

Mirvac Real Estate

Asbestos Management Plan

255 Elizabeth St Sydney NSW 2000

17 September 2019



When you
think with a
global mind
problems
get smaller

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Asbestos Management Plan

Prepared for
Mirvac Real Estate

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1 Purpose of document

1.1. Document Retention

This Asbestos Management Plan (AMP) is to be held at the workplace and in the Premise's Property File. The asbestos register and AMP are to be available for use by the following:

- Authorised Work Cover Inspectors;
- Property owners;
- Employers and workers;
- People intending to conduct business at the premises; and
- Health and Safety Representatives.

Any contractor or service person required to undertake works at the premises must examine the Register of Asbestos Materials and determine whether their work activity will involve handling, replacing or potentially disturbing the materials as noted in the register. If ACM is identified at the site then the AMP must also be referred to.

Should a contractor or service person handle, replace or carry out works that may disturb an item in the Asbestos Material Register, there must be compliance with all workplace regulations and procedures covering the handling of such materials.

If the person conducting a business or undertaking (PCBU) with management or control of a workplace relinquishes management or control of the workplace, the person must ensure that the Asbestos Materials Register Report is given to the person/s that will be assuming management or control of the workplace.

The recommendations, conclusions or stability of asbestos materials contained in this report shall not abrogate a person of their responsibility to work in accordance with Statutory Requirements, Codes of Practice, Guidelines, Material Safety Data Sheets, Work Instructions or reasonable work practices.

1.2. Re-inspection and Review Requirements

In accordance to Work Health and Safety Regulation 2017, if there is ACM or suspected ACM identified at the time of the survey, then a site-specific AMP has to be compiled to outline the management practices for the ACM at the site. Re-inspections of the ACM should be as specified within the AMP.

The Asbestos Materials Register must be maintained and updated if the following circumstances:

- If the AMP is under review;
- If further ACM is identified at the premises;
- If ACM is removed or encapsulated; and or
- If the condition of the ACM changes i.e. by being damaged physically or by weathering.

The asbestos register should be reviewed at least once every five years to ensure it is kept up to date.

2. Introduction

Coffey Services Australia Pty Ltd (Coffey) was commissioned by Mirvac Real Estate Group to conduct a hazardous materials survey of 255 Elizabeth St Sydney NSW 2000, and prepare and assist in implementing asbestos management strategies to reduce potential asbestos exposure to as low as practicable.

Caitlin McKinnon of Coffey carried out the survey for asbestos material occurrences and associated potential exposure risks on the 13th August 2019. The assessment was conducted on the basis of the condition of the materials at the time of inspection.

No inspection can be guaranteed to locate all asbestos materials in a specific location and therefore this assessment cannot be regarded as absolute. Future demolition and or renovation to site structures may expose situations, which were concealed or otherwise impractical to access during this assessment.

The assessment was conducted on the basis of the condition of the materials at the time of inspection and the future anticipated activities at the site.

A copy of the asbestos register and risk assessment can be found in the report “**754-SYDEN228268 – 255 Elizabeth Street** issued on **21st August 2019**”.

This AMP incorporates the following information:

- Asbestos Register (inclusive of);
- Details of asbestos containing materials identified;
- Assessment of risk associated with ACM, and
- Control measures to mitigate these risks.
- Recommendations for the placement of labels and/or warning signs where not already affixed;
- Mechanisms for communication of the Asbestos Register;
- Information on the safe work procedures in relation to asbestos products at the premises;
- Consultation requirements for works involving asbestos;
- Management decisions relating to asbestos products at the premises;
- Arrangements for dealing with accidents, incidents or emergencies involving asbestos products;
- Timetable for managing risks including priorities and dates for reviewing risk assessments;
- Air monitoring arrangements at the premises;
- Responsibilities of site/management personnel; and
- Training requirements/arrangements for workers or contractors.

2.1. Background

The site was assessed by Coffey on 13th August 2019.

Coffey issued an Asbestos and Hazardous Materials Register on 13th September 2019. Coffey understands that Mirvac Real Estate Group requested this survey to produce an asbestos and hazardous materials register for the site in accordance with NSW *Work Health and Safety Regulation 2017* and the NSW Code of Practice *How to Manage and Control Asbestos in the Workplace* (2019).

2.2. Summary of Asbestos Containing Materials

A range of asbestos containing materials (friable & bonded) were identified or suspected to be present at the time of the assessment. The table below lists the ACM's identified onsite:

Hazardous Materials Category	Area	Location	Material	Friable/Bonded
Asbestos	Internal	Level 17 lift motor room lift motor	Brake pads	Bonded
Asbestos	Internal	Level 17 lift motor room, switchboard	Arc suppressors	Friable
Asbestos	Internal	Level 17 lift motor room, electrical backing board	Bituminous backing board	Bonded
Asbestos	Internal	Level 10, lift motor room, lift motor	Brake pads	Bonded
Asbestos	Internal	Level 10 lift motor room, switchboard	Arc suppressors	Friable
Asbestos	Internal	Level 10 lift motor room, electrical backing board	Bituminous backing board	Bonded
Asbestos	Internal	Level B5 lift motor room, switchboard	Arc suppressors	Friable

2.3. Site Specific Recommendations

Based on the findings of the hazardous materials survey, the recommendations regarding ACM are:

- ACM that has been identified in this survey must be removed prior to the commencement of general demolition works.
- When asbestos removal works are to be undertaken, the person that commissions the works must ensure that this is undertaken by an appropriately licensed asbestos contractor. The asbestos removal works must be conducted under controlled asbestos removal working conditions.
- When non-friable asbestos removal works are to be conducted within or adjacent to a highly sensitive area or public location, Coffey recommends that a hygienist who is independent of the asbestos contractor should be engaged to undertake airborne asbestos fibre monitoring along the boundary of the works and within the work area on completion of the works.
- If friable asbestos is identified during future works and is to be removed, a licensed asbestos assessor who is independent of the asbestos contractor must be engaged to:
 - Inspect the asbestos removal work area prior to commencement of the works;
 - Undertake asbestos fibre air monitoring before and during friable removal works in the surrounding areas and clearance asbestos fibre air monitoring at the conclusion of the asbestos removal work; and
 - Complete a visual inspection of the asbestos removal area and the area immediately surrounding it and ensure these are free from visible asbestos contamination.
- The licensed asbestos assessor must provide a Clearance Certificate that documents the visual clearance inspection and the satisfactory completion of the asbestos removal works. The

Clearance Certificate should state that all visible asbestos dust and debris resulting from the asbestos removal process has been removed from the removal area(s) and from areas adjacent to the removal work area(s).

- ACM left on-site should be labelled in accordance with *NSW Code of Practice: How to Manage and Control Asbestos in the Workplace, 2019* and *AS 1319-1994 Safety signs for the occupational environment to warn of the dangers of disturbing these materials*.
- An Asbestos Management Plan (AMP) should be created and maintained for all ACM that remain at the site to assist the site controller with the management of these materials. The AMP must ensure that suitable control measures are implemented to prevent site personnel and others from being exposed to airborne asbestos fibre.
- Schedule periodic reassessment of ACM remaining on-site to monitor their aging/deterioration so that the site controller can be alerted if any ACM require encapsulation or removal – in accordance with *NSW Code of Practice: How to Manage and Control Asbestos in the Workplace 2019*.
- During future demolition works, if any materials that are not referenced in this report and are suspected of containing asbestos are encountered, then works must cease and an asbestos hygienist should be notified to determine whether the material contains asbestos.

2.4. No Access Areas

Where Areas of No Access were identified it was presumed that hazardous materials were present. However, further investigation can confirm or refute the presence of these materials.

2.5. Legislative Requirements

This AMP has been designed to ensure compliance with the following legislative requirements:

- Work Health & Safety Act 2011;
- Work Health & Safety Regulation 2017;
- NSW Code of Practice *How to Manage and Control Asbestos in the Workplace* (2019);
- NSW Code of Practice *How to Safely Remove Asbestos* (2019); and
- Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd edition (NOHSC:3003(2005)).

3. Statement of Limitations

Coffey has conducted work concerning the environmental status of the property which is the subject of this report and has prepared this report on the basis of that assessment.

The work was conducted, and the report has been prepared, in response to specific instructions from the client to whom this report is addressed, within the time and budgetary requirements of the client, and in reliance on certain data and information made available to Coffey. The analyses, evaluations, opinions and conclusions presented in this report are based on those instructions, requirements, data or information, and they could change if such instructions etc. are in fact inaccurate or incomplete.

Investigations have been based on inspections conducted in accordance with relevant guidelines and standards, and normal industry practice, having regard to the client instructions, and interpretations of conditions are based on the data from those inspections and, where relevant and conducted, testing. To the best of our knowledge, they represent a reasonable interpretation of the condition of the site as able to be inspected. However, there can be no guarantee that conditions at specific points not able to be inspected do not vary from the interpreted conditions based on the available observations/data.

In order to determine actual environmental conditions at specific intermediate points away from those observed/tested to date, those specific points would need to be inspected/tested.

It is also noted that sub-surface conditions can change with time, and the report is based on data that was gathered at the time of the report. Coffey will not update the report and has not taken into account events occurring after the time its assessment was conducted.

This inspection and report may not include the following areas:

- Beneath building;
- Roof of building; and
- Removal of fittings e.g. kitchen or bathroom cupboards

Internal building materials should be assumed to contain asbestos until otherwise assessed by a competent person and proved to be otherwise.

