

Health, Safety and Environment Management System

HSE-PRO-006 Asbestos Management Procedure

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1 Asbestos Management Procedure

The Health, Safety and Environment (HSE) Management System is underpinned by the University approved Asbestos Management and Control Policy.

The Asbestos Management Procedure shall be appropriate to the nature and scale of James Cook University's (JCU) risks and include a commitment to comply with health and safety legislation and with other requirements placed upon the University or to which the university community subscribes.

2 Intent

With construction dating back to the 1960's, asbestos containing materials were installed into many of the buildings owned and controlled by James Cook University. While significant amounts of asbestos have been removed, in many areas asbestos containing materials remain in situ.

James Cook University recognises its obligation to manage Asbestos Containing Material (ACM) and Asbestos in accordance with the *Work Health and Safety Act 2011* (Qld) and the *Work Health and Safety Regulation 2011*.

The intent of this Procedure is to document the processes JCU will follow to ensure compliance with the legislation and to eliminate or minimise the risks that asbestos poses.

JCU is actively working to improve management of asbestos. Where a requirement is stated in this Procedure that has not yet been met, action(s) necessary to meet that requirement must be included in the Asbestos Management Plan.

3 Scope

This Procedure has been written in the context that:

- JCU owns and controls facilities and equipment that contain or are likely to contain ACM.
- JCU does work with ACM during some maintenance, construction and demolition activities.
- JCU employees do not do licensed asbestos removal work, such work is undertaken by licensed third party contractors.

This Procedure does not apply to management of naturally occurring asbestiform minerals.

This Procedure only applies to JCU operations located within Australia.

This Procedure applies to all staff, contractors, adjuncts, students and visitors conducting work, study, research and volunteer work at or on JCU owned or controlled assets.

Controlled Entities of JCU are required to meet the obligations of the *Work Health and Safety Act 2011* and the *Work Health and Safety Regulation 2011*. This may be achieved by

meeting this Procedure or their own, provided the Procedure meets the requirements of the Work Health and Safety Act and Regulation.

This Procedure does not apply to the following residential colleges on JCU land except where JCU own or control assets and services;

- The John Flynn College
- Saint Marks College
- Saints Catholic College

4 Definitions

Term	Definition
ACM Incident	An event with asbestos containing materials that has potential to cause uncontrolled exposure or contamination.
Asbestos	The asbestiform varieties of mineral silicates belonging to the serpentine or amphibole groups of rock-forming minerals, including actinolite asbestos, grunerite (or amosite) asbestos (brown), anthophyllite asbestos, chrysotile asbestos (white), crocidolite asbestos (blue) and tremolite asbestos.
Asbestos Containing Materials (ACM)	Means any material or thing that, as part of its design, contains asbestos.
Airborne asbestos	Means small fibres of asbestos that have been released from the parent material and are suspended in the air. For assessment of health risk, only airborne fibres of respirable size are assessed.
Asbestos-contaminated dust or debris (ACD)	Means dust or debris that has settled within a workplace and is, or is assumed to be, contaminated with asbestos.
Asbestos-related work	Means work involving asbestos (other than asbestos removal work to which Part 8.7 of the WHS Regulations applies) that is permitted under the exceptions set out in regulation 419(3), (4) and (5).
Asbestos removalist	Means a person conducting a business or undertaking who carries out asbestos removal work.
Asbestos removal work	Means: <ul style="list-style-type: none"> • work involving the removal of asbestos or ACM • Class A asbestos removal work or Class B asbestos removal work as outlined in Part 8.10 of the WHS Regulations.
Controlled Assets	Controlled Assets refers to assets (real estate) that are both owned and otherwise used by the University in a formal lease arrangement.
Controlled Entity	Means an entity controlled by JCU as defined in the Controlled and Non-Controlled entities Policy.
Competent Person	Means a person who has acquired, through training, qualification or experience, the knowledge and skills to carry out the task.
Exposure standard for Asbestos	The exposure standard for asbestos is an 8 hour time weighted average respirable fibre level of 0.1 fibres/ml of air in the breathing zone.
Friable asbestos	Means material that is in a powder form or that can be crumbled,

	pulverised or reduced to a powder by hand pressure when dry, and contains asbestos.
In-situ asbestos	Means asbestos or ACM fixed or installed in a structure, equipment or plant but does not include naturally occurring asbestos.
NATA-accredited laboratory	Means a testing laboratory accredited by the National Association of Testing Authorities (NATA), Australia, or recognised by NATA either solely or with someone else.
Naturally occurring asbestos (NOA)	Means the natural geological occurrence of asbestos minerals found in association with geological deposits including rock, sediment or soil.
Non-friable asbestos	Means material containing asbestos that is not friable asbestos, including material containing asbestos fibres reinforced with a bonding compound.
Respirable asbestos	Fibres longer than 5 µm, width less than 3 µm and with an aspect ratio of not less than 3:1, as measured by the membrane filter method, at 400-650X magnification phase contrast illumination.
Plant & Equipment	Includes any machinery, equipment, appliance, container, implement or tool, and includes any component or anything fitted or connected to any of those things. This could include; kilns and analytical instruments. Items gifted or bequeathed to the University.
Worker	For the purpose of this procedure, a Worker is defined as a person who carries out work in any capacity for James Cook University including all staff, contractors, adjuncts, students & visitors conducting work, study, research and volunteer work at or on JCU owned or controlled assets.
A Class Removalist	Can remove any amount or quantity of asbestos or ACM, including: <ul style="list-style-type: none"> • any amount of friable asbestos or ACM • any amount of ACD • any amount of non-friable asbestos or ACM.
B Class Removalist	Can remove: <ul style="list-style-type: none"> • any amount of non-friable asbestos or ACM (Note: A Class B licence is required for removal of more than 10 m² of non-friable asbestos or ACM but the licence holder can also remove up to 10 m² of non-friable asbestos or ACM). • ACD associated with the removal of non-friable asbestos or ACM. • (Note: A Class B licence is required for removal of ACD associated with the removal of more than 10 m² of non-friable asbestos or ACM but the licence holder can also remove ACD associated with removal of up to 10m² of non-friable asbestos or ACM).

