a ‘minor contamination’.

Table 4: Recommended Control Measures

Control Number	Action
C1	Manage *in-situ*
C2	Incorporate into a current / develop an Asbestos Management Plan
C3	Label as asbestos containing in accordance with Australian Standard *1319-1994 Safety Signs for the Occupational Environment*
C4	Re-inspect conditions every 12 months or sooner if deemed necessary in accordance with the *Occupational Health and Safety Regulations 2007* & *Code of Practice 'How to Manage and Control Asbestos in the Workplace [Safe Work Australia (2011)]*
C5	Consider further sampling/analysis to establish whether asbestos is present within the material
C6	Consider further sampling/analysis to establish whether asbestos is present within the associated dust
C7	Consider further sampling/analysis to establish whether asbestos is present within the sub-soil
C8	Seal damaged edges with an appropriate sealant such as Emerclad paint
C9	Encapsulate/enclose in accordance with the *Occupational Health and Safety Regulations 2007* & *Code of Practice 'How to Safely Removal Asbestos [Safe Work Australia (2011)]*
C10	Seal-off area and erect appropriate warning signage in accordance with Australian Standard *1319-1994 Safety Signs for the Occupational Environment*
C11	Undertake a suitable and sufficient Risk Assessment prior to access, which may include the use of appropriate PPE & RPE
C12	Restrict access to maintenance/service personnel
C13	Restrict access to all personnel
C14	Remove in accordance with the *Occupational Health and Safety Regulations 2007* & *Code of Practice 'How to Safely Remove Asbestos [Safe Work Australia (2011)]*
C15	Remove in accordance with the *Occupational Health and Safety Regulations 2007* & *Code of Practice 'How to Safely Remove Asbestos [Safe Work Australia (2011)]* prior to any works in the area that may disturb the material
C16	Undertake a dust sampling regime within the area in accordance with the *Occupational Health and Safety Regulations 2007* & *Code of Practice 'How to Manage and Control Asbestos in the Workplace [Safe Work Australia (2011)]*
C17	Undertake airborne fibre monitoring within the area in accordance with the *Occupational Health and Safety Regulations 2007*, *Code of Practice 'How to Manage and Control Asbestos in the Workplace [Safe Work Australia (2011)]* and *Code of Practice 'How to Safely Remove Asbestos [Safe Work Australia (2011)]*
C18	A detailed roof inspection by a competent person, such as SLR Consulting, is recommended to investigate the potential for contamination in areas such as gutters, drains/pipes and air conditioning systems. Subsequent to this detailed inspection, recommendations can be made about the condition of the roof and an appropriate course of action detailed.

5 ASBESTOS CONTAINING MATERIALS REGISTER

The following table is a register of all identified ACMs remaining on site, confirmed through the original sampling and analysis, with no additional materials being identified. This Summary of Asbestos Materials should be read in conjunction with all sections of this report.

Item Location & Material Type	Air Safe Sample No.	Photo No.	Approx. Extent	Non-Friable/ Friable	Product Type (A)	Extent of Damage /Deterioration (B)	Surface Treatment (C)	Asbestos Type (D)	Risk Assessment (Material Assessment) Score & Rating (A+B+C+D)	Recommended Control Actions	Comments
INTERNAL											
North eastern store room, ceiling lining 239	25132-51-4	1	10 m^2	Non-friable	1	0	0	1	3 – Very Low	C1, C2, C3, C4, C8, C15	N/A
North eastern store room, wall cladding 240	25132-51-5	2	30 m^2	Non-friable	1	0	0	1	2 – Very Low	C1, C2, C3, C4, C8, C15	N/A
Archives room, bulkhead lining 241	25132-51-6	3	5 m^2	Non-friable	1	1	0	1	2 –Very Low	C1, C2, C3, C4, C8, C15	N/A
Kitchen, north west corner, lower wall cladding 242	25132-51-8	4	8 m^2	Non-friable	1	0	0	1	2 – Very Low	C1, C2, C3, C4, C8, C15	N/A
EXTERNAL											
Northern external, wall panel (x2) 237	25132-51-1	5	10 m^2	Non-friable	1	1	0	1	4 – Very Low	C1, C2, C3, C4, C8, C15	N/A