Subsurface drains and pipes may be constructed of asbestos cement but this could not be assessed. Any subsurface pipes, particularly those constructed of fibrous-cement or concrete, should be assumed to contain asbestos until otherwise assessed.

This report has been provided by Coffey for the sole use of the client and only for the purpose for which it was prepared. Any representation contained in the report is made only for the client.

Assessments that are effectively Compliance Surveys are non-destructive and as such are not intended for use or referral for the purpose of demolition, refurbishment, renovations or structural alterations. In the event of future demolition, refurbishment, renovation, decommissioning or structural alterations further investigation, which may entail intrusive testing, shall be required.

No inspection can be guaranteed to locate all asbestos in a specific location. The assessment cannot be regarded as absolute, without extensive invasion of structures. Future demolition and or renovation to site structures may expose situations, which were concealed or otherwise impractical to access during this assessment.

All quantities referenced in this report are estimates and should not be relied upon for the purpose of calling tenders and the like.

Coffey assessors take samples at any situations known, or suspected, to contain Asbestos. Where the analysis determines that No Asbestos is Detected (NAD) the samples are listed in the report to provide information for future assessments.

Where no samples are taken, the situation is considered “asbestos free”. This assessment is based on the knowledge and experience of Coffey Assessors, or on research conducted by Coffey.

Representative sampling is defined as one like sample per consistent material type, situation or item. In these instances, only one test sample will be collected for analytical confirmation and the results expressed as consistent and typical of the building.

Due to the very low concentration of asbestos fibres and the non-homogenous matrix of vinyl floor tiles, false negative results may be obtained. Therefore, the accuracy of all results cannot be guaranteed.

Notably, with some asbestos containing bulk material it can be very difficult, or impossible to detect the presence of asbestos using the polarised light microscopy analytical method, even after ashing or disintegration of samples. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or attributed to the fact that, very fine fibres have been distributed individually throughout the materials.

The analysis of many asbestos products used as a component of insulation materials, may be compromised in instances where the material has been heat affected, as heat may alter the morphology of the fibrous material.

The Client must not rely on an inspection or report as indicating that a site or a building is “asbestos free”. All that the report can be relied upon to show is that no asbestos was found (or that only such asbestos was found as was reported to be found) in the course of the inspection. The findings of the report must be considered together with the specific scope and limitations of the type of inspection undertaken.

4. Methodology

Asbestos material surveys are undertaken considering a risk management approach, in accordance with best practice, Relevant Statutory Regulations and relevant Codes of Practice. A risk assessment was conducted based on a number of factors associated with asbestos materials identified during the survey and prioritised through Risk and Action Classifications.

The assessment involved an onsite investigation for the presence of Asbestos-Containing Materials (ACM) and other Hazardous Materials i.e. SMF, ODS, LPB, LCD & PCB's. Information was collected from the site owners/occupiers/tenants on relevant issues pertaining to the site. Based on the available data and the status of the site at the time of inspection, where items were identified, visual and/or analytical characterisation (where required) was performed and reported in the asbestos and hazardous materials report “**754-SYDEN228268 – 255 Elizabeth Street - issued on 21st August 2019**”.

The assessment was conducted on the basis of the condition, type and location of the materials at the time of inspection. The scope of this investigation did not allow intrusive sampling techniques to be undertaken in all locations, and consequently the register may have limitations as a reference document for the purposes of renovation or demolition.

Only ‘typical’ suspected material occurrences are inspected and sampled. Sampling is undertaken on a representative basis, for example, the inspection of one fire door of the same type within the same area is undertaken (i.e. not every ‘matching’ fire door is examined), unless specifically instructed. Sample collection was performed in a non-destructive and non-invasive manner by competent persons. Presumptions, based on knowledge and experience, that inaccessible areas contain asbestos materials may also be made and stated within the register.

Samples collected are representative of the material sampled, individually identified, transported, analysed and reported in accordance with relevant Statutory Regulations, Codes of Practice and Coffey Work Instructions. Laboratories undertaking analysis are appropriately NATA certified for the analysis conducted.

The presence of asbestos in bulk samples is determined by Polarised Light Microscopy (PLM) with dispersion staining techniques.

Onsite investigations cannot guarantee to locate the presence of restricted locations such as inline heaters in air conditioning systems. Whilst every effort will be made by the Consultant to locate and sample restricted areas, further access and detailed investigation may be required with the assistance of contractors and/or electricians.

Asbestos material surveys are restricted to areas that are reasonably accessible during the survey, with respect to the following:

- without contravention of relevant statutory requirements or codes of practice;
- without placing the surveyor at undue risk;
- without dismantlement or damage to installed fixtures and fittings, plant, electrical equipment, machinery; and
- without dismantlement, demolition or damage to finishes and structure.

Where the surveyor encounters access restrictions during the survey, these situations are documented and reported.

No assessment can be regarded as absolute. Future breaking up or refit, repair or rebuild of vessels may reveal materials concealed during the assessment, which were not accessible at the time of the Survey.

The register is made up of relevant information gathered on site plus Coffey' assessment of risk and assignment of action ratings. Reference to photographs, where available, is made in the register along with sample identification and analysis results, where applicable. Sample analysis results from previous assessments may be utilised and referenced in this register.

4.1. Asbestos Fibre Identification

Samples taken from suspected asbestos-containing materials are representative of the material sampled, individually identified, transported, analysed and reported in accordance with the National Occupational Health and Safety Commission (NOHSC) Guidelines, relevant Statutory Regulations, Codes of Practice and Coffey Work Instructions. Laboratories undertaking analysis are appropriately NATA certified for the analysis conducted.

The presence of asbestos in a bulk sample is determined by Polarised Light Microscopy (PLM) with dispersion staining techniques.

4.2. Asbestos Survey

Asbestos Surveys are non-destructive and as such are not intended for use or referral for the purpose of demolition of, refit, repair or rebuild and modification or structural alterations. In the event of future demolition, refit, repair or rebuild and modification or structural alterations further investigation, which may entail destructive testing, shall be required.

No inspection can be guaranteed to locate all asbestos within the building. The assessment cannot be regarded as absolute, without extensive invasive investigation. Future demolition or modification to structures may expose situations, which were concealed or otherwise impractical to access during this assessment.

Coffey assessors take samples at any situations known, or suspected, to contain Asbestos. Where the analysis determines that No Asbestos is Detected, the samples are listed in the report to provide information for future assessments.

5. Responsibilities

The key personnel responsible for the implementation and maintenance of the AMP include:

- Person conducting a business or undertaking (PCBU) with management or control of a workplace,
- Engineering/Facilities/Maintenance/Asset Managers (referred to in the table below as FM).

Others required to comply with directives of the AMP include:

- Contractors and trades staff,
- Staff, their Health and Safety Representatives and visitors.

Responsible Person/s	Action
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> • Commission reviews of asbestos registers and the Asbestos Management Plan, including updates in legislative requirements as necessary. Include all ACM in the review if changes to conditions occur.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> • Ensuring the content within the AMP is reviewed and updated following any changes in the workplace or work practices.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> • Populating the action program within the AMP and coordinating the actions required.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> • Commission the inspection and identification (including labelling and re-inspections) of asbestos materials and other hazardous building materials at required frequencies.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> • Ensure procedures are in place for the control of contractors or personnel who may come into contact with ACM during the course of their work.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> • Ensure resources and support are made available to the site controllers/tenants to initiate and progress AMP issues.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> • Liaising with site controllers/tenants and providing immediate response to emergency situations involving asbestos.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> • Ensuring communication and training strategies are in place as necessary for contractors and relevant personnel.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> • Liaise with other responsible personnel on relevant matters relating to asbestos materials management and ensure that all concerns about asbestos are dealt with in a timely and satisfactory manner.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> • Ensure that the necessary asbestos materials work methods, control measures and safety standards meet the required standard.

Responsible Person/s	Action
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> Ensure that licensed contractors are engaged (as per National Regulations) for 'friable' asbestos work and competent contractors are engaged for the maintenance or removal of other asbestos products. Ensuring the contractor has obtained necessary approvals from the regulatory authorities prior to such work.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> Consulting with all relevant stakeholders regarding proposed and existing asbestos materials control measures or unplanned disturbance to those materials.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> Ensuring that employees/site controllers/tenants and other stakeholders at the Subject Site have been suitably informed and consulted with regarding asbestos materials, risks, safety precautions and adopted control measures.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> Maintain the Register, air-monitoring records, identification analyses records, records of asbestos control and removal, and ensure the AMR are updated following any site inspections and/or remedial works.
PCBU with management or control of a workplace / FM	<ul style="list-style-type: none"> Ensure a current copy of the Register and all required site documentation are maintained in a current and readily accessible condition for viewing by stakeholders.
PCBU with management or control of a workplace / FM	<p>Demolition and Refurbishment Work</p> <ul style="list-style-type: none"> prior to demolition or refurbishment work starting, must review the asbestos register and ensure all asbestos that is likely to be disturbed is identified and removed so far as is reasonably practicable must provide a copy of the asbestos register to the person carrying out the demolition or refurbishment work before the work commences must, if an emergency occurs and a structure or plant is to be demolished, ensure that before the demolition occurs there is a procedure to reduce the risk of exposure to asbestos to below the exposure standard and notify the regulator about the emergency.
Site Manager	<ul style="list-style-type: none"> Ensure on-site adherence to procedures in place for the control of contractors or personnel who may come into contact with ACM's during the course of their work.
Site Manager	<ul style="list-style-type: none"> Ensure that the Register is made available to contractors or workers requiring such information as part of their work.
Site Manager	<ul style="list-style-type: none"> Provide an immediate response to emergency situations or incidents involving asbestos.
Site Manager	<ul style="list-style-type: none"> Ensure that a risk assessment is conducted for any operation that is possible to disturb asbestos building materials.