5 Duties, Obligations and Responsibilities

5.1 Estate Directorate

- Identify asbestos containing materials within JCU controlled assets
- Hold and maintain the JCU Asbestos Register
- Implement and maintain controls to eliminate or minimise the risk of exposure to asbestos
- Ensure adequate resources are allocated to enable compliance with this Procedure
- Ensure the requirements of this Procedure are being met
- Ensure that an Asbestos Management Plan is developed, implemented and maintained
- Ensure processes are in place to enable compliance with this Procedure
- Ensure all workers are aware of their role and responsibilities in relation to asbestos
- Ensure relevant workers are provided with adequate training and supervision to comply with this Procedure and that records of such training are kept
- Assign the role of Asbestos Coordinator to a suitable competent person with capacity to perform the role
- Where necessary, engage suitably experienced and qualified professionals to undertake assessments and provide advice
- Ensure adequate information regarding asbestos and ACM at JCU is included in contractor site inductions
- Ensure that due diligence is undertaken during the procurement of assets to assess the presence of asbestos or ACM

5.2 Asbestos Coordinator

- Assist others with interpretation and implementation of this Procedure
- Coordinate reviews of the asbestos management plan and asbestos register
- Update the JCU asbestos register as required
- Ensure documentation of asbestos works are obtained and recorded with the asbestos register
- Advise contractors of JCU requirements relating to asbestos
- Assist with distribution of asbestos information and availability of the asbestos register

5.3 Health, Safety and Environment (HSE) Unit

- Provide training to staff in regard to their obligations and duties for asbestos and ACM
- Advise on health monitoring requirements
- Assist with incident investigations and emergency response relating to ACM and asbestos
- Assist with communication of asbestos related information
- Assist with the assessment of risk relating to asbestos

5.4 Divisions

- Identify asbestos containing plant and equipment within the Division. Provide records to the Estate Directorate.
- Ensure that due diligence is undertaken during the procurement of assets to assess the presence of asbestos or ACM.

5.5 Workers / Contractors

- Undertake maintenance works in accordance with the Code of Practice *How to Manage and control Asbestos in the Workplace (Qld) 2011*
- Comply with this Procedure
- Comply with Asbestos Permit requirements
- Report incidents relating to ACM to the Estates Directorate immediately
- Report potential errors or omissions in the current Asbestos Register to the Estates Directorate

5.6 Contract Asbestos Removalist (A or B Class Licensed)

- Undertake removal works in accordance with the regulation and code of practice
- Comply with this Procedure
- Arrange appropriate disposal as per the local laws and regulations
- Provide documentation to the JCU Asbestos Coordinator
- Report incidents relating to ACM to the Estates Directorate

5.7 Employees / Students/Adjunct

- Comply with this Procedure
- Attend training as required
- Report incidents relating to ACM

5.8 Commercial Services

- Monitor compliance with the procedure and where possible influence compliance with this Procedure
- Ensure that due diligence is undertaken during the procurement of assets to assess the presence of asbestos or ACM

5.9 Positions to Approve Asbestos Permits

- Manager Asset Strategy and Maintenance
- Building Services Manager
- Supervisor Maintenance

6 Identification of Asbestos

6.1 Sampling for Asbestos Identification

Sampling of suspected ACM is only to be undertaken by a competent person. Any damage caused during sampling must be sealed to prevent the release of airborne asbestos.

Analysis of samples must be undertaken by a NATA accredited laboratory.

The Asbestos Register must be updated with the findings of sampling and analysis, including recording of results when asbestos is not detected.

Records of sampling and analysis must be kept with the Asbestos Register.

6.2 Management Asbestos Surveys

The purpose of a management asbestos survey is to identify, as far as is reasonably practicable, the location and types of ACM in an asset during normal operation of the asset.

An intrusive asbestos survey must be completed for all active built assets constructed and commissioned prior to 31st December 1989. Assets constructed and commissioned after 31st December 1989 also require an intrusive survey if there is reason to believe that asbestos is likely to be present in the asset.

An intrusive asbestos survey means that, as far as is practicable, all accessible areas within the building envelope are inspected. Accessible areas include:

- Ceiling voids and roof spaces
- Accessible spaces within plant located in buildings
- Underneath flooring materials until the actual bottom is located
- Riser systems within built assets
- Roof surfaces and Systems on roof surfaces
- Lift motor rooms
- Sub floor spaces

Inaccessible areas are taken as those areas that would require destruction of building components to gain access, or where access cannot be reasonably obtained without unacceptable risk to survey personnel. Where inaccessible locations are identified during site inspections, and the presence of ACM is suspected, these locations must be recorded for inclusion on the asbestos register.

Representative samples must be taken of suspected ACM to determine the asbestos content.

The findings of asbestos surveys must be presented in a format suitable for direct inclusion into the JCU Asbestos Register.

Asbestos surveys must be undertaken by a competent person who is responsible for:

- Interpreting existing asbestos information and plans
- Identifying and sampling suspect materials
- Accurately recording the precise location of each item of ACM
- Quantifying the amount of ACM e.g. square meters
- Assessing the physical condition of the ACM
- Assessing the risk to health posed by the ACM
- Identifying and recording the locations of inaccessible areas that may contain ACM
- Preparing a detailed report and/or directly updating the asbestos register

6.3 Pre-demolition Asbestos Surveys

The purpose of a pre-demolition asbestos survey is to identify and quantify all ACM prior to the commencement of demolition or refurbishment works.

A pre-demolition asbestos survey should build on the information available from a management survey by using destructive inspection techniques to gain access to areas that are not normally accessible for inspection and sampling (e.g. wall cavities, blind service ducts / risers) in order to identify asbestos containing materials which may otherwise be hidden.

A pre-demolition asbestos survey is likely to result in significant damage to the building fabric and should be undertaken only after occupants have vacated the building.

If the ACM identified during the survey is to be removed as part of the refurbishment/demolition works, it will not be necessary for the competent person to assess the condition and risk posed by the ACM except as applies to the demolition and removal process.

ACM may be present in locations that are only accessible during demolition of the structure. A destructive asbestos survey should attempt to identify such locations for further assessment during the demolition process.

Prior to demolition or refurbishment, as part of the destructive asbestos survey process, items of known ACM must be clearly marked e.g. with red paint using a stencil or an asbestos warning label.

Available architectural and mechanical drawings/plans should be scrutinised for specifications of installed ACM including buried services and fixed plant (i.e. HVAC systems).

Pre-demolition asbestos surveys must only be undertaken by a competent person who is responsible for:

- Interpreting the existing asbestos register and associated reports
- Interpret available plans and drawing
- Identifying and sampling suspect materials
- Accurately recording the precise location of each item of ACM
- Quantifying the amount of ACM e.g. square meters
- Identifying and recording the locations of inaccessible areas that may contain ACM
- Preparing a detailed report and/or directly updating the asbestos register
- Clearly marking identified ACM e.g. with red paint using a stencil or an asbestos warning label

The findings of asbestos surveys must be presented in a format suitable for direct inclusion into the JCU Asbestos Register.