Notes:

- FCS = Fibre Cement Sheeting; VFT = Vinyl Floor Tiles; BEBB = Black Electrical Backing Board; N/A = Not Applicable.
- The Asbestos Containing Materials Register should be read in conjunction with all sections of this report.
- All other similar occurrences of the ACMs identified in the summary table above should be assumed to contain asbestos, and treated accordingly, unless sampling and analysis confirms otherwise.
- The areas and approximate extents given above are approximates only and should not be used for the purpose of removal.
- Asbestos containing gaskets have been identified at the site. As such, all gaskets at the site should be assumed to be asbestos containing unless evidence suggests otherwise.
- Any actions taken to control asbestos materials subsequent to this report are to be recorded in the Asbestos Materials Control Log attached in **Appendix A**.
- Refer to the General Information attached in **Appendix D**.

7 RECOMMENDATIONS

As previously detailed in the Scope (**Section 1**), SLR Consulting were appointed to complete a resurvey and assessment of4 Station Street, Katoomba NSW 2780 with regards to the presence of ACMs. The extent of the inspection \ was completed in order to confirm, as far as reasonably practicable, the location, condition and risk presented by ACMs remaining *in-situ* (and was based on the level of access available).

Further to the completion of the on-site investigation and collection/analysis of the additional sample, there are detailed site/work-specific requirements and precautions that must be taken in the management, control and removal of ACMs. In addition to those listed on the Asbestos Containing Materials Register (**Section 5**), the following are some general recommendations and precautions that should be considered. Detailed documents, which may include Management Plans, Scope of Works, Safe Work Method Statements and Risk Assessments, should be prepared to appropriately address health and safety issues associated with specific work and site conditions.

- The condition of the ACMs is generally the same as last assessed, with the exception of minor damage to individual panels of FCS sheeting to the exterior of the building (small cracks), which were made safe with a sealant by the surveyor at the time of the inspection. This does not change overall risk ratings.
- All non-friable ACMs in an in-tact condition may remain *in-situ* provided they are not drilled, ground or otherwise disturbed. If generated, broken pieces are to be removed as soon as practicable. As part of good ongoing management we recommend regular inspections of ACMs left *in-situ* to check the condition of these materials.
- As a precautionary measure, periodic monitoring of the condition of in situ materials should be undertaken, and where any minor damaged, exposed/damaged edges of ACMs are observed, these should be removed or sealed with an appropriate sealant, such as Emerclad paint, to minimise the risk of generating airborne asbestos fibres if/when these materials are disturbed.
- If asbestos materials become significantly damaged, weathered and/or produce visible dust or significant debris, then health and safety management works are likely to be required. A suitably qualified and experienced consultant, such as SLR Consulting, can advise and assist in carrying out such works.
- This document should be held as an Asbestos Register of the areas inspected and updated every 5 years or earlier where ACMs have been disturbed or a risk assessment indicates the need for re-assessment. All occupiers of the workplace are to be provided with a copy of this register and all updates to it.
- If any material that may contain asbestos is found on site the material should be sent for identification and expert advice sought. The material should be assumed to contain asbestos in the interim.
- As a precautionary measure, all materials which may contain asbestos, should be assumed to contain asbestos and treated appropriately until sampling and analysis confirms otherwise.
- In order to comply with the *Occupational Health and Safety Regulations 2007*, any action taken to control asbestos and ACM in the place of work, or in plant at the place of work, is to be recorded in this register. These details are to be recorded in the Asbestos Control Log attached in **Appendix A**.
- Any areas of the workplace that contain ACM including plant, equipment and components should be signposted with appropriate warning signs to ensure that asbestos is not unknowingly disturbed without the correct precautions being taken. These signs should be placed at all the main entrances to the work areas where asbestos is present and should conform with Australian Standard 1319-1994 *Safety Signs for the Occupational Environment*.