Responsible Person/s	Action
Site Manager	<ul style="list-style-type: none"> • Arrange or undertake site inductions for staff and contractors, and provide advice, training and consultation (internally or externally) to personnel regarding asbestos materials issues, if required.
Site Manager	<ul style="list-style-type: none"> • Audit asbestos management procedures and assist with reviews of the AMP.
Site Manager	<ul style="list-style-type: none"> • Providing all necessary information and instruction to contractors attending and working on site in relation to asbestos materials hazards, control measures and required work procedures.
Site Manager	<ul style="list-style-type: none"> • Ensure all incidents involving the actual or potential exposure of persons to asbestos are immediately reported and investigated and that recommendations are closed out.
Contractor	<ul style="list-style-type: none"> • Consult with the Subject Site Supervisor/tenant on entering the Subject Site. • Look after their own safety and health, and the safety and health of other employees and contractors. • Ensure that they carry out their work in compliance with relevant legislation and the organisation's safe work methods and demonstrate an acceptable level of safety performance. • Ensure that the right person is employed for each job, taking into account the type of work to be performed, the licences, training, certificates and qualifications required. • Immediately report any incident, injury, or hazards and any incidents of non-compliance with the AMP that has or may have occurred. • Not to impact on any asbestos material without complying with the AMP. • To bring to the attention of the Site Supervisor any suspect material. • Refer to AMP for guidance to identify, manage, and remove asbestos and other hazardous building materials. • Submit Risk Assessments and Health, Safety and Environment Plans when performing asbestos materials removal work. • Undergo Contractor Induction. • Develop a site specific asbestos removal control plan prior to performing the removal work.
All Workers, their health and safety representatives, tenants and visitors	<ul style="list-style-type: none"> • Ensuring they are familiar with the AMP as necessary. • Supporting facilitated activities relating to ACM management. • Comply with the AMP. • Not to impact on any asbestos materials. • Report asbestos related hazards.

Responsible Person/s	Action
	<ul style="list-style-type: none"> Protect themselves and others in the Subject Site.

5.1. License Requirements

- **Friable asbestos** – If asbestos is friable, such as the vinyl flooring sheet identified in the survey, and it has been determined that it should be removed, it must be removed by a Class A licensed removalist.
- **Non-friable asbestos** – If asbestos is non-friable, is more than 10m², such as the fibre cement eave and gable lining identified during the survey, and has been determined that it should be removed, it must be removed by a minimum of a Class B licensed asbestos removalist.

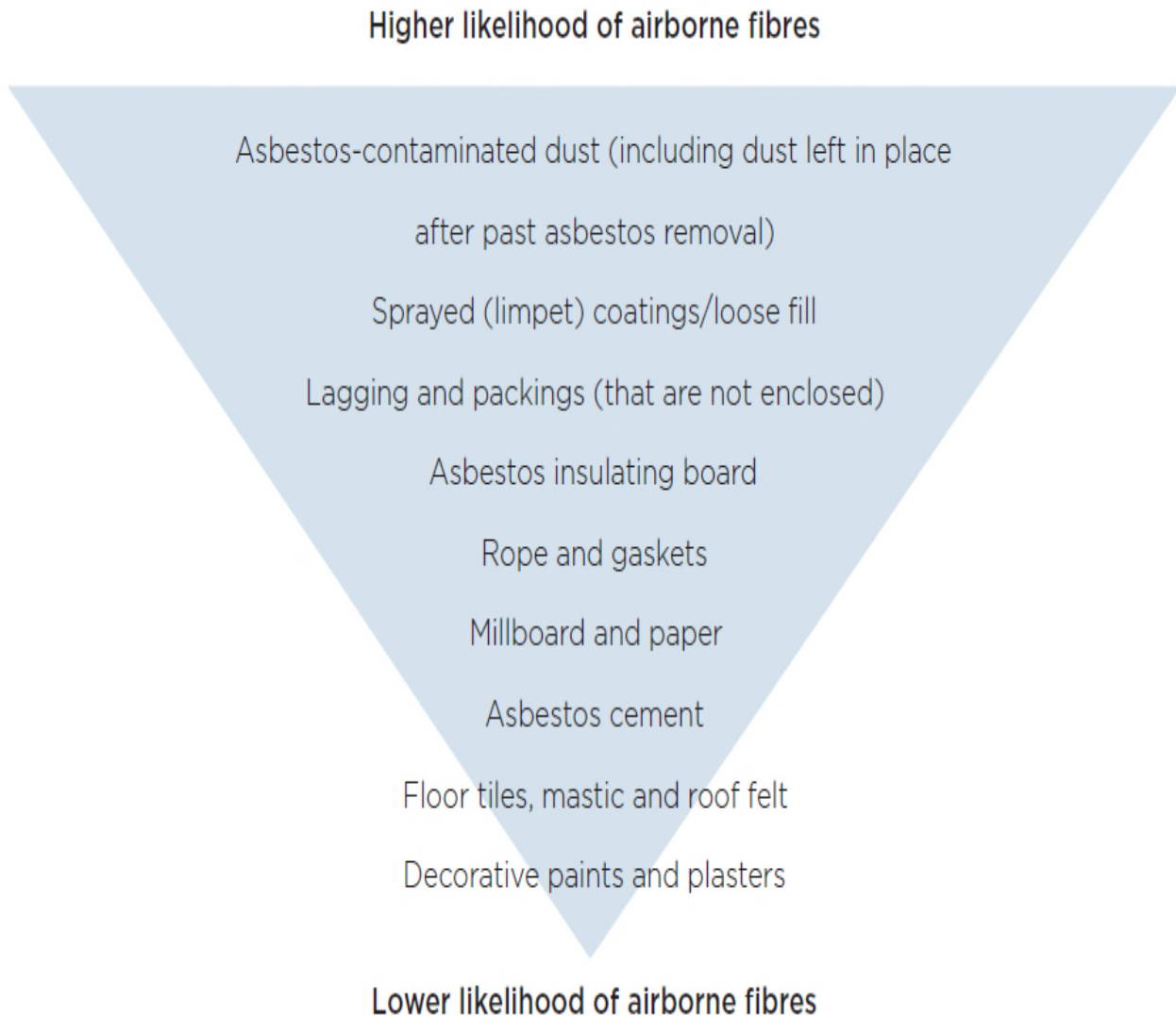
6. Controlling Asbestos Hazards

Control measures will be implemented based on the level of risk of exposure to asbestos containing materials. The control measures must be aimed at eliminating risk arising from ACM and prevent exposure to airborne asbestos fibres. After elimination, the methods adopted should follow the remaining levels within the hierarchy of controls. The following information should be used as a guide when determining the correct control method for effective ACM management.

- If the ACM is friable and not in a stable condition, and there is a risk to health, it must be stabilised (such as the recent application of a paint sealant to the exposed vinyl floor sheeting edges) or removed by a certified asbestos removalist as soon as practicable.
- If the ACM is friable but is in a stable condition and is accessible, consideration should be given to its removal. If removal is not immediately practicable, short term control measures, such as sealing and enclosure, may be used until removal is possible.
- If the ACM is not friable and is in a good stable condition, minimising disturbance and encapsulation may be appropriate controls.
- Any remaining ACM is to be clearly labelled, according to the How to Manage and Control Asbestos in the Workplace, NSW Code of Practice 2016 where possible, and regularly inspected to ensure it is not deteriorating or otherwise contributing to an unacceptable health risk.
- ACM needs to be removed before demolition, partial demolition, renovation or refurbishment if it is likely to be disturbed by those works.

7. Risk Assessment

From the findings of the asbestos materials survey, an individual risk assessment is conducted on each ACM. The following figure outlines the general likelihood of fibre release potential (Source: NSW Code of Practice *How to Manage and Control Asbestos in the Workplace* (2019)).



7.1. Asbestos Materials Risk Assessment

Coffey adopts the following risk assessment algorithm in order to assess the risks associated with individual asbestos-containing materials identified.

Friable

Variable	Score	Description
Friability	Y	Asbestos cement debris, or material which when dry may become crumbled, pulverised or reduced to powder by hand pressure.
	N	Bonded i.e. non-friable material

Materials Assessment

Variables	Scores	Examples of Score Descriptions
Asbestos Type	0	No asbestos
	1	Chrysotile only
	2	Amphibole asbestos (excluding crocidolite)
	3	Crocidolite
Product Type	0	No asbestos detected
	1	Bonded asbestos in good condition
	2	Friable asbestos in good condition or cement in poor condition
	3	Friable asbestos in poor condition
Extent of Damage	0	No visible damage
	1	Minor scratches or mark, broken edges
	2	Significant breakage, many small areas of damage to friable material
	3	High damage, visible debris
Surface Treatment	0	Bonded Asbestos including encapsulated asbestos cement
	1	Enclosed laggings, sprays and boards or bare cement
	2	Bare board or encapsulated lagging/spray or cement debris
	3	Unsealed lagging/spray

Location Assessment

Variables	Scores	Examples of Score Descriptions
Occupant Activity	0	Rare disturbance, e.g. little used store room
	1	Low disturbance, e.g. Office type activity
	2	Periodic disturbance, e.g. industrial or vehicular activity which may contact ACMs
	3	High levels of disturbance e.g. fire door with AIB sheet in constant use
Likelihood of Disturbance	0	Usually inaccessible or unlikely to be disturbed
	1	Minimal likelihood for disturbance
	2	Likely disturbance
	3	Frequent disturbance
Human Exposure	0	Infrequent
	1	Monthly
	2	Weekly
	3	Daily
Maintenance Activity	0	Minor disturbance (e.g. possibility of contact when gaining access)
	1	Low Disturbance (e.g. changing light bulbs in AIB ceiling).
	2	Medium disturbance (e.g. lifting one or two ceiling tiles to access a valve)
	3	High level of disturbance (e.g. moving a number of AIB ceiling tiles to replace a valve or for re-cabling)

Risk Score

The asbestos containing material risk score is a quantitative assessment determined by the sum of the scores based on the Materials and Location Assessments; i.e. Risk score = Material Score + Location Score (out of as possible 24).