6.4 Procurement of Assets

James Cook University's Asbestos Management and Control Policy states that the University "shall not purchase or lease assets with ACM". To support this Policy, due diligence is necessary during the procurement process to assess the presence of ACM within a potential new asset. Any instance where this requirement cannot be applied, approval by the Estate Board will be required.

JCU shall obtain and review information from the Vendor/Landlord including the Asbestos Register and any available Asbestos Reports relevant to the Asset.

If adequate information is not available from the vendor/landlord JCU will seek to have asbestos identified by a competent person.

Buildings constructed after 31st December 1989 are generally unlikely to contain ACM unless:

- ACM was illegally installed i.e. by using up old stock
- ACM products were used that were not included in the 1989 ban, e.g. compressed fibre gaskets.

6.5 Procurement of Plant and Equipment

When procuring plant and equipment that is second hand or manufactured outside of Australia a plant risk assessment must be completed to ensure the plant and equipment does not contain ACM or Asbestos.

Specifications of the plant and equipment must be reviewed and confirmed prior to obtaining the plant or equipment.

If ACM or Asbestos is suspected to be present, an assessment of the item must be undertaken by a competent person. This assessment may include obtaining samples of material for asbestos identification analysis.

Analysis reports stating that asbestos has not been detected in an item must not be relied upon unless the analysis was performed by a NATA accredited laboratory in accordance with Australian Standard AS4964.

Where Divisions have had asbestos surveys of plant or equipment performed, the information must be supplied to the Estates Directorate for inclusion in the JCU Asbestos Register.

7 Asbestos Register

7.1 JCU Owned and Controlled Assets

This section does not apply to assets constructed after 31st December 1989 unless asbestos has been identified or is likely to be present.

All built assets and services owned and controlled by JCU must be included in the JCU asbestos register.

A centralised Asbestos Register must be maintained by the JCU Estate Directorate.

Register	JCU Asbestos Register
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The Asbestos Register must include the following information:

- record any asbestos or ACM identified or likely to be present at the workplace
- the date on which the asbestos or ACM was identified
- the location of asbestos or ACM
- the type of asbestos or ACM
- condition of the asbestos or ACM

or

- state that no asbestos or ACM is identified at the workplace if no asbestos or ACM is identified, or is likely to be present from time to time.

The Register also includes a record of samples taken where the result is “No Asbestos Detected” to reduce the need for repeat sampling of suspected items in the future.

A user guide must be maintained for the asbestos register to instruct users on how to;

- Find information within the register
- History/context of where the information has come from
- Update the register with new information
- Update the register for removed items of ACM

7.1.1 Access to JCU Asbestos Register

The asbestos register is kept as an electronic record by the Estate Directorate. A current copy, locked for editing, is available to all JCU employees as requested from the Estate Directorate.

The user guide to the Asbestos Register must be kept with the asbestos register and be made available to all users of the Register.

For on campus assets, current hard copies of the Asbestos Register are kept at the contractor sign in desks at;

- Estate Office, Building 57
- Security Office, Building 29

For off campus assets, a hard copy of the current Asbestos Register entries relevant to that asset and any supporting documents (e.g. recent consultant reports) must be kept in a readily accessible place at that asset.

Electronic copies of the Asbestos Register or relevant parts of the Register are available on request to all staff and contractors from the JCU Asbestos Coordinator.

If JCU plans to relinquish management or control of a workplace, JCU must ensure, so far as is reasonably practicable, that the asbestos register is given to the person, if any, assuming management or control of the workplace.

7.1.2 Risk Assessments for In Situ ACM

Risk ratings must be provided in the asbestos register for each identified item of ACM to enable JCU to prioritise the management of ACM and the control of health risk.

JCU have adopted the risk assessment algorithm for in situ ACM included in Appendix section 18.1.

The risk assessment algorithm is a high level assessment to determine relative priorities for management of ACM. The risk ratings do not represent an assessment of exposure to asbestos. Where items of ACM are assigned risk ratings of Medium, High or Very high, a more detailed risk assessment must be undertaken by an occupational hygienist to determine if immediate action is necessary to eliminate or minimise exposure to asbestos.

It should be noted that these ACM risk ratings only apply to normal use of the building and are not applicable to activities that are likely to actively disturb ACM e.g. maintenance, repair, refurbishment or demolition.

7.1.3 Review

The Asbestos Register is a live document that must be updated when:

- Further Asbestos or ACM is identified
- An item of ACM is removed
- The condition of an item of ACM changes e.g. the item is disturbed, sealed or enclosed
- Management or control of an asset containing ACM is relinquished

The JCU Asbestos Coordinator holds responsibility for updating the asbestos register.

The Asbestos Register User Guide must contain instructions on how to update the asbestos register to ensure information is recorded in a consistent way.

Items of known ACM must be periodically reinspected to assess condition and risk. The program of reinspection must be documented in the JCU Asbestos Management Plan. Timeframes for reinspection will be determined based on assessed risk and potential for disturbance. For assets in active use the reinspection timeframe shall not exceed five years.

7.2 Leased Asset Asbestos Registers

Where JCU already leases an asset (i.e. Building or Plant / Equipment) that contains ACM, the JCU Estate Directorate must obtain and hold a copy of the Asbestos Register and / or relevant asbestos reports for the Asset.

8 Air Monitoring

Air monitoring for asbestos must be undertaken by a competent person using the membrane filter method [NOHSC:3003].

Where an item of ACM is assigned a risk ranking of High or Very High (See Appendix section 18.1.), a program of regular periodic air monitoring will be undertaken until the item is either removed or other action is taken to control the risk and the risk ranking is reviewed.

Air monitoring may also be undertaken for ACM with lower risk rankings to validate the assessed risk or to assist with risk communication.

Locations and frequency of monitoring will be determined based on assessed risk.

The asbestos air monitoring program must be included in the Asbestos Management Plan.

For air monitoring relating to work involving asbestos see section 14 below.

9 Asbestos Management Plan

The *Work Health and Safety Regulation 2011 (Qld)*, includes specific requirements for an Asbestos Management Plan (AMP). Some of the requirements of the regulation are covered within this Procedure such that the Asbestos Management Plan for James Cook University can be used to record specific decisions and planned actions relating to management of asbestos.

The primary purpose of the AMP is to ensure that action is taken to implement this Procedure to adequately control the risk of exposure to asbestos. The AMP must also aim to progressively eliminate ACM from JCU controlled assets to minimise risk and reduce the burden of managing asbestos risk.