- Prior to renovation or demolition works a refurbishment/demolition asbestos building materials survey should be undertaken by a suitable qualified and experience consultancy, such as SLR Consulting.
- All asbestos-containing materials are to be removed prior to refurbishment or demolition.
- Prior to asbestos abatement works, a Technical Scope of Works (Work Plan) for asbestos removal should be prepared by a suitably qualified and experienced consultant, such as SLR Consulting, detailing the procedures and precautions for asbestos works/removal.
- Generally, all asbestos removal/decontamination should be undertaken by a licensed, experienced Asbestos Removal Contractor working in accordance with the above-mentioned Scope of Works.
- Safe Work Australia requires an Asbestos Licence for the removal of friable asbestos and more than $10m^2$ of non-friable asbestos. All licensable asbestos works require WorkSafe Victoria notification.
- Each licensed asbestos removal contractor must have an approved "Safe Work Method Statements" and "Risk Assessments" prior to the commencement of work.
- According to the *Code of Practice How to Safely Remove Asbestos 2011,* air monitoring should be performed whenever ACMs are being removed to ensure that the control measures are effective. It is mandatory to undertake air monitoring when removing friable asbestos. Once removal is complete the area should be inspected by a suitably qualified and experienced consultant, such as SLR Consulting, and a clearance certificate issued. Obtaining a clearance certificate following friable asbestos removal is mandatory.
- The consultant conducting the air monitoring and clearance inspection should report directly to the client/principal contractor and be independent of the Asbestos Removal Contractor.
- Refer to the General Information attached in **Appendix D** of this report.

8 CONCLUSIONS

Further to previous surveys, the resurvey undertaken 11 August 2018 by SLR Consulting highlights that several asbestos products remain onsite. These materials are detailed in the asbestos register (**Section 5**). The condition of these materials is generally the same as last assessed. As a precautionary measure, periodic monitoring of these materials should be undertaken, and any minor damaged, exposed/damaged edges of ACMs remaining *in-situ* should be removed or sealed with an appropriate bonding agent.

There are also asbestos products documented in the Air safe 2014 survey that have since been removed (underfloor debris – removed 2016). These items have been removed from the asbestos register.

This document should be held as an Asbestos Materials Register of the areas inspected and updated every 5 years. All occupiers of the workplace are to be provided with a copy of this register and all updates to it.

In order to comply with the Occupational Health and Safety Regulations 2007 any action taken to control or manage ACMs in the place of work, or in plant at the place of work, is to be recorded in this register. These details are to be recorded in the Asbestos Materials Control Log attached in **Appendix A**.

9 LEGISLATION, GUIDELINES AND REGULATIONS

- Work Health and Safety Act 2011
- Work Health and Safety Regulations 2011
- Code of Practice for How to Safely Remove Asbestos [Safe Work Australia (2016)]
- Code of Practice for How to Manage and Control Asbestos in the Workplace [Safe Work Australia (2016)]
- Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [National Occupational Health and Safety Commission: 3003 (2005)]
- AS/NZS 1716-2003 - Respiratory Protective Devices
- AS/NZS 1715-1994 - Selection, Use and Maintenance of Respiratory Protective Devices
- AS 2601-2001 - The Demolition of Structures
- AS 1319-1994 Safety Signs for the Occupational Environment

10 CLOSURE

This report has been prepared by SLR Consulting Australia Pty Ltd with all reasonable skill, care and diligence, and taking account of the manpower and resources devoted to it by agreement with the client. Information reported herein is based on the interpretation of data collected and has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of Blue Mountains City Council. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR Consulting.

SLR Consulting disclaims any responsibility to the client and others in respect of any matters outside the agreed scope of the work.

ASBESTOS MATERIALS CONTROL LOG

To comply with the *Occupational Health and Safety Regulations 2007*, all actions taken to control asbestos and asbestos containing materials are to be recorded in the table below. It is recommended that similar details also be recorded for any other asbestos materials identified.