Should no asbestos be detected then the register will indicate a risk score of 0.

Variable	Scores	Examples of Score Descriptions
Risk Score	0 - 6	Very Low Risk - Action Score A4
	7 - 12	Low Risk – Action Score A3
	13 - 18	Medium Risk – Action Score A2
	19 - 24	High Risk – Action Score A1

OTHER HAZARDOUS MATERIALS REGISTER SECTION

Coffey adopt the following material and location assessment algorithms in order to assess the risks associated with individual **hazardous materials other than asbestos** located;

Friable

Variable	Score	Description
Friable	Y	Unsealed SMF
	N	Sealed SMF
	NA	Applicable to ODS, PCB, Lead in paint

Material Assessment

Variable	Score	Examples of Score Descriptions
Extent of Damage	G	Good condition
	Av	Average condition
	P	Poor condition
Surface Treatment	Y	Sealed
	P	Part sealed
	N	Not sealed

Location Assessment

Variable	Score	Examples of Score Descriptions
Occupant Activity	H	High traffic area
	M	Medium traffic area
	L	Low traffic area

Risk Score

The hazardous materials other than asbestos risk score is a qualitative assessment determined by the combination of Material and Location Assessments. Depending on the material one or all of these criteria may be used in assessing the recommended Action.

Variable	Score	Examples of Score Descriptions
Risk Score	L	Low exposure risk
	M	Medium exposure risk
	H	High exposure risk

Action Ratings

A1	Action 1	Restrict access and remove
		<p>As a guide, the material conforms to one, or more, of the following:</p> <p>Friable or poorly bonded to substrate, located in accessible areas</p> <p>Severely water damaged, or unstable</p> <p>Further damage or deterioration likely</p> <p>Friable asbestos material located in air conditioning ducting</p> <p>Asbestos debris and stored asbestos in reasonably accessible areas</p> <p>Post removal of A1 item, update Asbestos Materials Register and Asbestos Management Plan</p>
A2	Action 2	Enclose, encapsulate or seal and Label – Re-inspect according to Asbestos Management Plan
		<p>As a guide, the material conforms to one, or more, of the following:</p> <p>Damaged material</p> <p>In reasonably accessible area</p> <p>Friable material or poorly bonded to substrate, with bonding achievable</p> <p>Possibility of disturbance through contact</p> <p>Possibility of deterioration caused by weathering</p> <p>Post encapsulation of A2 item, update Asbestos Materials Register and Asbestos Management Plan</p>
A3	Action 3	Remove during refurbishment or maintenance and Label – Re-inspect according to Asbestos Management Plan
		<p>As a guide, the material conforms to one, or more, of the following:</p> <p>Asbestos debris or stored material in rarely accessed areas</p> <p>Further disturbance or damage unlikely other than during maintenance or service</p> <p>Readily visible for further assessment</p> <p>Asbestos CAF Gaskets</p> <p>Asbestos friction materials and brake linings</p>
A4	Action 4	No remedial action, Label – Re-inspect according to Asbestos Management Plan
		<p>As a guide, the material conforms to one, or more, of the following:</p> <p>Firmly bonded to substrate and readily visible for inspection</p> <p>Inaccessible and fully contained</p> <p>Stable and damage unlikely</p>

The following terminology is used within the register to describe the materials identified

Material Descriptors

CH	Chrysotile (white) Asbestos
CR	Crocidolite (blue) Asbestos
AM	Amosite (brown) Asbestos
NAD	No Asbestos Detected
ACM	Asbestos Containing Material or product
SMF	Synthetic Mineral Fibre
PCB	Polychlorinated Biphenyls
Pb	Lead
NLD	No Lead Detected
HFC	Hydrofluorocarbons
HCFC	Hydrochlorofluorocarbons
CFC	Chlorofluorocarbons

Acronyms

NOHSC	National Occupational Health and Safety Commission
NATA	National Association of Testing Authorities, Australia
A/C	Air Conditioning
F/C	Fibre Cement
PLM	Polarised Light Microscopy
SEM	Scanning Electron Microscopy
EDAX	Energy Dispersive X-ray Analysis
AAS	Atomic Absorption Spectroscopy

Units of Measurement

m	Metre	L	litre
m ²	square metres	mg/L	milligrams per litre
m ³	cubic metres	mg/kg	milligrams per kilogram
km	kilometre	fibre/mL	fibres per millilitre
mg	milligram	mL	millilitre
kg	kilogram	%	percentage
µF	micro Farads		

7.2. Suspect Materials

Should materials of unknown composition, or materials suspected of containing asbestos be encountered on site and are not documented in the existing asbestos register, such materials should be treated as if they are ACM until sampled and NATA accredited laboratory analysis confirms otherwise. In the event that additional ACM are identified, a risk assessment shall then be conducted by an appropriately qualified and competent person. For example, in the event that demolition or refurbishment works are to be carried out in areas previously not inspected for the presence of ACM - such as inaccessible wall cavities or beneath floors, an inspection and risk assessment should be performed by a competent person prior to the commencement of the planned demolition/ refurbishment works.

The risk assessment of the ACM is to be reviewed when:

- The AMP is reviewed;
- Further asbestos or ACM is identified at the Workplace;
- There is evidence that control methods are not effective;
- A significant change is proposed for the workplace or for work practices or procedures relevant to the risk assessment such as major refurbishment or demolition;
- There is a change in the condition of the ACM;
- The asbestos material has been removed from or disturbed, enclosed or sealed.

The frequency of the inspections will also take into consideration whether the ACM:

- Has a high propensity to release airborne asbestos fibres;
- Is in poor condition;
- Is likely to be damaged or further deteriorate;
- Likely to be disturbed due to work practices in the Workplace;
- Is in an area where workers are exposed to the material.

In any case a risk assessment review for asbestos is to be conducted at least once every five years to ensure it is kept up-to-date. This is to be organised by PCBU with management or control of a workplace and must be performed by a Competent Person.

8. Managing in-situ Asbestos

The management of in-situ asbestos is important to ensure ACMs are not damaged or deteriorate to such an extent that employees, patients, external contractors, or visitors are unnecessarily exposed to airborne asbestos fibres.

8.1. Asbestos Identification

Products suspected of containing asbestos and requiring identification are to be referred to the Building Manager who will arrange for sample analysis to be undertaken.

**WHEN IN DOUBT TREAT THE PRODUCT AS ASBESTOS CONTAINING MATERIAL
UNTIL IDENTIFIED AS OTHERWISE.**

The results of all samples analysed for asbestos identification will be recorded on the Asbestos Materials Register.

8.2. Asbestos Monitoring

Monitoring is to occur before, during and after planned asbestos removal work in accordance with the asbestos removal control plan.

8.3. Asbestos Material Labelling and Signage

A labelling system (stickers) is established and must be maintained on site to enable the visual and legible identification of ALL asbestos materials recorded on the Asbestos Materials Register. The labels are fixed to the area and are to be maintained in-situ at all times.

The labels used must comply with AS 1319 Safety Signs for the Occupational Environment, and a competent person is to determine their required location. The labels are to be affixed in a secure manner and checked annually to ensure they are not damaged, missing, obscured or faded.

If a risk assessment suggests an ACM might be disturbed or persons might be exposed and it is not practical to label the ACM (e.g. ceiling panels, furnaces or a friable ACM such as lagging) a prominent warning sign, specifying the ACM, is to be posted in the immediate vicinity. If floor tiles have been identified as containing asbestos, an appropriate warning sign, displayed on an adjacent wall might read, "WARNING FLOOR TILES CONTAIN ASBESTOS. DO NOT DISTURB WITHOUT PROPER TRAINING AND EQUIPMENT." Warning signs should be placed at the main entrance to the work areas where asbestos is present. This will ensure that asbestos is not unknowingly disturbed without the correct precautions being taken.



9. Record Keeping

A complete record of all activities and work permits relating to asbestos works, which have been undertaken at the site is to be maintained. The records that are to be kept include:

- Copies of all asbestos survey reports, including updates and amendments
- Copies of all permit to work documents
- Site induction records pertaining to the information disseminated to contractors
- Prior to conducting work onsite
- Induction records pertaining to the information disseminated to employees regarding the presence of asbestos onsite
- Asbestos Removal Control Plans for asbestos removal works
- Records of any removal or other asbestos related works onsite
- Clearance certificates indicating areas are safe to reoccupy after asbestos removal works
- Asbestos fibre air monitoring results
- All versions of the asbestos register
- Records dealing with Regulated and Trackable Waste and landfill disposal documentation.

Re-inspections of all ACM remaining on site are to be conducted by a suitably qualified person only. The re-inspection process will involve a visual assessment of the materials to determine if there has been any deterioration since the last inspection and, if so, what course of action should be taken i.e. temporary encapsulation, isolation or immediate removal.

Once the re-inspection has been completed, the Asbestos Containing Materials Register is to be updated accordingly.