The AMP shall contain:

- Decisions and reasons for decisions about management of asbestos at JCU workplaces
- Measureable annual targets that can be reported on
- Budget for planned asbestos management work
- Clear responsibilities for delivery of all actions included in the AMP
- Plans for further identification of asbestos
- Planned removal works prioritised based on risk and clearly staged
- Timeframes for reinspection and condition assessment of ACM
- Program of air monitoring

The AMP shall be reviewed in the following circumstances:

- there is a review of the asbestos register or a control measure
- asbestos is removed from, or disturbed, sealed or enclosed at, the workplace
- the plan is no longer adequate for managing asbestos or ACM at the workplace
- a health and safety representative requests a review based on circumstances that may affect the health and safety of their work group
- at least once every 5 years

A health and safety representative for workers at a workplace may request a review of an asbestos management plan if the representative reasonably believes that:

- a circumstance may affect the health and safety of a member of the work group represented by the health and safety representative; and
- the person with management and control of the workplace has not adequately reviewed the asbestos management plan in response to the circumstance.

Plan	JCU Asbestos Strategy and Management Plan
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10 Asbestos Warning Labels

All buildings known or assumed to contain ACM must have warning labels affixed at entrances to the building indicating the presence of asbestos.

As far as is reasonably practicable, JCU will apply asbestos warning labels at the location of each items of ACM.

Specifications of asbestos warning labels for use by JCU are in Appendix section 18.2 below.

Labels are to be placed in the following locations based on the type and location of ACM. Labels are to be located so that they are obvious but discreet.

Table 1: JCU Asbestos Warning label locations

ACM	Label Location
All Entrances to Buildings Containing ACM or Asbestos	Must have signage, clearly displayed. (Right hand side of all external entries to the building, at door handle height, unless this is not possible).
Internal Rooms	Labels will be placed on each product as indicated for the category of ACM, e.g. Flooring.
Flooring	On skirting board behind door.
Walls (internal)	Behind the door and corners above head height for all ACM walls. If a single panel of ACM or section of wall is ACM, apply the label to this location.
Ceiling	On the ceiling within 0.5m of corner
Eaves Soffit	On the eave soffit, such that a label can be seen from each aspect (Where practicable)
External Surfaces (Walls, Infill Panel, Awning)	On the ACM, at the base of the wall or ACM (where practicable). Where a label is not practical, a painted stencil "Asbestos")
Roof	Painted stencil ("Asbestos"). At regular intervals on roofing both external and internally. In close proximity to access points.
Equipment	On or in close proximity to the ACM, on access panels and at control/information panel
Services (Communications Pits, Asbestos Cement Pipe)	Where accessible painted stencil ("Asbestos")

NOTE: Placement of labels as per the "Label Location" may not be possible in all instances. A Suitable secondary location is to be selected in these instances.

11 Training

All workers who are required to perform work on ACM must be provided with asbestos awareness training. Contract workers from licensed asbestos removal companies should already meet this requirement. Workers who are undertaking licensed asbestos removal work are required to complete specific units of competency. Further information on these specific training requirements is available in the *Code of Practice: How to Safely Remove Asbestos (Qld) 2011*.

Asbestos awareness training is to include:

- Reasons for training
- Health risks associated with asbestos
- Types of ACM and areas where ACM is present
- Roles and responsibilities
- The location of the JCU Asbestos Register and how to understand the information contained within it
- Safe work procedures to be followed to eliminate or minimise risk of exposure to asbestos
- Correct use of PPE including respiratory protection
- Control measures in place, and
- Purpose of any air monitoring and health monitoring that may occur.

Further details of the content of training can be found in section 6.3 of the Qld *Code of Practice, How to Manage and Control Asbestos in the Workplace 2011*.

Records of all training must be kept while the worker is carrying out the work and for five years after the day the worker stops carrying out the work. These records must also be available for inspection by the regulator.

11.1 Contractor Inductions

The JCU contractor induction process must inform contractors of:

- the presence of ACM in JCU assets
- how to access the JCU asbestos register and how to understand the information contained within it
- the status of asbestos warning labels on items of ACM
- the asbestos permit process
- who to contact regarding asbestos i.e. JCU Asbestos Coordinator

12 Health Monitoring

In the event that JCU employees are at risk from exposure to asbestos, JCU will make health monitoring available to those JCU employees. Health monitoring will be organised through the Health Safety & Environment Unit.

In determining whether a person is “at risk” from exposure consideration must be given to the likely level of exposure and the National Exposure Standard for respirable asbestos fibre. In determining exposure risk guidance should be sought from a qualified Occupational Hygienist experienced with asbestos.

On a case by case basis, JCU will follow advice from medical professionals and Occupational Hygienists as to the need for health monitoring relating to asbestos.

In the event that health monitoring is needed, JCU will engage a registered medical practitioner to undertake monitoring and advise on the frequency of further monitoring, if needed.

Health monitoring records must be kept confidential on the relevant workers medical file for a minimum of 100 years after last action. Health monitoring records are kept by the JCU Corporate Records Department.

The health monitoring requirements stipulated under the Queensland *Work Health and Safety* Regulation (Qld) 2011, specific to asbestos take effect on 1st January 2016.

Details of health monitoring can be found in section 6.2 of the Qld Code of Practice, *How to Manage and Control Asbestos in the Workplace 2011*.

13 Management of Incidents

This section has been prepared to meet the requirements of section 429(4)(c) of the Regulation. This section only contains information specific to management of asbestos related risk due to incidents.

13.1 Accidental disturbance and contamination

In the event that ACM is actively disturbed without adequate controls in place, surroundings are likely to become contaminated with asbestos containing dust and debris. Examples of activities likely to lead to contamination include; dry drilling, cutting, sawing, grinding or sanding of ACM.

If asbestos contamination is discovered or suspected:

1. Access to the area must be restricted (signage, lock doors, hazard tape) to limit access provided that doing so does not introduce an unacceptable risk to health and safety. Only trained competent persons wearing appropriate protective equipment to enter area. Avoid removal of items from designated area. Untrained personnel must not attempt clean-up. Normal vacuum cleaners must not be used with asbestos.
2. JCU Estate Directorate Asbestos Coordinator and JCU HSE Unit to be notified.
3. Presence of asbestos and extent of contamination, to be assessed and guidance obtained from a suitably qualified professional, i.e. an occupational hygienist.
4. If rapid reoccupation is necessary to enable access to essential services or equipment the material should be assumed to be ACM to expedite a make safe clean-up process by an A Class licenced asbestos removalist followed by a clearance by a licenced asbestos assessor.
5. Undertake a risk assessment prior to clean up. Air monitoring (respirable fibre) may assist with risk assessment and risk communication process.
6. Clean-up and decontamination to be determined based on the extent of asbestos contamination and likely risk of exposure.
7. Licensed asbestos removalist to perform remediation and disposal. See Asbestos Removal section of this Procedure (Section 14.5 below).
 - o Hard surfaces can be cleaned by wet wiping.
 - o If vacuuming is used, only asbestos vacuum cleaners are to be used.