NAME	COMPANY	DATE	ASBESTOS MATERIAL RELATED WORK UNDERTAKEN (Include any assessment concerning asbestos that took place before the work was carried out)	REFERENCE NUMBER (Include sample numbers, report numbers, quote number and/or purchase order number etc)
Matt Hemingway	SLR Consulting Australia Pty Ltd	15 August 2018	Asbestos Building Materials Survey Update	Report No 610.17816.00000.0690-R01-ASR
Unknown	Air safe Pty Ltd	2014	Asbestos Audit	Report No 25132-51

PHOTOGRAPHS

Photograph 1
Northern eastern store room, ceiling lining
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Photograph 2
Northern eastern store room, wall cladding
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Photograph 3
Archives room, bulkhead lining
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PHOTOGRAPHS

Photograph 4

North west corner of Kitchen, lower wall cladding (extends behind fridge)

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Photograph 5

External, north side, FCS panels

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Appendix C

Air Safe 2014 Asbestos Register

This Register has been developed in accordance with s425(3) of the Work Health and Safety Regulation 2011

BLUE MOUNTAINS CITY COUNCIL

17/120257

ASBESTOS REGISTER

KATOOMBA COMMUNITY LEGAL CENTRE

Effective v1.0 – 20 June 2017

3.1.51 Katoomba Community Legal Centre

Location	Material	Sample ID	Sample Status	Photo No.	Asbestos Classification	Condition	Accessibility	Re-inspect	Current Label	Control Measure	Record of Works Undertaken
Katoomba Community Legal Centre											
External											
Northern Perimeter – external wall panels (x2) 237	Fibrous cement sheeting	25132-51-1	Positive	166	Bonded	Stable	Medium	December 2019	Not labeled	4	
Eastern Verandah – compressed flooring 245	Fibreboard	25132-51-2	Negative	-	-	-	-	-	-	-	-
Southern Verandah – Electrical Box's (x2) – electrical backing bo3381	Timber	-	-	-	-	-	-	-	-	-	-
Southern Verandah – compressed flooring 249	Fibreboard	Similar to 25132-51-2	Assumed								
Sub-floor – north-west area – debris on ground surface 238	~~Fibrous cement sheeting~~	~~25132-51-3~~	~~Positive~~	~~167~~	~~Bonded~~	~~Unstable~~	~~Low~~	~~December 2015~~	~~Not labeled~~	~~3. Restrict access until removal of debris can be facilitated.~~	cc 27/6/2016 17/122580

Location	Material	Sample ID	Sample Status	Photo No.	Asbestos Classification	Condition	Accessibility	Re-inspect	Current Label	Control Measure	Record of Works Undertaken
Internal											
North-eastern storeroom – ceiling lining 239	Fibrous cement sheeting	25132-51-4	Positive	168	Bonded	Stable	Low	December 2019	Not labeled	4	
North-eastern storeroom – internal wall cladding 240	Fibrous cement sheeting	25132-51-5	Positive	168	Bonded	Stable	Medium	December 2019	Not labeled	4	
Southern Meeting Room – western internal wall panel 3382	Masonite	-	-	-	-	-	-	-	-	-	-
Archives – bulkhead lining 241	Fibrous cement sheeting	25132-51-6	Positive	169	Bonded	Stable	Low	December 2019	Not labeled	4	
Toilet – internal wall cladding 244		25132-51-7									
Kitchen – northern lower internal wall cladding 242	Fibrous cement sheeting	25132-51-8	Positive	170	Bonded	Stable	Medium	December 2019	Not labeled	4	
Kitchen – western internal wall cladding (behind fridge) 243	Fibrous cement sheeting	Similar to 25132-51-8	Assumed Positive	170	Bonded	Stable	Medium	December 2019	Not labeled	4	

Location	Material	Sample ID	Sample Status	Photo No.	Asbestos Classification	Condition	Accessibility	Re-inspect	Current Label	Control Measure	Record of Works Undertaken
Kitchen – linoleum 248	Brown linoleum	Not suspect	-	-	-	-	-	-	-	-	-

Photo 166: Asbestos cement sheet external wall panels on the northern perimeter of the Katoomba Community Legal Centre.

Photo 167: Asbestos cement sheet debris on the north-western area of the sub-floor of the Katoomba Community Legal Centre.