10. Asbestos Removal Control Plan

As outlined in the NSW Code of Practice *How to Safely Remove Asbestos* (Safe Work NSW 2019), an Asbestos Removal Control Plan is required to be prepared prior to undertaking asbestos removal work. When preparing the asbestos removal control plan, the licensed asbestos removalist should consult with the person who commissioned the work, the person with management or control of the workplace (if not the same person), workers and their health and safety representatives.

Once the asbestos removal control plan is prepared, a copy must be:

- given to the person who commissioned the licensed asbestos removal work
- readily accessible on-site for the duration of the licensed asbestos removal work to: a person conducting a business or undertaking at the workplace
- workers and their health and safety representatives

The asbestos removal control plan must also be made available for inspection under the WHS Act.

Refer to Appendix D for Asbestos Removal Control Plan Checklist.

11. Asbestos Permit to Work

If it is determined, after consultation with the asbestos register, that ACM is present in the vicinity of the planned works, an Asbestos Permit to Work (PTW) will be required.

The Asbestos PTW is designed to ensure appropriate work practices are employed in the vicinity of ACM. The Asbestos PTW will document what ACM is to be removed, encapsulated or otherwise protected prior to the contracted maintenance or building works proceeding. The Asbestos PTW will also indicate other requirements such as the need for personal protective equipment (PPE), barricading and airborne fibre monitoring.

An Asbestos PTW will only be issued to competent, licensed (class A or B) asbestos removalists. When the work is completed, the permit will be signed and returned to the permit officer who will cancel it after ensuring that a clearance certificate is provided. The Building Manager will retain copies of all Asbestos PTW removal plans, JSEAs and work method statements with the site asbestos register.

Refer to Appendix C for the Asbestos Permit to Work Form.

12. Tools and Equipment

Tools and equipment to be used for asbestos removal work are required to generate a minimum amount of airborne fibres during use. High-speed abrasive power or pneumatic tools such as angle grinders, sanders, saws, and high-speed drills MUST NEVER be used. Hand tools only are permitted.

At the end of the removal work all tools are to be either:

- Decontaminated (i.e. fully dismantled and cleaned under controlled conditions)
- Placed in a sealed container and used only for asbestos removal work
- Disposed of as asbestos waste

Prohibited Practices

Work practices that are prohibited include:

- Work practices in the vicinity of asbestos materials that may disturb or, damage the material, cladding, enclosure, sealant or containment barrier;
- Workers using a high-pressure water process to clean an asbestos product or to clean up debris from an asbestos product;
- Workers using compressed air to clean an asbestos product or a surface where debris from an asbestos product is present.

13. Removal of Asbestos-Containing Materials

13.1. Removal Requirements

A detailed site-specific Asbestos Removal Control Plan is to be developed by the asbestos removalist prior to commencing the ACM removal work and a copy must be given to the person who commissioned the work and be readily accessible on-site to PCBU, workers, their health and safety representatives and any occupants. Any ACM removal work shall be performed by a reputable, licensed asbestos materials removalist, in accordance with the NSW Code of Practice *How to Safely Remove Asbestos* (Safe Work NSW 2019). Where applicable the regulator will be notified in writing five days prior to the commencement of the works.

13.2. Control Measures

The selection of the most appropriate control measure is determined from risk assessments and detailed knowledge of the workplace and activities. The following general principles may be therefore applied:

If the ACM is friable, in a poor/unstable condition and accessible with risk to health from exposure, immediate access restrictions should be applied and removal is required as soon as practicable using a licensed removalist;

If the ACM are friable but are in a stable condition (e.g. rope seals) and are accessible, serious consideration should be given to their removal. If removal is not immediately practicable, short-term control measures, such as sealing, enclosure or similar and labelling may be able to be used until removal is possible;

If the ACM are not friable and are in a good, stable condition (e.g. cement panel) minimising disturbance, ongoing maintenance and periodic inspection would be appropriate controls. All damaged edges should be appropriately sealed and the installation labelled;

All known or suspected ACM remaining on site should be appropriately labelled, where possible, and regularly inspected to ensure they are not deteriorating resulting in a potential risk to health;

Prior to any demolition, partial demolition, renovation or refurbishment, asbestos containing materials likely to be disturbed by those works should be removed in accordance with the NSW Code of Practice *How to Safely Remove Asbestos* (Safe Work NSW 2019).

If any unknown ACM's are discovered during any works on the property or there is a change in the condition of the known ACM situations all work should be stopped immediately and the building/project manager notified. A Licensed Asbestos Assessor or Competent Person should be engaged to assess the potential risk from the materials, undertake asbestos air monitoring to determine the potential for further contamination from the materials and advise of the appropriate control measures.

It is the responsibility of the contractor undertaking any works on ACM to ensure:

- Workers who may be exposed to ACM are sufficiently protected to avoid personal injury or harm and to prevent asbestos fibre becoming airborne which may potentially contaminate other areas or affect others;
- Ensure there is project supervision by responsible persons to ensure employee exposure assessments, air monitoring, hygiene facilities, work barriers etc. are in place;
- Undertake project specific risk assessment of potential employee exposure to asbestos fibres and work methods to reduce the potential exposure to asbestos;
- Provide appropriate PPE and RPE such as P2 respirator (minimum), disposable coveralls, gloves and booties;
- Obtain appropriate license to undertake the removal/ remedial works;
- Maintain documentation including building permits, safety plans, work processes and environmental controls;
- Utilise appropriately trained employees;
- Undertake all work activities to protect the health of employees, tenants and members of the general public;
- Inform the PCBU, workers, the person who commissioned the work, and any occupants in the vicinity of the workplace of any potential hazards associated with the work activities;
- Written evidence of employee training and information;
- Provision of adequate ventilation (where applicable); and
- Transport and handle all ACM as contaminated waste and dispose at a licensed contaminated waste disposal facility.

13.3. Air Monitoring Requirements for Asbestos Removal Work

Asbestos air monitoring is *mandatory for all friable removals* and must be undertaken by a NATA accredited company for air borne asbestos monitoring. The individual conducting the air monitoring should be an independent licensed asbestos assessor. Air monitoring is also to be considered when more than 10m² of bonded ACM is removed to ensure control methods are adequate and also where the removal is being undertaken in or next to a public location.

The following table (extracted from the NSW Code of Practice *How to Safely Remove Asbestos* (Safe Work NSW 2019) Section 3.11) outlines the action limits for air monitoring results.

Table 1. Action Levels for Asbestos Air Monitoring Results.

Action Level	Control	Action
Less than 0.01 fibres/ml	No new control measures are necessary	Continue with control measures
At 0.01 fibres/ml or more than 0.01 fibres/ml but less than or equal to 0.02 fibres/ml	1. Review	Review control measures
	2. Investigate	Investigate the cause
	3. Implement	Implement controls to eliminate or minimize exposure and prevent further release
More than 0.02 fibres/ml	1. Stop removal work	Stop removal work
	2. Notify regulator	Notify the relevant regulator by phone followed by fax or written statement that work has ceased and the results of the air monitoring
	3. Investigate the cause	Conduct a thorough visual inspection of the enclosure (if used) and associated equipment in consultation with all workers involved with the removal work.
	4. Implement controls to eliminate or minimise exposure and prevent further release	Extend the isolated/barricaded area around the removal area/enclosure as far as reasonably practicable until fibre levels are at or below 0.01 fibres/mL, wet wipe and vacuum the surrounding area, seal any identified leaks (e.g. with expandable foam or adhesive (cloth or duct) tape) and smoke test the enclosure until it is satisfactorily sealed
	5. Do not recommence removal work until further air monitoring is conducted	Do not recommence until fibre levels are at or below 0.01 fibres/mL.

13.4. Storage and Disposal of Asbestos

All asbestos waste shall be double bagged, using 200 µm (0.2 mm) thick polyethylene bags. Asbestos waste shall be bagged once at the workplace and a second time away from the workplace but prior to leaving the removal area enclosure. It is recommended that a maximum bag size of 1200 mm (length) x 900 mm (width) be used. Bags should be filled to no more than 50 per cent capacity, and contents should be wet before sealing. Consistent with good manual handling practice, bags should not exceed 16 kg in weight. The bags must be decontaminated before they are placed in waste bins. Each bag shall be labelled in accordance with Globally Harmonised System of Classification and Labelling of Chemicals (GHS) requirements on its outermost surface, with the following warning statement:

ANGER

ASBESTOS WASTE

DO NOT INHALE DUST

MAY CAUSE LUNG CANCER

Alternatively, other approved containers may be used. If waste bags are not suitable then the ACM is to be sealed in double lined heavy duty plastic sheeting before they are placed into the skip or for non-friable ACM they may be placed directly into the waste bin that has been double lined with heavy duty plastic sheeting (200 µm minimum thickness) but it must be kept damp to minimise the release of airborne asbestos fibres. To comply with GHS requirements the top and side of each bin or container should be labelled with the words 'Danger: Asbestos do not break seal'.

13.5. Project Supervision

Prior to the removal of any high-risk ACM a Licensed Asbestos Assessor or Competent Person, with experience in asbestos materials removal works, shall be engaged, at the cost of the project, to work independently of the asbestos removal contractor. The assessor will be responsible for ensuring the asbestos materials removal contractor achieves a satisfactory level of workmanship, and complies fully with statutory requirements and the requirements of the technical specification.