- Soft furnishings that cannot be decontaminated must be disposed of as asbestos waste.

13.2 Fire

The initial response to building fires must be to preserve life and property and to extinguish the fire. It should be noted that, according to available research¹, very little respirable asbestos fibre is released during fires in buildings constructed with asbestos cement sheet. However the remaining debris and ash may contain friable asbestos containing materials.

Once a building fire is extinguished and all persons evacuated, JCU Estate Directorate Asbestos Coordinator must be notified. The extent of asbestos contamination should then be determined by a competent person. It should be noted that, during fires, fragments of ACM may be scattered a significant distance from their original location.

The contaminated area should be cordoned off. Precautions for access are to be determined by risk assessment. Removal of ACM debris and contaminated materials to be undertaken by licensed asbestos removal contractor as soon as reasonably practicable.

13.3 Emergency Demolition

For additional information in the event of an emergency demolition see Section 454 of the *Work Health & Safety Regulation (Qld) 2011*.

If an emergency occurs that results in a need to demolish a structure that contains ACM, before the demolition commences a process must be developed that will, so far as is reasonably practicable, reduce the risk of exposure of workers and persons in the vicinity of the demolition site to asbestos to below the asbestos exposure standard.

In developing the process, JCU will consult with demolition and Occupational Hygiene professionals with consideration to the asbestos register and the type, location and quantity of ACM known or assumed to exist in the structure.

13.4 Inhalation Exposure to Respirable Asbestos Fibre

Where it is suspected that inhalation exposure to respirable asbestos fibre has occurred:

- the activity causing the potential exposure must be ceased
- action must be taken to minimise the risk of further exposure
- JCU Estate Directorate, Asbestos Coordinator and HSE Unit must be notified
- an incident report must be lodged in the RiskWare system
- the incident must be investigated

¹ AIOH Conference, 2007, *Investigation Into The Behaviour Of Asbestos Containing Materials In Building Fires*, Cameron Hunter, Noel Arnold & Associates

- a record of the incident must be made and kept with the Asbestos Register including the relevant RiskWare number

Where it is determined by air monitoring that the exposure standard has been exceeded in a work area, JCU must determine the workers and other persons who were in the work area during that time and warn them about the possible exposure to respirable asbestos fibres.

13.5 Suspect ACM Found During Work

In the event of suspect ACM found during maintenance, demolition or renovation:

- work that has potential to disturb the material must cease
- the JCU Asbestos Coordinator must be notified
- an incident report must be raised in the RiskWare system
- the Asbestos Register must be checked for mention of the item
- if not included in the asbestos register, the material must either be assumed to be ACM or a representative sample submitted for analysis (see section 6.1 above)
- if asbestos is not detected in the material, work to recommence
- if asbestos is detected in the material, and the material has been, or is likely to be, disturbed during the work the material must be removed (see section 14.5 below)

14 Asbestos Works

Where work is required on ACM, the preferred management option is to remove the ACM. Where removal of the ACM is not practicable, the risk of exposure to asbestos must be assessed and controlled.

With any work involving asbestos the priority is to minimise the risk of inhalation of respirable asbestos fibre by suppressing the release of airborne asbestos. Any work on ACM is to be undertaken by trained competent workers. In general, work on dry ACM should be avoided.

Work on asbestos must be separated from other work areas. Signs and barricades must be erected to delineate the asbestos work area and alert persons to the presence of asbestos.

Any work on ACM must be undertaken in accordance with Queensland Code of Practice *How to Manage and Control Asbestos in the Workplace (2011)* and *How to Safely Remove Asbestos (2011)*.

14.1 Prohibited Work

The following actions are prohibited for work on ACM.

- Use of high pressure water spray (except when used in firefighting or fire protection)
- Use of compressed air

The following equipment must not be used unless the use of the equipment is adequately controlled to minimise exposure to asbestos and the release of asbestos into the surrounding workplace:

- power tools
- brooms or brushes
- any other implements that cause the release of airborne asbestos fibre

Adequately controlled is taken to mean that:

- The equipment is enclosed during its use; and/or
- The equipment is designed to capture or suppress airborne asbestos and is used in accordance with its design; and/or
- The equipment is used in a way that is designed to capture or suppress airborne asbestos safely.

14.2 Asbestos Permit

Building or maintenance work on material containing asbestos is prohibited, unless a permit to work has been issued to the personnel involved.

The following roles within the Estate Directorate are authorised to issue an Asbestos Permit:

- Manager Asset Strategy and Maintenance
- Building Services Manager
- Supervisor Maintenance
- Manager, Cairns Operations

A risk assessment / Safe Work Method Statement (SWMS) must be completed and signed by the person(s) completing the work, prior to issue of an asbestos permit.

14.3 Minor Works

For the purpose of this Procedure, minor works are defined as work that has potential to disturb non-friable ACM but does not involve removal of ACM. This could include works that are conducted for maintenance and project activities.

Any work that has potential to disturb friable ACM is not considered Minor Works.

Minor works may include:

- making penetrations in non-friable ACM
- fixing items to or through non-friable ACM
- pulling cables/wires through non-friable ACM conduit
- painting (and preparation for painting) of non-friable ACM
- polishing of asbestos vinyl flooring (JCU policy to not cut back ACM vinyl floors)

Minor works may be undertaken by a competent person (employee or contractor) provided a SWMS has been prepared for the task and an Asbestos Permit has been issued.

Minimum controls for minor works must include:

- separation from other work areas
- signage and barricades
- respiratory protection
- decontamination of plant and personnel
- containment and disposal of waste

Closing out a permit for minor works must include a visual inspection of the work area by the Permit Issuer.

14.4 Demolition and Refurbishment

This section applies to the demolition or refurbishment of any of the following;

- A building constructed before 31 December 1989
- A structure, other than a building, constructed or installed before 31 December 2003 if there are reasonable grounds to believe asbestos or ACM is installed in the structure
- Plant constructed or installed before 31 December 2003 if there are reasonable grounds to believe asbestos or ACM is installed in the plant

Prior to demolition or refurbishment work the Asbestos Register must be reviewed to determine if the register is adequate regarding the planned works. With the exception of basic structures, an asbestos register prepared from a management survey will not normally be adequate for demolition or refurbishment.

Unless the existing asbestos register is adequate, a pre-demolition asbestos survey must be undertaken for the entire area of the asset(s) affected by the planned demolition or refurbishment (see section 6.3 above).

The asbestos register must be provided to the person who carries out the demolition or refurbishment prior to commencement.

For demolition projects, as far as is reasonably practicable, all asbestos must be removed prior to commencement. If asbestos is not accessible for removal then partial demolition may need to be performed to gain access to the asbestos for removal.