Photo 168: Asbestos cement sheet ceiling lining and internal walls of the north-eastern storeroom of the Katoomba Community Legal Centre.

Photo 169: Asbestos cement sheet bulkhead lining Archive room in the Katoomba Community Legal Centre.

Photo 170: Asbestos cement sheet internal wall linings behind the fridge and on the northern perimeter wall in the Kitchen in the Katoomba Community Legal Centre.

The control measures required for identified and presumed ACM should be determined from the risk assessment and should follow the following principles:

Control Measure 1 - If the ACM are friable and not in a stable condition, and there is a risk to health from exposure, they should be removed by an asbestos removalist as soon as practicable.

Control Measure 2 - If the ACM are friable but are in a stable condition and are accessible, serious consideration should be given to their removal. If the removal is not immediately practicable, short-term control measures, such as sealing and enclosure, May be able to be used until removal is possible.

Control Measure 3 - If the ACM are not friable and are in a good, stable condition, minimising disturbance and encapsulation may be appropriate controls.

Control Measure 4 - Any remaining ACM should be clearly labeled, where possible, and regularly inspected to ensure they are not deteriorating or otherwise contributing to an unacceptable health risk.

These control measures reflect the following hierarchy of controls:

1 - Elimination/removal (most preferred);

2 - Isolation/enclosure/sealing;

3 - Engineering controls;

4 - Safe Work Practices (administrative controls); and

5 - Personal Protective Equipment (PPE) (least preferred).

ACM need to be removed before demolition, partial demolition, renovation or refurbishment if they are likely to be disturbed by those works in accordance with the Code of Practice: How to Safely Remove Asbestos [Safe Work Australia, 2011].

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 *Occupational Health and Safety Regulations 2007* 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 Consulting 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 Consulting 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.

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 Consulting 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 Consulting, experienced in the supervision of asbestos removal, should be retained to act on the client's behalf.

Clearance Inspection

A clearance inspection must be conducted at the completion of asbestos removal works. The clearance inspection may include airborne asbestos monitoring and/or sampling/analysis of materials and should be completed by a suitably qualified and experienced consultant, such as SLR Consulting.

ASBESTOS CEMENT SHEETING

A large number of building products used in the building and construction industry have been made with asbestos and cement. Products include:

- Flat or corrugated, compressed sheeting
- Pipes for water, drainage, flues
- Roof shingles
- Building boards eg. Villaboard, Hardiflex, Wundaboard, Flexiboard
- Cable trays for electrical wiring
- Numerous preformed items such as cisterns, protective housings, etc

Provided these products are maintained in good condition, they present no health risk, however precautions must be observed during demolition, refurbishment etc.

Licensing Requirements

Asbestos-containing products are classified as **non-friable or friable**. **Asbestos cement (AC)** is classified as **non-friable asbestos** however once it is significantly broken, crushed or otherwise damaged WorkSafe Victoria may consider it to be friable asbestos. The rules governing **friable** asbestos are far more stringent.

A WorkSafe Victoria asbestos licence is required to remove 10 square metres or more of non-friable asbestos and there must be WorkSafe Victoria notification.

Anyone wishing to carry out friable asbestos removal must obtain a friable asbestos removal licence from WorkSafe Victoria. A friable asbestos removal permit must be obtained for all friable asbestos jobs.

Removal Procedures

The following procedures are recommended for demolition work involving non-friable asbestos cement sheeting in order to reduce the potential health risk to workers and to building occupants.

All asbestos removal and/or decontamination should be undertaken by a competent person working in accordance with the requirements specified in the Safe Work Australia Asbestos Codes of Practice and the *Occupational Health and Safety Regulations 2007*. A licensed, experienced asbestos removal contractor is required to remove friable asbestos and >10m^2 of non-friable asbestos.

1. Prior to commencement of asbestos removal works, suitable warning signs must be erected. All windows and doors etc in the occupied areas of these buildings should be closed so as to prevent the spread of contamination.
2. All asbestos removal operatives to wear half-face particulate filter (cartridge) respirators and approved disposable coveralls.
3. The bolts fixing the asbestos cement sheets to the main frame must be cut out and removed. Abrasive cutting or sanding discs shall not be used on asbestos cement products. Only approved power tools may be used.
4. The asbestos cement sheets should be wetted or PVA coated (polyvinyl acetate). **High water pressures should not be used**.
5. All asbestos cement sheets should be removed with minimal breakage and be **lowered** to ground level, not dropped.
6. All asbestos cement dust and residues should be cleaned from the work area using an approved vacuum cleaner.
7. All asbestos containing waste must be removed from the site as soon as possible. The bins should be plastic lined, covered and taped secure prior to removal.
8. The asbestos waste shall be disposed of in accordance with the existing regulations.
9. Prior to engagement in the work, all asbestos operatives must be trained in safe working practices. These training aspects include:
    - Health hazards of asbestos
    - Safe working procedures
    - Wearing and maintenance of protective clothing and equipment

ASBESTOS CONTAINING VINYL TILES

Vinyl tiles which contain asbestos are considered to be of minimal risk whilst undisturbed and in good condition. The asbestos contained within vinyl tiles is well bound in the parent matrix and fibre release is virtually impossible provided the tiles are not ground, drilled, or otherwise abraded. Normal floor cleaning operations will not release asbestos fibres.

If the tiles are intact and not abraded or drilled etc it is safe to leave them *in-situ*. However, prior to demolition and/or refurbishment all asbestos containing vinyl tiles in the work area must be removed in accordance with the *Occupational Health and Safety Regulations 2007 and* the Safe Work Australia Asbestos Codes of Practice.

Removal Procedures

The following procedures are recommended for the removal of asbestos containing vinyl tiles in order to avoid potential asbestos health risks to workers and building occupants.

If 10 m^2 or more of vinyl tiles are to be removed the work should be completed by a licensed, experienced asbestos removal contractor with notification to WorkSafe Victoria.

1. Prior to commencement of removal works, suitable warning signs must be erected. All windows, doors and vents etc in the occupied areas of the buildings should be closed to reduce the potential for cross-contamination/exposure.
2. All vinyl tile removal operatives are to wear appropriate personal protective equipment (PPE) including respiratory protection, safety glasses/goggles, disposable coveralls, hearing protection and gloves. Steel capped boots, hi-visibility vests and hard hats should also be worn as per the normal requirements for work on construction sites.
3. The tiles can be removed by heating the surface to loosen them or by use of a mechanical chisel to wedge them up. Care should be taken when heating tiles and the glues holding them in place to avoid the generation of toxic fumes. Do not grind, drill or otherwise abrade the tiles in any fashion that generates unnecessary dust/debris.
4. All waste is to be double bagged or placed in lined bins, sealed, and disposed of as asbestos waste in accordance with the Asbestos Codes of Practice and existing guidelines and regulations.
5. The removal area should be detailed clean using an approved vacuum cleaner fitted with a High Energy Particulate (HEPA) filter, and by wet wiping. A detergent should be used when wet wiping as this improves cleaning efficiency.
6. Obtain a clearance inspection and report from an independent, suitably qualified and experienced consultant such as SLR Consulting.
7. Upon satisfactory clearance inspection spray the area with a dilute PVA emulsion at low pressure. Multiple applications may be required to provide adequate coverage.
8. Prior to engagement in the work, all asbestos operatives must be trained in safe working practices. These training aspects include:
    - Health hazards of asbestos
    - Safe working procedures
    - Wearing and maintenance of protective clothing and equipment

Air 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.

All air monitoring must be completed by a NATA accredited organisation as specified in the *Occupational Health and Safety Regulations 2007*.

Asbestos fibres are generally well bound in the vinyl matrix and fibre release is unlikely provided the tiles are not ground, drilled or similarly disturbed.

Note:

These are general recommendations. In all cases the asbestos removalist should be familiar with, and comply with, the relevant Codes of Practice and the *Occupational Health and Safety Regulations 2007*. There may also be site specific requirements which should be complied with.