Commensurate with the above requirements, the specific duties of the supervising assessor may include:

- Inspection of the integrity of the containment prior to commencement of asbestos removal works;
- Inspection of the asbestos materials removalist's equipment, including but not limited to decontamination and negative air units, water filtration systems, vacuum equipment, personal protective equipment (PPE);
- Assessment of the asbestos removalist's work methods, use and maintenance of PPE/RPE and decontamination procedures;
- Clearance visual inspection of the work area after the removal of ACM to ensure the ACM has been removed to a satisfactory standard; and
- Organising air monitoring and developing the air monitoring requirements for the particular ACM removal.

The Project Manager is to notify the Site Manager, Workers, Health and Safety Representatives, Contractors, Building Occupants and others providing details of the date, time and location of the removal works before they start as well as ensuring the Asbestos Removal Control Plan is adequate for the works to be undertaken.

14. Maintenance Procedures

Maintenance tasks that may involve ACM are to be addressed under controlled conditions, to prevent and minimise the risk of exposure of the maintenance personnel or any other person to airborne asbestos fibres. Appendix G of the How to Manage & Control Asbestos in the Workplace, Code of Practice 2019 details procedures to be adopted for certain maintenance tasks. These are:

- Safe work practice 1 – Drilling for asbestos-containing material;
- Safe work practice 2 – Sealing, painting, coating and cleaning of asbestos-cement products;
- Safe work practice 3 – Cleaning leaf litter from gutters of asbestos cement roofs;

- Safe work practice 4 – Replace cabling in asbestos cement conduits or boxes;
- Safe work practice 5 – Working on electrical mounting boards (switchboards) containing asbestos; and
- Safe work practice 6 – Inspection of asbestos friction materials.

15. Personal Protective Equipment (PPE)

The personal protective equipment requirements for work involving ACM at the Subject Site are to be based on the risk assessment.

The National Code of Practice How to Safely Remove Asbestos (Safe Work Australia 2019) should be consulted to determine the PPE needs as well as AS/NZS 1715-1994 Selection, Use and Maintenance of Respiratory Protective Devices and AS/NZS 1716-2003 Respiratory Protective Devices.

The following table outlines the respiratory protective equipment required for any process that has the potential to disturb asbestos:

Work Procedure	Required respirator	Filter type
Simple enclosure erection for containing undamaged asbestos materials to prevent damage – no direct handling but possible disturbance of asbestos	Disposable, half-face particulate respirators OR Half-face, particulate filter (cartridge) respirator	P1 or P2
Inspection of the condition of any installed friable asbestos, which appears in poor condition or has been disturbed	Disposable, half-face particulate respirators OR Half-face, particulate filter (cartridge) respirator	P1 or P2
Sampling material for the purpose of identifying asbestos	Disposable, half-face particulate respirators OR Half-face, particulate filter (cartridge) respirator	P1 or P2
Removal of non-friable asbestos (e.g. asbestos cement sheets, ceiling tiles and vinyl tiles)	Disposable, half-face particulate respirators OR Half-face, particulate filter (cartridge) respirator	P1 or P2
Extensive sample operations on friable asbestos	Full-face, particulate, filter (cartridge) respirator	P3
Maintenance work involving the removal of small quantities of friable asbestos (e.g. replacement of friable asbestos gaskets and insulation)	Full-face, particulate, filter (cartridge) respirator	P3
Certain forms of wet stripping in which wetting is prolonged and effective, and certain small-scale dry stripping operations	Full-face, powered air-purifying particulate respirator OR Full-face, positive pressure demand air-line respirator	P3
Certain forms of dry stripping and ineffective wet stripping (light wetting, no time given to saturate)	Full-face, powered air-purifying particulate respirator OR Full-face, positive pressure demand air-line respirator No lesser respirator will suffice	P3

Other PPE required includes, but is not limited to:

- Disposable coveralls
- Boot protectors

Disposable PPE and RPE filters used during the asbestos removal works should be treated as asbestos waste and disposed of in approved asbestos waste bags after completion of the works.

16. Occupational Exposure Standards

Asbestos Air Monitoring

It is the aim to keep personal exposure to ACM as low as reasonably achievable. Where occupational exposure to asbestos materials is likely to occur, exposure is not to exceed half the occupational exposure standards for each hazardous building materials type or category as published by the National Occupational Health and Safety Commission (Safe Work Australia).

Occupational exposure for asbestos is measured using the Membrane Filter Method, by collecting a sample of air from the breathing zone of a person, over a minimum of four hours duration.

The current National Exposure Standards TWA for asbestos are:

- Chrysotile (white) asbestos - 0.1 fibres/ml
- Amosite (brown) asbestos - 0.1 fibres/ml
- Crocidolite (blue) asbestos - 0.1 fibres/ml
- Other forms of asbestos or a mixture of asbestos types - 0.1 fibres/ml

17. Emergency procedures

An emergency situation is most likely to entail such a scenario where hazardous materials present on site have been inadvertently disturbed through actions by employees, site users, maintenance personnel, contractors, visitors, or damaged by severe weather conditions (e.g. hail or fire damage to a corrugated asbestos cement roof). Where such damage has occurred the Health and Safety Representative shall be notified immediately.

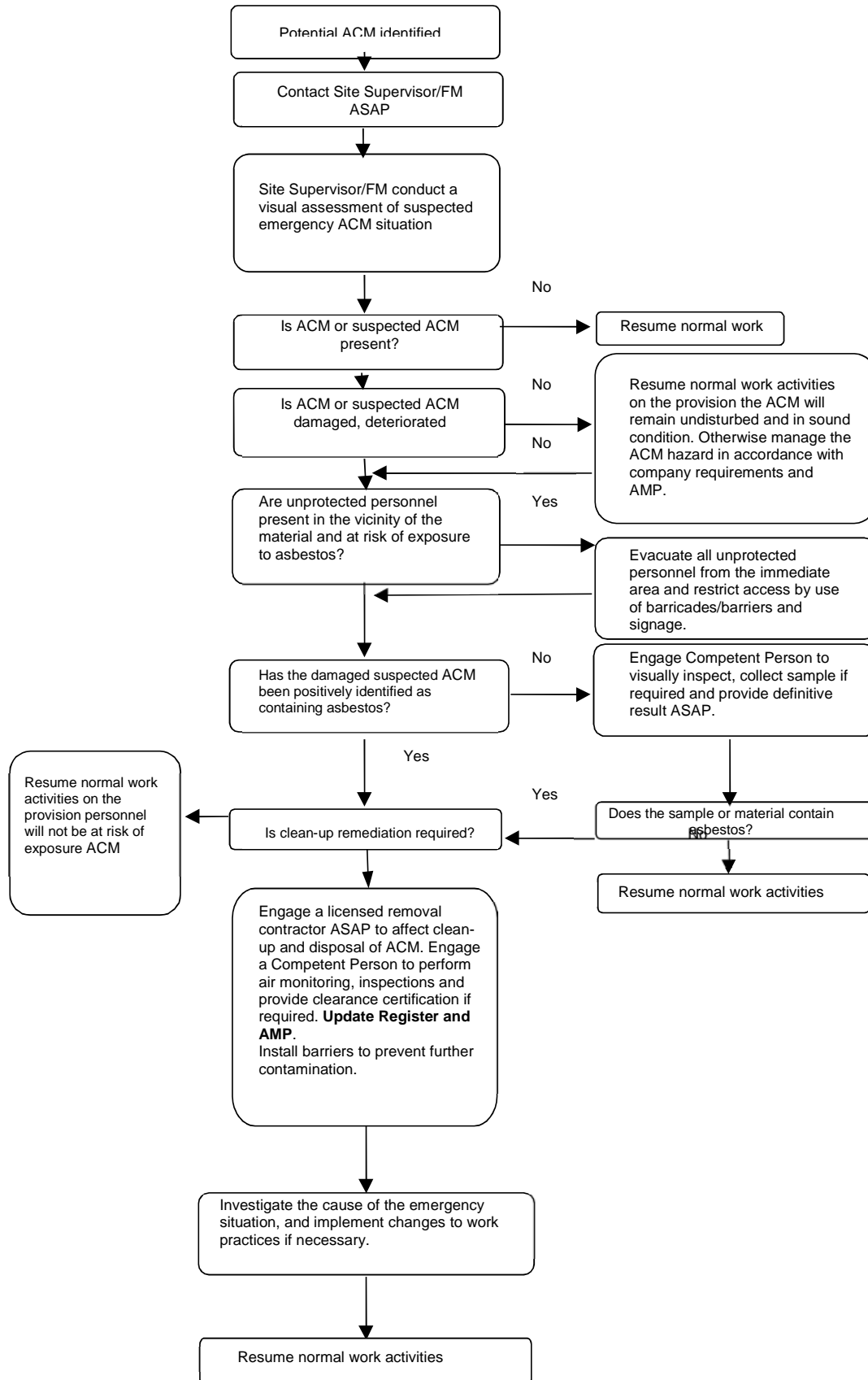
During any removal of any ACM an emergency within the building may necessitate the need to evacuate the building. The risks associated with any asbestos removal work should be assessed and include contingencies in the case of an emergency. Workers should be trained in the event of an emergency. Decontamination procedures can be temporarily waived in the event of an emergency and this is to be based on risk. The event likely to present in an emergency may include but not be limited to:

- Fire Evacuation;
- Chemical spill and contamination; and
- Gas leak/contaminated atmosphere hazardous to health.

In the case of the above situations requiring an emergency, Site supervisor, the Health and Safety Representative(s) should be notified immediately and the area evacuated.

Other Emergency Response Procedures shall be initiated for non-evacuation events and implemented in accordance with the flow chart diagram in **Figure 1**.