For refurbishment projects, as far as is reasonably practicable, all asbestos likely to be disturbed during the renovation must be removed prior to commencement. Refurbishment projects should be seen as an opportunity to remove as much ACM as

possible within the refurbishment work area(s), such removal should be seen as an investment to reduce the future burden of managing ACM (health risk and financial cost). Asbestos containing materials must not be clad over or otherwise hidden during refurbishment works.

14.5 Asbestos Removal

This section outlines the responsibilities held by JCU during asbestos removal work and management decisions relating to asbestos removal.

For any asbestos removal work, JCU will engage an external contractor who holds a current asbestos removal licence of the appropriate class recognised in the state of Queensland.

The removalist must hold an A Class licence for removal of:

- Friable asbestos; or
- Asbestos contaminated dust or debris (ACD), unless that ACD is associated with removal of non-friable ACM or is only a minor contamination.

For removal of non-friable ACM and associated ACD, the removalist must hold an A or B class licence.

14.5.1 Information to Provide

Prior to any asbestos removal work, the asbestos register for the relevant asset must be provided to the asbestos removalist.

A written scope must be provided to the asbestos removalist clearly indicating what ACM is to be removed and any specific requirements of the work. The level of detail in a written scope shall be proportionate to the scale and risk of the work.

The JCU asbestos coordinator must be informed of all planned asbestos removal works.

14.5.2 ARCP / SWMS

The asbestos removalist must prepare an asbestos removal control plan (ARCP) and Safe Work Method Statement and provide these to JCU. If the removal is of less than 10 square meters of non-friable ACM then an ARCP will not be required.

The ARCP and/or SWMS must be reviewed by a competent person (who is independent of the asbestos removalist) appointed by JCU. The purpose of the review is to ensure that the planned work method includes adequate controls to minimise the risk of exposure to asbestos during and after the work. For removal of friable ACM the review must be undertaken by an Occupational Hygienist who is a licensed asbestos assessor.

Subject to a satisfactory review the ARCP must be approved in writing prior to work commencing.

The asbestos coordinator must record the ARCP, SWMS and record of approval with the asbestos register.

14.5.3 Notification to Regulator

Unless the removal is of less than 10 square meters of non-friable ACM, the asbestos removalist must provide written notification to Workplace Health and Safety Queensland at least five days prior to the work.

The notification period does not apply if the removal work is due to a sudden unexpected event that may cause persons to be exposed to respirable asbestos fibre or if the removal work is necessary to rectify a breakdown of an essential service.

If the asbestos must be removed immediately, the asbestos removalist must notify Workplace Health and Safety Queensland immediately by phone and in writing within 24 hours.

14.5.4 Communication

JCU must provide notification of the asbestos removal work and timing of the work to the following persons prior to commencement:

- JCU employees and any other persons at the workplace
- anyone conducting a business or undertaking at or in the vicinity of the workplace
- anyone occupying premises in the immediate vicinity of the workplace

As far as is practicable these notifications must be undertaken at least five days prior to commencement of the work.

As a minimum the following information must be provided regarding the planned asbestos removal;

- statement that asbestos removal work is planned
- location of the work
- name of licensed asbestos removal company
- When the removal work will commence
- When the removal work will conclude
- Access restrictions in place during the work
- If air monitoring will be performed during the work
- Name or company of asbestos assessor or competent person engaged to perform clearance
- Contact details of JCU asbestos coordinator or delegate

14.5.5 Signage, Barricades and Access

The asbestos removalist must erect barricades to delineate the asbestos removal area and install signs alerting people to the presence of asbestos to indicate where the asbestos removal work is being carried out.

JCU must ensure, so far as is reasonably practicable, that access to the asbestos removal work area is restricted to only those engaged in the asbestos removal work, associated with the asbestos removal work or otherwise allowed by law to be in the asbestos removal area.

Persons with access to the asbestos removal work area must comply with any direction of the licensed asbestos removalist. JCU may refuse access to any person who does not comply with asbestos control measures or a direction of the licensed asbestos removalist.

14.5.6 Air Monitoring

For all asbestos removal work requiring an A class licence, JCU must ensure that an independent licenced asbestos assessor undertakes air monitoring of the asbestos removal area immediately before the licensed asbestos removal work commences (unless glove bags are to be used) and while the licensed asbestos removal work is carried out.

For removal of friable asbestos, JCU require the licensed asbestos assessor to hold tertiary qualifications in occupational hygiene or demonstrate an equivalent level of competency based on experience working in the field of occupational hygiene.

In addition to regulatory requirements, JCU will also undertake air monitoring during other asbestos removal work where;

- The removal is undertaken in proximity to occupied areas during times when these areas are likely to be occupied
- When requested by a health and safety representative
- When requested by the JCU HSE Unit

- The JCU project manager/officer must ensure that the results of air monitoring are provided to
- The licenced asbestos removalist
- Workers and other persons in areas near to the removal
- Health and safety representatives for those workers

- JCU HSE Unit person conducting a business or undertaking in areas near to the removal

In the event of elevated air monitoring results, actions required of the licenced asbestos removalist are outlined in Appendix section 18.3.

14.5.7 Clearance and Air Monitoring

JCU must arrange for a competent person who is independent of the asbestos removalist to undertake a visual clearance inspection on completion of the removal work. The clearance must include a thorough visual inspection of the asbestos removal work area and surrounds including waste transit routes.

The minimum requirements for a competent person checking for evidence that the work area and vicinity is free of visible dust and debris is a person who has acquired through training, qualifications and experience the knowledge and skills to carry out the task. The person should have:

- working knowledge of the asbestos removal industry, the asbestos management code and asbestos removal code
- the ability to identify what is, or what may be, asbestos containing material
- the ability to thoroughly inspect the area for suspected material

Clearance Process for A-Class Licensed Removal

For removal work that requires an A-Class Licence clearance inspections must be undertaken by a licensed asbestos assessor. JCU requires the licensed asbestos assessor to hold tertiary qualifications in occupational hygiene or demonstrate an equivalent level of competency based on experience working in the field of occupational hygiene.

The clearance process for A-Class removal work must include:

- Preliminary clearance inspection and air monitoring inside the enclosure (if used) prior to dismantling the enclosure
- Final clearance inspection and air monitoring after enclosure dismantled prior to reoccupation for normal use

Air monitoring for clearance

Air monitoring must be undertaken during clearances for asbestos removal projects requiring an A-class licence. For other asbestos removal projects will be determined on a case by case basis. Air monitoring may be undertaken based on assessed risk. Advice should be obtained from an occupational hygienist regarding asbestos exposure risk. In situations where asbestos is removed in or near to normally occupied areas, air monitoring may facilitate the risk communication and reassurance process.

Air monitoring is not considered necessary following removal of non-friable ACM from unoccupied locations e.g. external service pits.

Clearance Certificates

The asbestos removal work area must not be re-occupied for normal use until a clearance certificate has been issued.

The certificate must be in writing and must state that the assessor or competent person found no visible asbestos residue from asbestos removal work in the area, or in the vicinity of the area, where the work was carried out.

If air monitoring was carried out as part of the clearance inspection, the clearance certificate must state that the airborne asbestos fibre level was less than 0.01 fibres/mL.

Records of asbestos clearance certificates must be kept with the asbestos register.

Following asbestos removal work, the JCU Asbestos Coordinator must update the asbestos register with the outcomes of the removal and record all relevant supporting documents with the asbestos register.

Checklist	Asbestos Checklist for Project Managers
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14.6 Disposal of Asbestos Waste

Asbestos is a regulated waste, specific disposal requirements apply.

- The waste is to be packaged in such a way to eliminate the release of asbestos fibres during transport, this may include:
- Sealing in double layer 0.2mm thick plastic (e.g. asbestos waste bags)
- Drums may be used to contain waste
- All waste is to be clearly marked as asbestos containing material
- Less than 250 kg of asbestos waste can be transported without a regulated waste licence. If more than 250 kg a contractor licenced for transport of hazardous waste must be used
- Transport the double bagged waste to a waste disposal site approved by the local council
- Obtain & retain certificates/receipts from the waste disposal site

15 Related Documents, Legislation and Other Resources

Application	Asbestos Permit to Work	
Register	Asbestos Register	
Form	Asbestos SWMS	
Application	Checklist for Project managers	
Register	Health Monitoring Records	
Form	Communication Form	

15.1 Regulatory Authorities and Other Relevant Entities

Queensland State Government, Workplace Health and Safety Queensland

15.2 Related Legislation, Codes of Practice and Standards

Legislation	Work Health and Safety Act 2011 Work Health and Safety Regulation 2011
Codes of Practice	Queensland Code of Practice How to Manage and Control Asbestos in the Workplace (2011) Queensland Code of Practice <i>How to Safely Remove Asbestos (2011)</i> .
Standards	AS 4964-2004 <i>Method for the qualitative identification of asbestos in bulk samples</i>
Guidance Notes	NOHSC:3003(2005) <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres</i>

16 Administration

NOTE: Printed copies of this procedure are uncontrolled, and currency can only be assured at the time of printing.

16.1 Approval Details

HSE-PRO-006 Procedure Sponsor	Associate Director, Health, Safety and Environment responsible for development, compliance monitoring and review
Approval Authority	DVC Services and Resources
Consultation Committee	HSE Unit, HSEAC Sub Committees and Divisional HSE Committees
Approval date	13/11/2015
Implementation date	22/12/2015
Date for next review	24/10/2017
Contact Unit	safety@jcu.edu.au

16.2 Revision History

Version	Date Amended	Description of changes	Author
15-1	13/11/15	Updated to remove Draft stamp and minor fixes. DVCS&R approved 13/11/2015	HSE Biological, Radiation and Chemicals Safety Advisor
1.0	23/10/2015	Procedure established	HSE

Keywords	
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17 Schedule

- SWMS minor work.
- Communication template, asbestos removal
- Checklist for Project Managers (Removal Work)

18 Appendices

18.1 Risk Assessment Algorithm for Insitu ACM

Adapted from HSE “Asbestos Survey Guide HSG264, second edition, 2012” to meet the guidance outlined in the Safe Work Australia 2011 Code of Practice *How to Manage and Control Asbestos in the Workplace*.

Product Type Score (A)	Examples
1	Asbestos-reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement etc.)
2	AIB, millboards, other low-density insulation boards, asbestos textiles, gaskets, ropes and woven textiles, asbestos paper and felt.
3	Thermal insulation (e.g. pipe and boiler lagging), sprayed asbestos, loose asbestos, asbestos mattresses and packing.

Material Condition Score (B)	Extent of Damage
0	None
1	Low
2	Medium
3	High

Surface Treatment Score (C)	Examples
0	Composite ACM: reinforced plastics, resins, vinyl tiles.
1	Enclosed sprays and lagging, AIB (with exposed face painted or encapsulated) asbestos cement sheets etc.
2	Unsealed AIB, or encapsulated lagging and sprays.
3	Unsealed lagging and sprays.

Scores are added together to provide an assessment of the “Potential to release asbestos fibres”.

SCORE (A+B+C)	Potential for fibre release
7 or more	High
5 to 7	Medium
3 to 4	Low
2 or less	Very Low

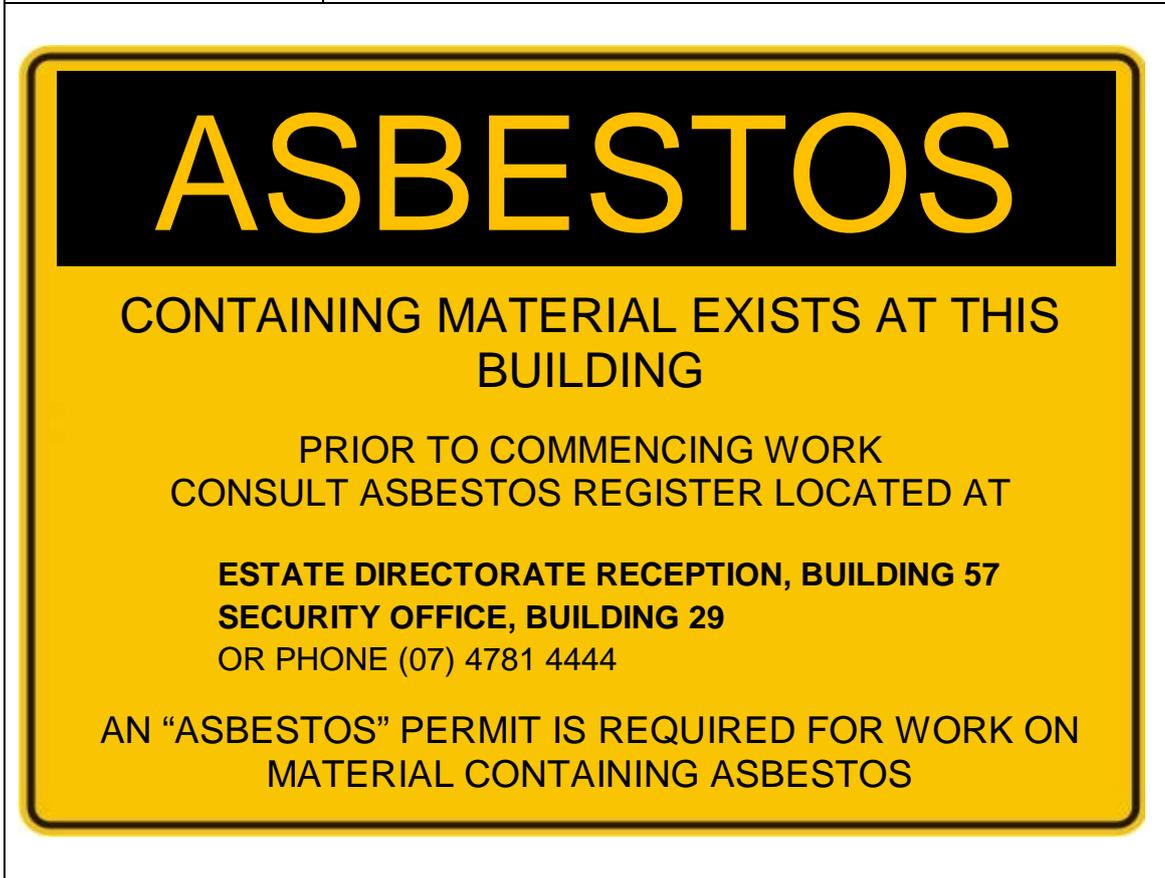
Occupancy Score (D)	Description
1	Rarely accessed space e.g. roof space & subfloor etc.
2	Infrequently occupied space, e.g. plant rooms and service cupboards etc.
3	Occupied area or air handling system

Scores are added to together to provide an assessment of risk to occupants.

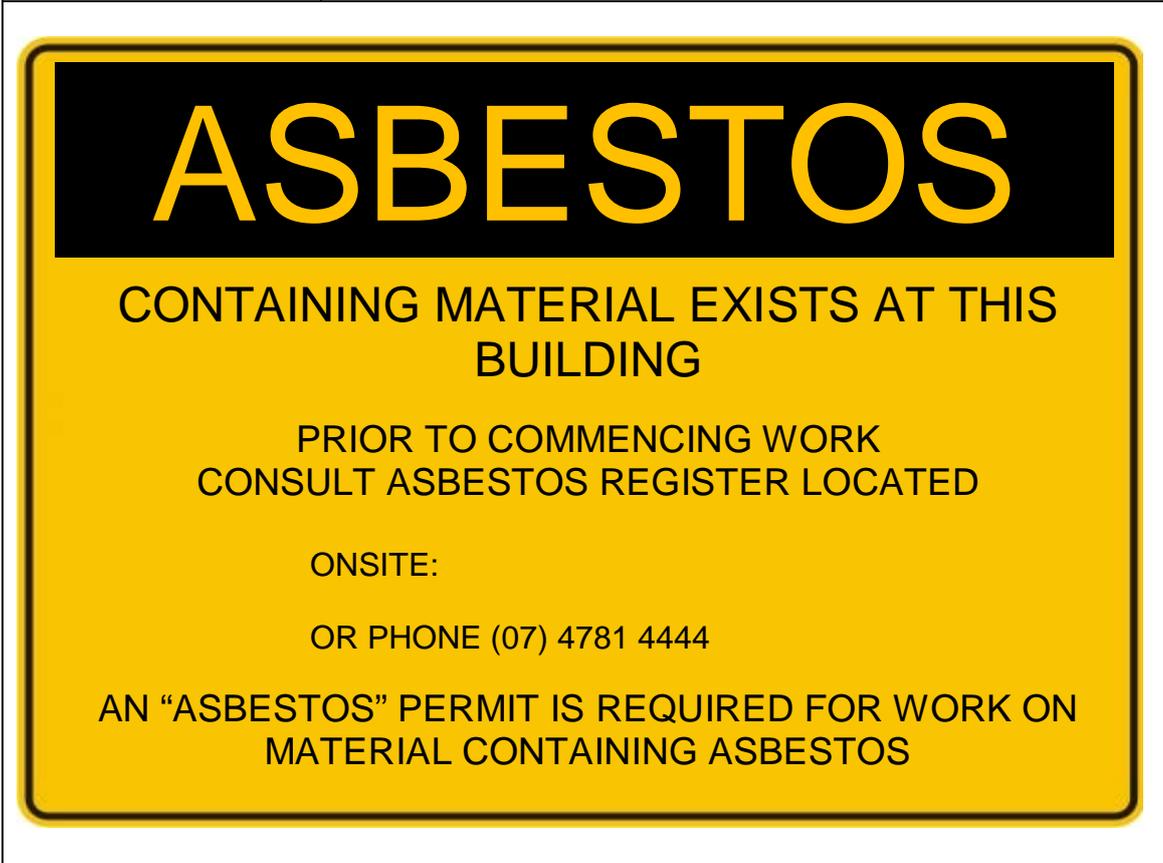
RISK SCORE (A+B+C+D)	RISK RANKING
11 or more	Very High
9 to 10	High
7 to 8	Medium
4 to 6	Low
3 or less	Very Low

18.2 Asbestos Warning Labels

Label Specification	
Description	Building contains asbestos (on Douglas campus)
Size	A6, 148 x 105mm
Material	outdoor vinyl, UV resistant clear laminated
Colour	Black text on sunflower yellow as per AS1319



Label Specification	
Description	Building contains asbestos (Off Campus Buildings)
Size	A6, 148 x 105mm
Material	Outdoor vinyl, UV resistant clear laminated
Colour	Black text on sunflower yellow as per AS1319



Label Specification	
Description	Material Contains Asbestos
Size	A8, 52 x 74mm
Material	Outdoor vinyl, UV resistant clear laminated
Colour	Black text on sunflower yellow as per AS1319



Label Specification	
Description	Asbestos Above Ceiling
Size	
Material	Outdoor vinyl, UV resistant clear laminated
Colour	Black text on sunflower yellow as per AS1319



Label Specification	
Description	Floor Contains Asbestos
Size	A8, 74x52mm
Material	Outdoor vinyl, UV resistant clear laminated
Colour	Black text on sunflower yellow as per AS1319



Label Specification	
Description	Asbestos Stencil for Outdoor Items
Size	300 x 150mm
Material	Plastic or Metal Stencil
Colour	Red or Black Paint



18.3 Air Monitoring Action Levels

Action level	Action required of licensed asbestos removalist	
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. Investigate	Investigate the cause
	2. Implement	Implement controls to eliminate or minimise 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	e.g. 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 tape) and smoke test the enclosure until it is satisfactorily sealed.
	5. Conduct further air monitoring	Do not recommence until fibre levels are at or below 0.01 fibres/ml