Figure 1: ACM Emergency Response Flow Chart



18. Training and Awareness

A PCBU must ensure that information, training and instruction provided to a worker is suitable and adequate, having regard to:

- The nature of the work carried out by the worker;
- The nature of the risks associated with the work; and
- The control measures implemented.

Employees, contractors and others who manage or may come into contact with ACM at the Subject Site either directly or indirectly should be provided with asbestos awareness training. Such training may include the following topics:

- Purpose of the training;
- The health risks associated with Asbestos;
- Information on the presence of ACM, including the types of asbestos, uses and typical locations/likely occurrences where ACM may be encountered;
- The PCBU and the worker's roles and responsibilities under the Asbestos Management Plan;
- Where the Register is located, how to access it and understand the information contained within it;
- The timetable of asbestos materials removal;
- Process and safe work procedures to be followed to prevent exposure including accidental release;
- The correct use of PPE & RPE, implementation of controls measures and safe work methods to minimise the risks from ACM, limit the exposure to workers and limit the spread of asbestos fibres outside any asbestos work area;
- The relevant National Exposure Standards and control levels for asbestos; and
- The purpose of any exposure monitoring or health surveillance that may occur.

Records of Training must be kept whilst the worker is carrying out the work and for five years after the worker cease the work and be made available for inspection by the regulator.

19. Glossary

Definitions

Accredited Laboratory – means a testing laboratory accredited by NATA (National Association of Testing Authorities, Australia).

Air Monitoring – means atmospheric sampling for airborne contaminants including asbestos and SMF fibres or lead dust to assist in assessing human exposure and the effectiveness of control measures. This includes exposure monitoring, clearance monitoring (asbestos) and control monitoring.

Appropriately Qualified Person – means the person possesses the qualifications and experience necessary to find hazardous materials in a building.

Approved Respirator - A respirator which complies with AS/NZS 1716 - Respiratory Protective Devices.

Approved Vacuum Cleaner - Vacuum cleaning equipment that passes all extracted air through a High Efficiency Particulates Air (HEPA) filter before the air is discharged into the atmosphere and conforms to the relevant requirements of the AS 3544 - Industrial Vacuum Cleaners for Particulates.

Asbestos – fibrous form of those mineral silicates that belong to the serpentine or amphibole groups of rock-forming minerals, including actinolite, amosite (brown asbestos), anthophyllite, chrysotile (white asbestos), crocidolite (blue asbestos) and tremolite.

Asbestos-Containing Material (ACM) – means any material, object, product or debris containing asbestos.

Asbestos Removalist – means a person whose business or undertaking includes asbestos removal work or a self-employed person whose work includes asbestos removal work.

Asbestos Removal Control Plan – A site specific document to be prepared by the removal contractor based on the information in the NSW Code of Practice *How to Safely Remove Asbestos (Safe Work Australia 2019)*.

Asbestos Work - means work undertaken in connection with a construction work process in which exposure to asbestos may occur and includes any work process involving the use, application, removal, mixing or other handling of asbestos or asbestos-containing material.

Asbestos Removal Work – means work undertaken to remove friable or bonded asbestos containing material.

Asbestos Work Area – means the immediate area in which work on ACM is taking place. The boundaries off the work area must be determined by a risk assessment.

Bonded asbestos material - means any material (other than friable asbestos material) that contains asbestos.

Bonded asbestos removal work - means work in which bonded asbestos material is removed, repaired or disturbed.

Clearance Inspection – means a mandatory visual inspection carried out by a competent person to verify that an asbestos work area has been rendered free of visible asbestos contamination and is safe to be returned to normal use after work involving the disturbance of ACM has taken place. A clearance inspection must include a visual inspection, and may also include clearance air monitoring and/or settled dust sampling.

Clearance Monitoring – means air monitoring using static or positional samples to measure the level of airborne asbestos fibres in an area following work on ACM. An area is cleared when the level of airborne asbestos fibres is measured as being below 0.01 fibres/ml.

Construction Work - include all work performed in or in connection with the installation, erection, repair, cleaning, painting, renewal, renovation, dismantling, maintenance, ornamentation or demolition of buildings, ships, structures, pipes, plant, machinery, parts, artefacts, appliances, or tools or parts thereof.

Control Actions - In the process of implementing hazardous building materials management, it is fundamental that any identified situations have control actions determined to prevent personnel from being placed at risk.

Control Monitoring – means air monitoring using static or positional to measure the level of airborne asbestos fibres in an area during work on ACM or airborne lead dust in an area of lead paint removal. Control monitoring is designed to assist in assessing the effectiveness of control measures. Its results are not representative of actual occupational exposures and should not be used for that purpose.

Exposure Standard (TWA) - represent the National Occupational Health and Safety Commission (NOHSC) maximum exposure level by inhalation of airborne concentration of atmospheric lead over an eight-hour day, for a five-day working week, over an entire working life and expressed as 8-hour TWA (Time weighed average). The TWA do not represent 'no-effect' levels which guarantee protection to every worker.

Friable Asbestos Containing Material – means asbestos containing material that, when dry, is or may become crumbled, pulverised or reduced to powder by hand pressure.

Hazard – means any matter, thing, process, or practice that may cause death, injury, illness or disease.

HEPA - High Efficiency Particulate Air. A filtering system capable of trapping and retaining at least 99.97 percent of all monodispersed particles of 0.3 micron in diameter or larger.

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

National Association of Testing Authorities, Australia (NATA) – the organization that approves the method of sampling for airborne asbestos fibres, bulk sample analysis of asbestos-containing materials and hazardous materials inspections.

NOHSC - National Occupational Health and Safety Commission.

PPE/RPE - Personal / Respiratory Protective Equipment.

PM – Project Manager of the asbestos removal job. If a Principal Contractor has been appointed the Project Manager of the Principal Contractor, if no PM appointed then the owner is the Project Manager.

Person in charge of area - The person in charge of the building or area affected by the asbestos removal.

Restricted Area - A location requiring an Access/Work Permit because unprotected activity to undertake the intended purpose may expose a person to hazardous respirable (airborne) asbestos fibre. For example: Drilling a switch board containing asbestos; entry to a ceiling space containing asbestos or lead dust; entry to a riser shaft containing asbestos; access onto a fragile asbestos cement roof; a cupboard containing asbestos pipe lagging.

Risk – means the likelihood of a hazard causing harm to a person.

Safe Work Australia - An independent statutory agency responsible to improve occupational health and safety and workers' compensation arrangements across Australia.

20. References

Work Health and Safety Act 2011 and Regulation 2017 (NSW)

Association of Fluorocarbon Consumers and Manufacturers, *The Australian Refrigeration and Air*

Australian Standard AS2601, *The Demolition of Structures*, Section 1.6.

Australian Standard AS1319, Safety signs for the occupational environment

National Institute for Occupational Safety and Health [NIOSH (U.S.A.)], *Manual of Analytical Methods, Elements by ICP, Method 7300*, 4th Edition, Issue 2 - 1994

National Occupational Health and Safety Commission (NOHSC), *Approved Criteria for Classifying Hazardous Substances*, 1008 – 2002

NSW Code of Practice How to Manage and Control Asbestos in the Workplace (Safe Work NSW 2019)

NSW Code of Practice How to Safely Remove Asbestos (Safe Work NSW 2019)

NSW Code of Practice: *Demolition Work 2019*

National Occupational Health and Safety Commission (NOHSC), Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition, 3003 - 2005

National Occupational Health and Safety Commission (NOHSC), *List of Designated Hazardous Substances*, 10005 - 1999

Appendix A - Asbestos Materials Control Log

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ASBESTOS MATERIALS MAINTENANCE LOG

The following log should be maintained by the responsible person. It should contain information relating to the on-going maintenance or control measures associated with Asbestos Materials including; removal, remedial works, repairs, inspection, monitoring and clearance details etc.

[illegible]

Appendix B - Legislative Requirements and Additional Information

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LEGISLATIVE REQUIREMENTS — ASBESTOS

This document has been produced for information only and is under regular review due to frequent changes in legislation and guidance. It contains information relating to the column headings only and not, for instance, in relation to asbestos removal. It is the duty of employers, premise owners and controllers of premises etc to ensure they are familiar with the latest applicable state legislation and guidance.

Introduction:

1. Introduction:

New (Harmonised) work health and safety laws commenced in the Commonwealth, New South Wales, Queensland, the Australian Capital Territory and the Northern Territory on 1 January 2012. The new harmonised laws commenced in South Australia and Tasmania on the 1 January 2013.

For links to these legislation and the most current information on the progress of legislative change for the other states, please access Safe Work Australia at:

<http://www.safeworkaustralia.gov.au/Legislation/Pages/ModelWHSLegislation.aspx>

2. Transitional Arrangements

Safe Work Australia has developed transitional principles that set out how arrangements under existing work health and safety legislation are intended to transition to the new harmonised system. There are transitional principles statements for both the WHS Act and Regulations. These are available from the Safe Work Australia site:

<http://www.safeworkaustralia.gov.au/Legislation/transitional-arrangements/Pages/transitional-arrangements.aspx>

Further, each state and territory work health and safety authority has also developed resources to assist their jurisdiction with the transition. If you have any questions regarding transitional arrangements in your jurisdiction please [contact your regulator](#).

3. Further Useful Resources

Safe Work Australia publishes a range of guidance material to provide information on the model work health and safety laws and to assist compliance. This information can be accessed from:

<http://www.safeworkaustralia.gov.au/Legislation/guidance-material/Pages/guidance-material.aspx>

LEGISLATIVE REQUIREMENTS — ASBESTOS

This document has been produced for information only and is under regular review due to frequent changes in legislation and guidance. It contains information relating to the column headings only and not, for instance, in relation to asbestos removal. It is the duty of employers, premise owners and controllers of premises etc to ensure they are familiar with the latest applicable state legislation and guidance.

STATE Primary Asbestos Legislation	Asbestos Survey Requirements	Asbestos Resurvey Requirements	Reporting Requirements	Management and Labelling/Signage Requirements	Other Requirements
COMMONWEALTH NEW SOUTH WALES QUEENSLAND NORTHERN TERRITORY TASMANIA SOUTH AUSTRALIA <i>Work Health and Safety Act 2011 (Cth, NSW, QLD, TAS, SA)</i> <i>Work Health and Safety Regulation 2017 (Cth, NSW, QLD, TAS, SA)</i> <i>Work Health and Safety (National Uniform Legislation) Act and Regulation 2017 (NT)</i> <i>Supported by:</i> <i>Code of Practice - How to Manage and Control Asbestos in the Workplace (2019)</i> <i>Code of Practice - How to Safely Remove Asbestos (2019)</i>	<p>A person conducting a business or undertaking (PCBU) must, for work place buildings/ structures that are constructed prior to December 31, 2003;</p> <ul style="list-style-type: none"> • survey to identify and locate any Asbestos Containing Materials (ACM); and, • compile and keep at the workplace a site specific Asbestos Register. <p>If ACM is identified at the work place, an Asbestos Management Plan (AMP) is to be compiled for the management of the identified ACM.</p> <p>The Asbestos Register and the Asbestos Management Plan must be made available at the work place for workers, people intending to conduct business at the work place and to Health and Safety representatives.</p>	<p>Re-inspections of identified ACM is determined on a case-by-case basis depending on the risk situation and should be informed by and conducted in accordance with the site specific Asbestos Management Plan.</p>	<p>The site specific Asbestos Register needs to include the date, type, location, condition and ACM identified during the survey.</p> <p>The Asbestos Register must be maintained and also updated if:</p> <ul style="list-style-type: none"> • the AMP is under review, • further ACM is identified and/or, • ACM is removed, disturbed or encapsulated. <p>The site specific AMP must include management actions and justifications, incident and emergency response plans and record details of works carried out that involves ACM at the work place.</p> <p>The AMP must be maintained and updated:</p> <ul style="list-style-type: none"> • when the Asbestos Register is under review, • if asbestos is removed, disturbed or encapsulated, • if the AMP is no longer adequate for managing the ACM, • if a Health and Safety Officer requests a review and/or at least • once every 5 years. 	<p>Generally, health monitoring is not required excepting for workers involved in asbestos removal works.</p> <p>Training is required for persons involved in asbestos removal work or carrying out asbestos related works.</p> <p>All identified ACM in a workplace has to be labelled to indicate clearly asbestos presence and location of the asbestos item.</p> <p>Before refurbishment or demolition:</p> <ul style="list-style-type: none"> • ensure Asbestos Register is current • undertake necessary inspections <p>A licenced asbestos removalist is required unless: ACM < 10m2 and non-friable and then by a competent person</p>	<p>WHS Regulation 419 requires A person conducting a business or undertaking (PCBU) must not carry out, or direct or allow a worker to carry out, work involving asbestos; excepting as is applicable:</p> <ul style="list-style-type: none"> • managing risk; • sampling, identification and analysis; • maintenance • removal/disposal • other exemptions per s.419 (3)

Appendix C - Asbestos Permit to Work

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ASBESTOS PERMIT TO WORK

Page 1

Building or maintenance work in areas known to contain asbestos materials is prohibited, unless a permit to work has been issued to the personnel involved. This permit to work is issued to the nominated recipient for the specific occasion stipulated below:

Work Permit No:

Date of issue:

This Permit is issued to:

This Permit is valid up to:

Asbestos Licence Number: (if applicable).....

Organisation/Company:

Supervisor:

Contact Telephone Number:

Location & Duration of Works:

Description of Works:

.....

Asbestos-containing materials have been used in various locations throughout the building. Before approval is granted to proceed with work, confirm the following:

- | | |
|--|----------|
| 1. Has the existing Asbestos Register been examined jointly with building management? | YES - NO |
| 2. Has the area where the intended works are to be performed been examined jointly with building Management? | YES - NO |
| 3. Are asbestos containing materials present in the work area? | YES - NO |
| 4. Will the works impact on or disturb the asbestos-containing materials? | YES - NO |
| 5. If YES to question 4 above, are the appropriate asbestos work procedures as outlined in the Asbestos Management Plan documented and understood? | YES - NO |
| 6. If YES to question 4 above, have you submitted a risk assessment for the task that you intend to undertake? | YES - NO |
| 7. Are tenants, staff or public at risk of exposure to airborne asbestos? | YES - NO |
| 8. Is it necessary to evacuate tenants, public or employees prior to work commencing? | YES - NO |

Asbestos materials are not to be disturbed without the approval of Building Management. All works are to be performed in accordance with the special requirements or work procedures outlined in the Asbestos Management Plan. If any unknown materials, or materials suspected of containing asbestos are encountered, work is to cease immediately and Building Management notified.

I have read and understood the requirements and procedures described in the Asbestos Management Plan and this permit to work:

I hereby authorize the Building Management to engage an asbestos removal contractor to clean any asbestos debris/hazards that was created due to my/our Company activity and the removal cost will be payable by the Company:

Building Management Representative

Company Representative

Appendix D - Asbestos Removal Control Plan Checklist

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The document was evaluated against the minimum criteria in the How to Safely Remove Asbestos, NSW Code of Practice 2019 – Appendix A.

Table 1 – Components of the Asbestos Removal Control Plan

Information to be included in the asbestos removal control plan	Buildings and Structures		Appropriately Addressed
	Friable	Non-friable	
Notification			
Notification requirements have been met and required documentation will be on site (e.g. removal licence, control plan training records).	Yes	Yes	
Identification			
Details of asbestos to be removed (e.g. the locations, whether asbestos is friable/non-friable, its type, condition and quantity being removed)	Yes	Yes	
Preparation			
Consult with relevant parties (health and safety representative; workers; person who commissioned the removal work, licensed assessors)	Yes	Yes	
Assigned responsibilities for the removal	Yes	Yes	
Program of commencement and completion dates	Yes	Yes	
Emergency plans	Yes	Yes	
Asbestos removal boundaries, including the type and extent of isolation required and the location of any signs and barriers.	Yes	Yes	
Control of electrical and lighting installations	Yes	Yes	

Personal protective equipment (PPE) to be used, including respiratory protective equipment (RPE).	Yes	Yes	
Removal			
Details of air monitoring program, Control and clearance.	Yes	No	
Waste storage and disposal program	Yes	Yes	
Methods for removing the ACM (wet or dry methods)	Yes	Yes	
Asbestos removal equipment (spray equipment, asbestos vacuum cleaners, cutting tools, etc.)	Yes	Yes	
Details of required enclosures, including their size, shape, structure etc., smoke testing enclosures and the location of negative pressure exhaust units.	Yes	No	
Details on temporary buildings required by the asbestos removalist (e.g. decontamination units) including details on water, lighting and power requirements, negative pressure exhaust units and the locations of decontamination units.	Yes	May be required depending on the job.	
Other risk control measures to prevent the release of airborne asbestos fibres from the area where asbestos removal is undertaken.	Yes	Yes	
Decontamination			
Detailed procedures for workplace decontamination, the decontamination of tools and equipment, personal decontamination and the decontamination of non-disposable PPE and RPE.	Yes	Yes	
Waste disposal			
Method of disposing of asbestos wastes, including details on: • the disposal of protective clothing	Yes	Yes	

• the structure(s) used to enclose the removal area	Yes	No	
Clearance & Air Monitoring			
Name of the independent licensed asbestos assessor or competent person engaged to conduct air monitoring (if any).	Yes	No	
Consultation			
Consult with any people who may be affected by the removal work, including neighbours	Yes	Yes	

Other Comments:

SWMS Review

Mandatory		
Item	Checklist Criteria	Complies
01	Does the SWMS set out a logical step-by-step process of all work activities to be undertaken?	Y / N
02	Does the SWMS describe how each activity will be carried out?	Y / N
03	Does the SWMS consider the environment within which the activities are to be undertaken?	Y / N
04	Does the SWMS identify safety, health and environmental hazards that may arise through the work?	Y / N
05	Does the SWMS clearly document and control risk for each hazard identified?	Y / N
06	Does the SWMS describe all plant and equipment that will be used?	Y / N
07	Does the SWMS identify relevant Standards, Codes of Practice & Legislation to be complied with?	Y / N
08	Does the SWMS identify any pre-start and in-process certifications/authorisations/permits/meetings?	Y / N
09	Does the SWMS provide for and identify consultation with the workers that will undertake the task?	Y / N
10	Has the SWMS been approved by a responsible supervisor/manager?	Y / N
11	Does the SWMS provide emergency information?	Y / N
As Applicable		
Item	Checklist Criteria	Complies
12	Does the SWMS provide for emergency procedures including rescue requirements for "high risk activities"?	Y / N
13	Does the SWMS effectively communicate any high-risk activities which may affect interfacing trades?	Y / N
14	Does the SWMS provide specific licensing and qualifications required by workers for specific tasks?	Y / N
15	Does the SWMS specify supervision, training and/or trialling required to enable the work to be done safely?	Y / N
16	Does the SWMS and risk assessment provide controls for public, people & plant in the vicinity of the task?	Y / N

Comments: