Property and Facilities Division
17 December 2020

THE UNIVERSITY OF QUEENSLAND
AUSTRALIA
CREATE CHANGE

The University of Queensland Asbestos Management Plan

Statement of Limitations

This report has been prepared in response to specific instructions from UQ to whom this report has been addressed. The work has been undertaken with the usual care and thoroughness of the consulting profession. The work is based on generally accepted standards and practices of the time the work was undertaken. No other warranty, expressed or implied, is made as to the professional advice included in this report.

This report has been prepared for the use of UQ and the use of this report by other parties may lead to misinterpretation of the issues contained in this report. To avoid misuse of this report, Prensa advises that this report should only be relied upon by UQ and those parties expressly referred to in the introduction of this report. This report should not be separated or reproduced in part and Prensa should be retained to assist other professionals who may be affected by the issues addressed in this report to ensure this report is not misused in any way.

Unless otherwise stated in this report, the scope is limited to fixed and installed materials and excludes buried waste materials, contaminated dusts and soils.

Unless expressly stated it is not intended that this report be used for the purposes of tendering works. Where this is the intention of UQ this intention needs to be communicated with Prensa and included in the scope of the Proposal.

Prensa is not a professional quantity surveyor (QS) organisation. Any areas, volumes, tonnages or any other quantities noted in this report are indicative only. The services of a professional QS organisation should be engaged if quantities are to be relied upon.

Future Works

During future works at the site, care should be taken when entering or working in any previously inaccessible areas or areas mentioned above and it is imperative that works cease immediately pending further investigation and sampling (if necessary) if any unknown materials are encountered. Therefore, during any refurbishment or demolition works, further investigation, sampling and/or assessment may be required should any suspect or unknown material be observed in previously inaccessible areas or areas not fully inspected, i.e., carpeted floors.

UQ Asbestos Management Plan 2020			
This Document replaces the Asbestos Management Plan of October 2016 and supersedes all previously issued asbestos management plans			
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1. Introduction

Prensa Pty Ltd (Prensa) was engaged by The University of Queensland (UQ) to develop an Asbestos Management Plan (AMP) for the management of asbestos-containing materials (ACM) identified within the UQ portfolio. This AMP will assist UQ with managing ACM in relation to health, safety and environmental risks proposed by ACM located across the UQ portfolio.

This AMP has been developed in accordance with current Queensland legislation, industry standards, and codes of practice and guidance documents for the management of ACM in workplaces.

1.1 Background

UQ is one of Australia's premier learning and research institutions. It is the oldest university in Queensland and is a founding member of the national Group of Eight, an alliance of research-strong "sandstone" universities committed to ensuring Australia has higher education institutions which are genuinely world class. UQ continues to attract the vast majority of the state's highest academic achievers and is renowned nationally and internationally for the quality of its teaching and research.

1.2 Property and Facilities Division (P&F)

The Property and Facilities Division (P&F) is responsible for the construction of new buildings, alterations to existing buildings and accommodation, maintenance of University grounds, security, building maintenance, cleaning, and waste management of 154 buildings on the main St Lucia campus, 16 buildings on the Herston campus as well as a further 272 buildings on the Gatton campus and other remote sites. The Division maintains offices at the St Lucia, Gatton and Herston campuses and employs a large internal staff of professional, administrative, maintenance, security and services positions as well as employing many other sub-Contractors.

1.3 Scope and Limitations

The University of Queensland Asbestos Management Plan (AMP) applies to all UQ owned facilities and sites. This AMP applies to all structures and plant that could foreseeably contain ACM, especially plant manufactured prior to 2003. This AMP also covers unexpected work with asbestos containing ores and naturally occurring asbestos materials that relate to teaching and research (e.g., Sustainable Minerals Institute and School of Earth and Environmental Science).

Procurement of buildings (constructed before 31 December 1989), structures (other than buildings constructed before 31 December 2003), and plant (constructed before 31 December 2003) are covered by this AMP if there are reasonable grounds to believe asbestos or ACM is installed.

The UQ AMP does not apply to facilities that are neither owned nor occupied by UQ, but which are located on UQ Property (e.g., Colleges at St Lucia campus, Energex SUB Substations, etc.).

Responsibility for management or removal of asbestos or ACM on non-UQ owned or controlled workplaces will be determined on a case-by-case basis in collaboration with the building owner and any relevant legal obligations.

1.4 General Principles when Developing an AMP

UQ's principles of asbestos management have been adapted from general principles within the Queensland *How to Manage and Control Asbestos in the Workplace Code of Practice 2011* ;

Reasonable steps must be taken to identify all possible locations of ACM within UQ. The process is illustrated in ***Appendix A General principles of an asbestos management plan*.** Notwithstanding

Appendix A, all buildings constructed before 31 December 1989, require an asbestos survey. Plant and equipment manufactured prior to 2003 also require inspection for ACM if there are reasonable grounds to believe ACM is installed in the plant and/ or equipment.

The ultimate goal is for UQ to be free of ACM. UQ policy is the removal of ACM during renovations, refurbishments, or maintenance work in preference to other control measures such as encapsulation, enclosure, and sealing.

Reasonable steps must be taken to label all ACM. Where ACM are identified or presumed, the locations are to be recorded in a register.

A risk assessment must be performed on all identified or presumed ACM.

Control measures must be established to prevent exposure to airborne asbestos fibres and should take into account the results or risk assessments conducted for the identified or presumed ACM.

Only Licensed Asbestos Assessors should undertake the identification and risk assessment of ACM. UQ Trades persons without specific recent training in ACM are not considered competent.

All UQ workers, contractors and other persons who may come into contact with ACM, must be provided with information, training and instruction on the health and safety consequences of exposure to asbestos and implementation of appropriate control measures. The detail of the information, training and instruction must be commensurate with the nature of the work, the risk associated with the work and the control measures implemented.

1.5 Purpose of the AMP

The purpose of the UQ AMP is to manage ACM at the University and minimise the risk of exposure to asbestos for all persons across all UQ sites. To accomplish this objective, the UQ AMP specifies work practices and procedures to:

- reduce the number of asbestos items to zero or as close to zero as possible;
- remove all high-risk asbestos items where possible;
- ensure the implementation of control strategies;
- monitor the condition of identified ACM; and
- minimise the possibility of accidental damage of ACM or the exposure of personnel and others to ACM;

The AMP must be made available to all persons involved in the management and operation of the facilities within the portfolio. Personnel within UQ, nominated to have responsibilities under this AMP, must be aware of the presence of ACM at their site and the associated management requirements.

2. Key Performance Indicators

2.1 Key Performance Indicators (KPI) Table

Objective	KPI	Target
To reduce the number of high and medium risk items	Reduction in the number of high risk in-situ ACM items from previous year	**No High Risk Items in-situ by 2023*** **No Medium Risk Items in-situ by 2029***
To continually reduce the number of buildings that have identified asbestos items so that UQ is relatively asbestos free by the year 2042	% Pre 1990 buildings with no identified asbestos Reduction in number of buildings with identified asbestos from previous year	**At least 5 Building per annum**
No person exposed to uncontrolled asbestos risk	Number of incidents	**No Exposure Events Reported**
Asbestos register is always current	Annual asbestos plan is completed Asbestos management plan in place	**Annual asbestos plan is presented to VRCC at the first meeting of the year** **Asbestos management plan is reviewed annually and KPIs updated accordingly**
Asbestos database and register is accurate.	Errors reported	**Less than 5 errors per annum**

Table 1. Key Performance Indicators (Figure 1 for details of risk determination)*

2.2 Annual Asbestos Management Report

An annual asbestos report will be produced by P&F on the progress of work and the performance of the plan against the above objectives.

2.3 Regulatory Requirements

This AMP is consistent with UQ's approach to asbestos management in the removal, encapsulation, transport, and disposal or otherwise potential disturbance of ACM. All these activities shall be performed in accordance with relevant Commonwealth and State Acts, Regulations, Codes of Practice, Advisory Standards, and Industry Standards.

2.3.1 State Legislative Requirements – Queensland

- *QLD Work Health and Safety Act 2011;*
- *QLD Work Health and Safety Regulation 2011;*
- *QLD Environmental Protection Act 1994;*
- *QLD Environmental Protection Regulation 2019*.

2.3.2 Codes of Practice and Standards

- *QLD How to Manage and Control Asbestos in the Workplace Code of Practice 2011*;
- *QLD How to Safely Remove Asbestos Code of Practice 2011*;

- Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003(2005)]; Australian Standard (AS) 4964-2004 Method for the qualitative identification of asbestos in bulk samples.
- Safe Work Australia – Workplace Exposure Standards for Airborne Contaminants 2019;
- AS ISO 31000:2018 Risk management Guidelines.
- AS 1319 1994 (R2018)– Safety signs for the Occupational Environment.
- AS/NZS 60335.2.69:2017 - Household and Similar Electrical Appliances - Safety - Particular requirements for wet and dry vacuum cleaners, including power brush, for industrial and commercial use.
- AS 4260:1997 (R2018) High efficiency particulate air filters (HEPA) filters - Classification, construction, and performance.
- AS/NZS 1715:2009 Selection, use and maintenance of respiratory equipment, and
- AS/NZ 1716:2012 Respiratory Protective Devices.

2.3.3 UQ Requirements

UQ is committed to, where reasonably practicable, conducting non-destructive ACM surveys of newly acquired assets constructed prior to 31 December 1989 in order to identify ACM. It is also the priority of UQ that all ACM identified within the scope of any refurbishment, repair work or demolition should, wherever practicable, be removed, see section 5.4 Destructive Asbestos Survey for more information.

Tenants and other interested parties must be notified of the asbestos removal work in advance and asbestos awareness training or information shall be made available to those persons affected by the asbestos work.

2.4 Organisational Responsibilities

Person / Party	Responsibility
Vice Chancellor's Risk and Compliance Committee (VCRCC)	Approve Asbestos Management Plan. Seek assurance that there is compliance with the AMP by receiving and commenting on the annual asbestos management report.
Director HSW (Health Safety and Wellness)	Provide advice with respect to the comprehensiveness of the AMP in meeting the requirements of the work health and safety legislation and provide specialist advice on the health risk associated with asbestos at UQ. In conjunction with the P&F health and safety coordinator, arrange for the investigation of any incidents where there has been a loss of control over the asbestos risk. Report any notifiable incident to the Regulator.
Director P&F	Ensure the plan is disseminated to P&F staff who will deal with contractors to ensure they are aware of the requirements relating to asbestos. Allocate funding for the implementation of the AMP. Ensure all new properties purchased that were constructed prior to 1990 are surveyed for asbestos, and all ACM identified is entered into the UQ Asbestos database. Ensure all new pre-owned plant manufactured prior to 2003 is surveyed for ACM and any ACM identified is entered into the UQ asbestos database. Communicate with other organisational units across UQ that they are aware of ACM in their areas, or where they engage in work activities that could disturb existing ACM.
Associate Director P&F Campus Operations	Ensure the AMP is available to all staff and contractors on in an easily accessible platform. Ensure all staff and contractors comply with the AMP. Approve the annual asbestos management report and submit to VCRCC (through Director, HSW). Budget for asbestos management.
Associate Director P&F Project Delivery	Ensure all P&F Project Managers are familiar with AMP, and it is provided to contractors. Ensure contractors understand their requirements under the AMP. Ensure the asbestos register is reviewed and an asbestos management plan is in place for any demolition sites where buildings constructed prior to 1990 may be impacted.
Associate Director P&F Infrastructure & Sustainability	Ensure contractors have access to the AMP and comply with the requirements. Ensure contaminated land sites which have asbestos as a known contaminant are reported on the asbestos database. Ensure all structures and plant purchased that could foreseeably contain ACM (pre 2004) is surveyed and assessed and entered into the UQ Asbestos database as required.
Associate Director P&F Planning & Property	Ensure contractors are aware of the AMP and include their responsibilities under this plan as part of their Safe Work Method Statements (SWMS).

	Ensure all new properties purchased, that were constructed prior to 1990, are surveyed for asbestos, and all ACM identified is entered into the UQ Asbestos database. Surveys of buildings, new, existing, and potential purchases for asbestos.
P&F Project Managers and Client Facilities Managers and Coordinators and any other UQ Employee that may commission an asbestos remediation or removal project.	Ensure the asbestos register is reviewed prior to any demolition and refurbishment in buildings constructed prior to 1990. Ensure that a principal contractor provide UQ with their (the principal contractor's) asbestos management plan before any work starts in any building constructed prior to 1990. This document must be sent to the Management Plan Controller for review. The asbestos management plan can form part of the construction safety plan. Identify and bring to the attention of appropriate staff, any suspect material – notification to Management Plan Controller, security, and cleaning managers. Ensure all contractors working on asbestos are aware of, and meet the requirements of, the AMP. Ensure project personnel (including contractors) are inducted. Ensure licensed asbestos removalist are able to demonstrate competence prior to appointment. This is demonstrated with the production of training records, medical surveillance, and evidence of maintenance of essential equipment. Such as vacuum cleaners and negative pressure air units. This must occur when the removalist is appointed directly or as a subcontractor. Ensure that the licensed asbestos assessor or competent person performing the clearance inspection is independent of the person removing the asbestos. Ideally this person should be employed by UQ. Ensure that the licensed asbestos assessor or competent person performing the clearance inspection updates the UQ asbestos database to record the ACM removal details. Complete asbestos awareness training. Arrange for the provision of information to affected staff on the scope of works and controls in place to control the asbestos risk. All incidents are reported in UQSafe.
P&F Health and Safety Coordinator (HSC)	P&F Health and Safety Coordinator is to act as the Management Plan Controller as outlined in Section 2.8. Maintain electronic asbestos management system. Arrange for surveying, identification and sampling of suspected asbestos containing materials. Conduct ACM awareness training for P&F Project Managers. Manage the asbestos works program and removal program. Issue Asbestos access permits. Respond to incidents via UQSafe. Produce annual report for VCRCC Review contractor Asbestos Removal Control Plans and Safe Work method Statement prior to asbestos removal works. Ensure appropriate asbestos licences are held prior to the engagement of any asbestos work
Heads of Organisational Unit	Ensure compliance with the UQ Asbestos Management Plan within their areas. Especially for plant and equipment that contains ACM (ovens and furnaces) and ores that contain naturally occurring ACM.

	Ensure all new pre-owned plant manufactured prior to 2003 is surveyed for ACM and any ACM identified is entered into the UQ asbestos database. Ensure that asbestos or goods containing asbestos are not imported or exported. Ensure permission is obtained from the Australian Safety and Eradication Agency (ASEA) if asbestos or goods containing asbestos are to be imported or exported. Ensure all contractors working on asbestos are aware of and meet the requirements of the AMP.
Director ITS	Ensure compliance with AMP by all ITS staff. Ensure the asbestos register is consulted prior to undertaking work that potentially may disturb the building fabric by staff or contractors. Ensure compliance by ITS appointed contractors.
Director FBS or Procurement Director	Ensure a process is in place to assess the asbestos risk for purchases of structures and plant that could foreseeably contain asbestos. Especially plant manufactured prior to 2003 and equipment purchased overseas Ensure that asbestos or goods containing asbestos are not imported or exported. Ensure permission is obtained from the Australian Safety and Eradication Agency (ASEA) if asbestos or goods containing asbestos are to be imported or exported.
Contractors	Comply with the AMP and refer to the asbestos register prior to undertaking any building work. To bring to the attention of the PM/PO any suspect material. Refer to the AMP for guidance to identify, manage, and remove ACM Submit Asbestos Permit to Work when performing work in an asbestos restricted space. Commission a destructive survey for their construction site **or** use the asbestos survey provided by UQ but take on the responsibility for the safe handling of possible ACM which may be impacted upon during any demolition or refurbishment work. This includes ACM which was not identified in the asbestos survey provided by UQ. Develop an asbestos management plan for any work in a building constructed prior to 1990. Undergo P&F Contractor Induction. Develop a site-specific asbestos removal control plan prior to performing the asbestos removal work. Ensure the possession, at a minimum, of a valid B class asbestos licence if working on ACM.
Students, Staff and Visitors	Comply with the AMP. Not to impact on any Asbestos Containing Material (ACM). Report asbestos related hazards. Are not to do any maintenance, refurbishment, or interfere with any infrastructure (walls floor and ceiling) without consulting with P&F. Be aware of asbestos in the areas they occupy, labels on the outside of buildings. Ensure that asbestos or goods containing asbestos are not imported or exported.

Table 2. Organisational Responsibilities

2.5 Management Plan Controller (P&F Health and Safety Coordinator)

The AMP is to be managed by the Management Plan Controller.

The Management Plan Controller has the following responsibilities:

- Ensure re-inspection and risk assessments of all ACM are carried out by a Licensed Asbestos Assessor on a regular basis, or sooner as recommended by the previous risk assessment. It is imperative that the re-inspection is conducted in accordance with the QLD *Work Health and Safety Act 2011 and Regulation, 2011* and the relevant industry standards and codes of practice.
- Inform those employees, contractors, and subcontractors of locations of ACM as applicable to them and the areas they work in or occupy through the implementation of awareness training, as part of the induction process etc.
- When issuing a Permit to Access Restricted Asbestos Space (see **Section 6.1.1 Permit to Access Restricted Asbestos Space**), ensure that the ACM register is read and understood by the personnel prior to the commencement of work in the areas where ACM have been identified.
- Ensure Project Managers inform occupants of any removal or remedial works occurring at the site, particularly in relation to any ACM; and provide information on the scope of works and controls in place to control the asbestos risk.
- Ensure air monitoring results are communicated to occupants as required.
- Ensure the construction Project Managers and Precinct Manager engage an appropriately licensed removal contractor, as required by legislative requirements, to conduct ACM abatement works and notify site personnel of air monitoring results (if applicable) during abatement or refurbishment works.
- Ensure the installation of warning signage and labels to ACM. This will assist with mitigating the risk of accidental disturbance by employees, contractors or subcontractors or any other persons at the site.
- Ensure a destructive ACM survey is conducted prior to demolition or refurbishment works.
- Ensure Associate Director P&F is notified of identified ACM that may be impacted by demolition or refurbishment works should be safely removed or appropriately contained **prior to** commencement of works. This will prevent the accidental disturbance of the material(s); and
- Ensure Asbestos Register and ACM related records are maintained. Documentation must be archived indefinitely and be accessible to any government health and safety regulatory representatives, if requested. Records such as the ACM register updates, ACM removal specifications, contractor licences, SWMS, air monitoring reports, clearance inspection certificates and waste disposal documents are also to be archived and available for review.

2.6 Contractors and Subcontractors

Contractors must ensure proper safety procedures are followed and works are conducted in accordance with all relevant legislative requirements and UQ requirements. SWMS should be issued to the Management Plan Controller for review prior to works being completed in areas where ACM have been identified.

2.7 Hygienist (Suitably qualified hygienist / Asbestos Assessor)

The Management Plan Controller may appoint a suitably qualified hygienist or/asbestos assessor to assist in the following areas:

- Conduct surveys to assess the risk involved with any proposed works where disturbance of ACM is likely to occur prior to commencing proposed works.
- Regularly review ACM on the site, as required by Section 3.2 of the *QLD How to Manage and Control Asbestos in the Workplace Code of Practice 2011*;
- Develop 'scope of works' documentation for removal of ACM.
- Provide hygiene services during abatement works (i.e., asbestos fibre air monitoring, atmospheric lead monitoring, clearance inspections); and
- Review the AMP on a regular basis as part of the ongoing management of the site.

2.8 Australian Government Health and Safety Regulatory Bodies

Workplace Health & Safety Queensland administers and enforces ACM related legislation. The *QLD Work Health and Safety Regulation, 2011* requires building owners and/or controllers of premises to identify, assess and control risks arising from ACM in buildings, structures, plant, and equipment. The *QLD Work Health and Safety Act 2011* also details the overriding general obligation of various parties, including the Person Conducting Business or Undertaking (PCBU), officers, contractors, employers, self-employed persons, and persons in control of workplaces to ensure the workplace health and safety of persons affected by their work activities.

Government health and safety regulatory inspectors may request access to ACM related documentation from time to time. The *QLD Work Health and Safety Act, 2011* outlines the powers of the health and safety regulatory inspectors.

3. Hazardous Material Information

3.1 Asbestos and Its Uses

Asbestos is defined as the fibrous form of mineral silicates. There are two major groups of asbestos:

- ***Serpentine*** group of minerals: **chrysotile** (white asbestos); and
- ***Amphibole*** group of minerals: **amosite** (brown asbestos), **crocidolite** (blue asbestos) and within less commercially used forms including actinolite, tremolite and anthophyllite.

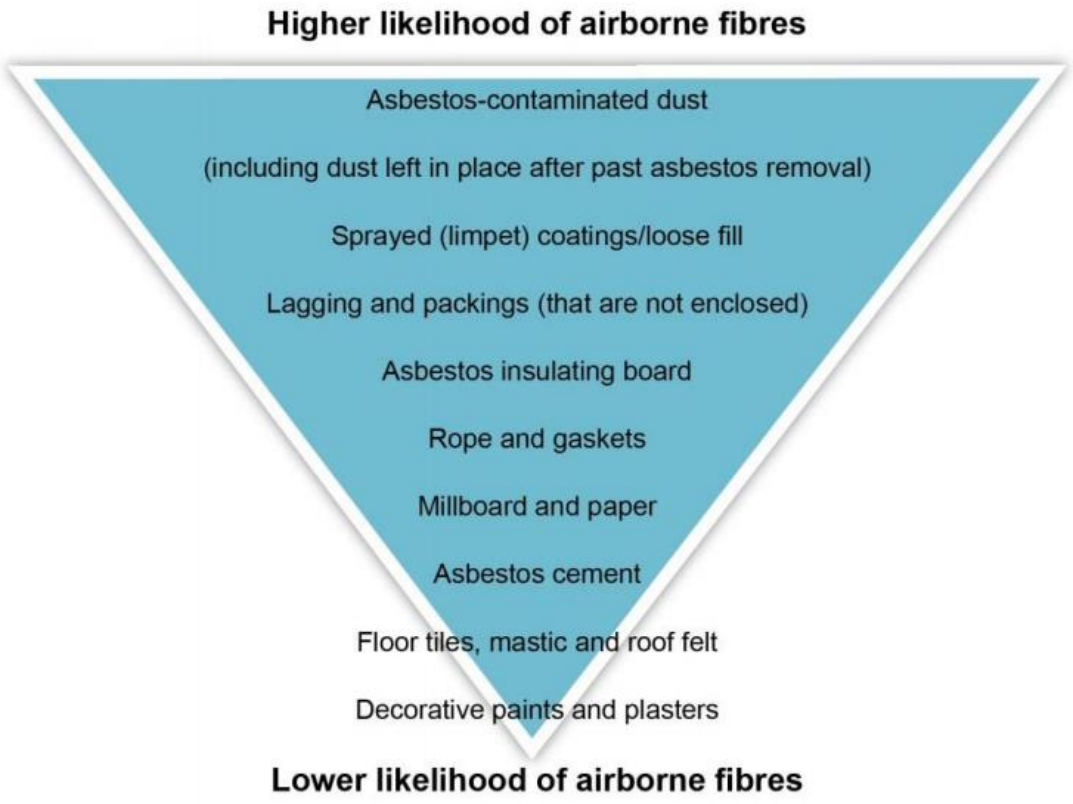
Asbestos minerals can be split into elongated long fibres that are strong, flexible and heat resistant. Because of these characteristics, asbestos has been historically used for a wide range of manufactured goods, mostly in building materials, friction products, heat-resistant fabrics, gaskets, and coatings.

3.2 Naturally occurring asbestos

Naturally occurring asbestos (NOA) is unlikely to be encountered at the majority of UQ's workplaces. However, NOA may occur during, construction or other excavation activities that involve disturbing the earth and creating dust.

As part of teaching and research of the University, asbestos containing ores and minerals are held and potentially processed in organisational units such as the Sustainable Minerals Institute and the School of Earth and Environmental Science. Where NOA is likely to be encountered during research

University Staff should notify their Head of Organisational Unit and follow the safe work method statement specific to their work.



Where UQ staff are visiting a site controlled by another entity, reassurance should be sought prior to mobilisation that NOA has been considered and if identified, appropriate controls implemented.

Training on the hazards and risks associated with NOA must be provided to workers who carry out work where NOA is located or are likely to handle and/or process mineral samples containing NOA.

Training in the hazards associated with NOA may be required in the event NOA is discovered and may include isolating the workplace or part thereof, dust suppression and the use of PPE.

Figure 1. List ranking the different types of asbestos according to the likelihood that airborne asbestos can be released into the air if it has deteriorated or been disturbed (Identification of ACM and Evaluation of Risk (QLD How to Manage and Control Asbestos in the Workplace Code of Practice 2011))

Figure 1. List ranking the different types of asbestos according to the likelihood that airborne asbestos can be released into the air if it has deteriorated or been disturbed (Identification of ACM and Evaluation of Risk (*QLD How to Manage and Control Asbestos in the Workplace Code of Practice 2011*)

Faculties or Institutes conducting research involving NOA, such as, with soil, rock, or mineral samples they must manage the risks associated with asbestos in accordance with Section 5.1 and 5.4 of the *QLD How to Manage and Control Asbestos in the Workplace Code of Practice 2011*

All samples that contain NOA or suspected of containing NOA should be isolated, double bagged and labelled to conform to the labelling elements of the GHS and include a warning label stating that they contain asbestos, and that dust creation and inhalation should be avoided.

3.3 Friability of ACM Items

ACM falls into two broad categories (non-friable and friable) and the category the ACM falls under will determine how the ACM is removed.

ACM considered to be friable are materials that can be crumbled, pulverised, or reduced to powder by hand pressure when dry. Friable ACM are considered higher risk materials as they are more readily damaged, thereby possibly releasing fibres into the air.

Materials that cannot be readily pulverised by hand pressure are considered to be non-friable and are generally considered to be of 'lower' risk if properly handled. Non-friable ACM are often referred to as ‘bonded’, where asbestos is bound in a matrix such as asbestos cement, e.g., fibre cement sheeting or vinyl floor tiles.

3.4 Research Equipment

UQ owns and controls research equipment that, due to the age of this equipment, it may contain ACM. UQ Facilities and Institutes (relevant to the equipment) should conduct inspections and collect samples (using trained persons competent in the removal and sampling of ACM) for analysis of any suspect materials contained within the equipment to identify ACM. This information shall be entered into the site-specific register located on the electronic database along with any supporting photographs and sample analysis laboratory results. Where equipment that contains ACM will be removed from site and disposed of correctly, to be replaced with modern non-asbestos equipment or components.

3.5 Asbestos Contaminated Land

Sites contaminated with asbestos become a workplace when work is carried out there. The *QLD Work Health and Safety Regulation 2011* requires that, where asbestos is identified as contaminating a workplace, a register and asbestos management plan be created for the site.

The management and remediation of sites contaminated with asbestos from illegal dumping and demolition is a specialised task. In some instances, site remediation may entail removal of asbestos and ACM from the site; in other cases, this may not be practicable, and other management strategies should be used. Engaging specialists who may include asbestos removalists is highly recommended for all but the most minor of non-friable contamination.

The *Assessment of Site Contamination National Environmental Protection Measure* (NEPM) sets out the general principles for assessment and remediation of sites contaminated with a number of hazardous materials including asbestos. It is recommended that a person conducting a business or undertaking who has a workplace that is, or is suspected of being, contaminated with asbestos should engage specialists in accordance with the competencies found in the NEPM.

Summary of Regulatory Requirements for Asbestos Affected Properties

Site	General description	Address	Notified Activity	Asbestos	SMP	Suitability Statement	Current Use
St Lucia	Playing Field 9	289 Sir Fred Schonell Dr	Landfill	Suspected	Not required but voluntarily developed and applied.	Playing fields	Playing field
	South western corner of Playing Field 9	289 Sir Fred Schonell Dr		Confirmed fibres and debris	Required and in place.	Childcare	Childcare centre [soon to be student housing precinct]]
	Building 99 and surrounds.	28 Walcott St		Confirmed fibres and debris	Required and in place.	University purposes	Building 99, carpark, glasshouses and Glasshouse Road
Clinics	Residential	39 Upland Rd	N/A	Confirmed debris	Not required but general procedures followed.	None	Construction to be clinics.
		35 Upland Rd					
		33 Upland Rd					
		31 Upland Rd					
		29 Upland Rd					
		27 Upland Rd					
		25 Upland Rd					
		21 Upland Rd					
		17 Upland Rd					
		13 Upland Rd					
		323 Hawken Dr					
Gatton	Whole of campus (but only small area impacted by landfill)	Warrego Highway	Landfill	Confirmed fibres and debris	Required and in place.	University purposes	Various (whole of campus)

4. Identification of Asbestos in the Workplace

In accordance with the requirements of the Queensland Work Health and Safety legislation, all structures build prior to 31 December 1989 must be inspected for asbestos. To ensure this legal requirement is met UQ may adopt any or all of the following options to identify the presence of asbestos in UQ facilities.

4.1 Non-destructive Asbestos Surveys

Asbestos surveys are typically non-destructive in nature and involve inspection of all accessible areas within a structure and identifying materials suspected of containing asbestos. The scope of the asbestos survey includes all construction materials, finishing materials, and building services (including fixed plant and equipment) within and adjacent to a structure. Equipment stored within a structure is not usually included in the scope of works unless otherwise specified.

The asbestos survey is to be undertaken by a Licensed Asbestos Assessor / LAA who is responsible for:

- Identifying and sampling the suspect materials; and
- Accurately recording the precise location of each individual asbestos situation; and
- Assessing the physical condition of the ACM; and
- Assessing the risk to health posed by the ACM; and
- Labelling ACM; and
- Signage of buildings containing ACM is correct; and
- Preparing a detailed asbestos register.

A complete record of the asbestos survey shall be maintained in an Asbestos Register using the electronic asbestos management system.

4.2 Destructive Asbestos Surveys

Destructive asbestos surveys are similar to non-destructive asbestos surveys except the Licensed Asbestos Assessor / LAA is required to partially demolish the structure (e.g. expose wall cavities, rip up floor coverings, open blind service ducts/risers, etc.) in order to identify asbestos containing materials which may be hidden. This may result in damage and destruction to the building fabric and ideally should be undertaken only after the occupants have vacated the building.

The purpose of a destructive asbestos survey is to identify all ACM prior to the commencement of refurbishment/demolition works, which may impact on the unidentified ACM.

Prior to any proposed demolition or refurbishment works, a destructive asbestos survey should be conducted by a Licensed Asbestos Assessor to determine whether potential ACM are located in areas that were inaccessible during the initial survey.

The destructive asbestos survey must be conducted in accordance with Part 8.6 of the QLD *Work Health and Safety Regulation 2011*, Section 5.3 of the *QLD How to Manage and Control Asbestos in the Workplace Code of Practice 2011*, Section 4.2 *QLD Demolition Work Code of Practice 2013*

and other industry related standards and guidance notes.

If ACM is identified during the survey it is to be removed as part of the refurbishment/demolition works, it may not be necessary for the Licensed Asbestos Assessor to assess the condition and risk posed by the ACM as this is irrelevant if the ACM is to be removed.

4.3 Asbestos Re-survey / Re-inspections

Section 3.2 Reviewing and revising an asbestos register of *QLD How to Manage and Control Asbestos in the Workplace Code of Practice 2011*, requires the building owner to conduct asbestos re-surveys/re-inspections every 5 years or sooner of the asbestos situation requires more frequent attention. High risk ACM items are to be reinspected every 6 months, Medium risk ACM items every 3 years and Low risk ACM items will be reinspected every 5 years.

Re-inspections or re-surveys are to be conducted by a Licensed Asbestos Assessor / LAA and will comprise a visual assessment of the condition of the in-situ ACM to determine whether the material remains in a satisfactory condition, or if deterioration has occurred since the previous inspection. Such re-inspections will determine if any remedial action, such as encapsulation, isolation or removal of the asbestos containing materials, is required.

Normally, re-sampling of materials would not be required during re-inspections. However, if previously unidentified or undocumented ACM, or suspected ACM, are encountered during the re-inspection process, sampling and analysis may be performed. The Licensed Asbestos Assessor /LAA will be required to update and re-issue the asbestos register at the completion of the resurvey.

4.4 Evaluation of Health Risk from In Situ ACM (Risk Assessment and Risk Rating System)

Each in situ ACM identified is given a risk rating and recommended control measures based on the extent, type condition and accessibility of the ACM at the time of the survey. The risk rating of each ACM item is determined by the Licensed Asbestos Assessor /LAA. To assess the health risk posed by the presence of ACM, the relevant factors must be considered. These factors include:

- **Demolition/refurbishment works** that are likely to disturb the ACM.
- The **condition** of the ACM. Materials in a poorer condition will pose a higher risk of generating airborne asbestos fibre. Surface treatment of the materials (i.e., painting) is also considered.
- The **friability** of the ACM is considered. A material's friability represents how easily it can be pulverised. Asbestos product types are generally classified as friable or non-friable, however, severely deteriorated/weathered non-friable materials may be considered friable under certain circumstances; and
- The **accessibility/disturbance potential** for each ACM is considered. To determine this potential, the following is considered:
  - The frequency that the area containing the material is entered;
  - The height at which the material is located;
  - Processes that occur in the material's location (e.g., forklift use).
  - Maintenance activities (e.g., servicing of plant and equipment, general housekeeping – cleaning or painting of surfaces etc.).
  - Barriers that prevent the material from being disturbed (i.e., carpet over asbestos containing flooring); and
  - Airflow within the area containing the material.

These factors are used to determine the **risk rating** for each ACM item identified during the assessment.

The purpose of the risk assessment is to establish the relative ability of ACM at the site to release asbestos fibres into the atmosphere and the likelihood that this will lead to airborne asbestos fibre exposure. A simple three parameter algorithm is used to assess the risk. That is the likely magnitude of asbestos release from the material, given a standard disturbance. This is evaluated using three categories: high, medium, and low. Where these factors have indicated that there is a possibility of exposure to airborne fibres, appropriate recommendations for sealing, encapsulation or removal of the ACM are made.

4.4.1 Risk Assessment Factors

To assess the health risk posed by the presence of asbestos building materials, all relevant factors must be considered. These factors include:

- Product type.
- Condition.
- Friability of the material.
- Disturbance potential.
- Proximity to direct air stream; and
- Surface treatment (if any).

The following risk factors are defined to assist in determining the relative health risk posed by each item.

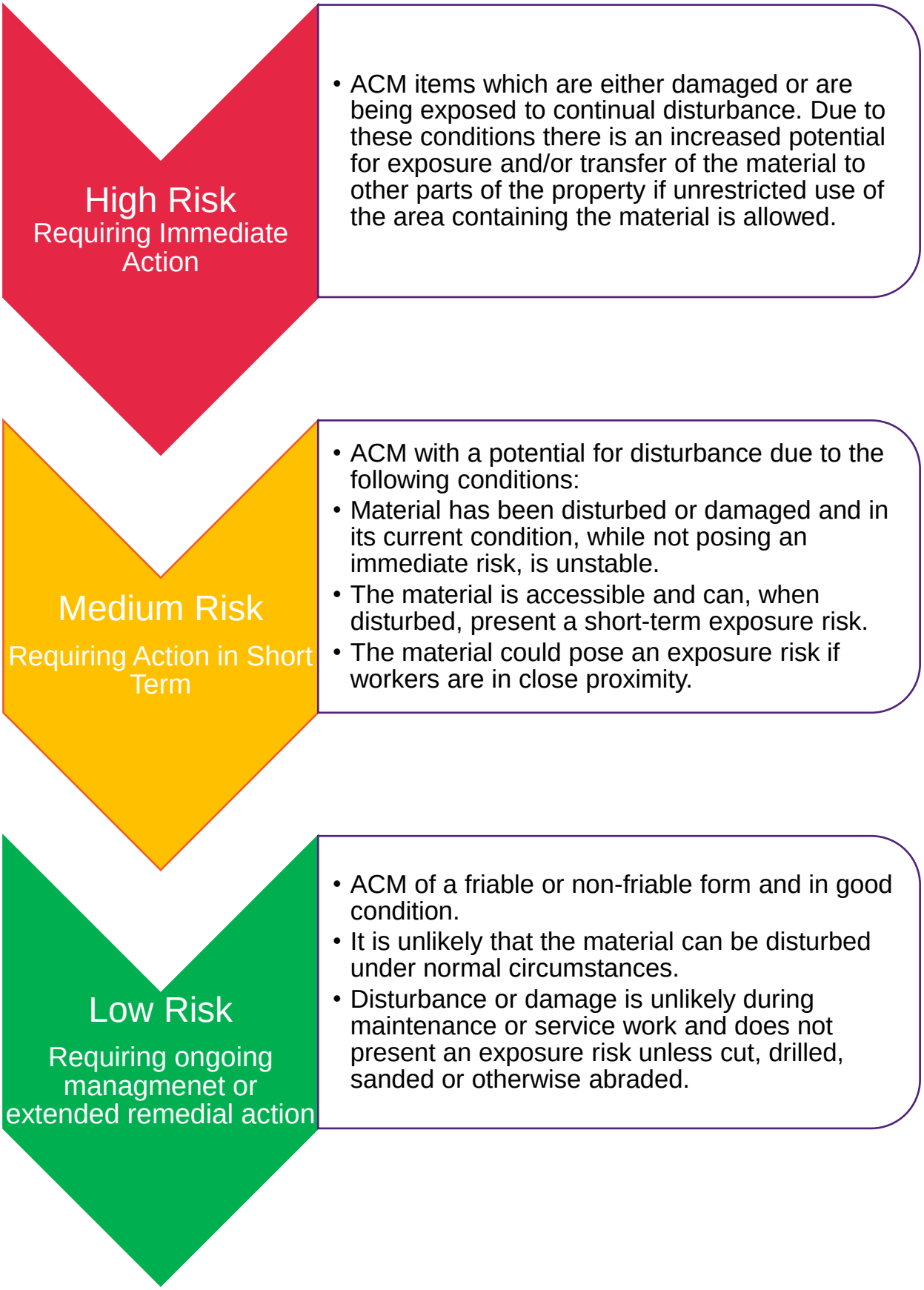
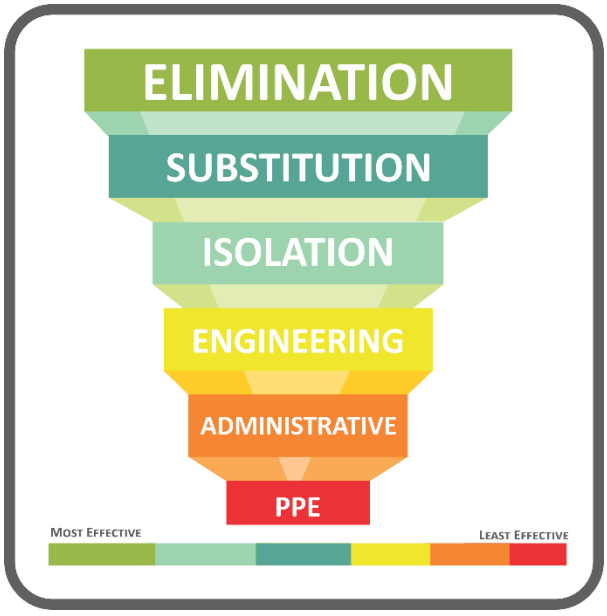


Figure 2. Definitions of Risk Factors for ACM

5. Control of Asbestos Hazards

As per *QLD Work Health and Safety Regulation 2011*, all materials suspected to be asbestos-containing or being a hazardous material must be identified and recorded in a register. Furthermore, a risk assessment must be conducted of each hazardous material and control measures implemented. The exposure control measures, which are determined by the Licensed Asbestos Assessor and/or hygienist/asbestos assessor, need to reflect the hierarchy of control, as outlined in the Part 3.1 of the QLD *Work Health and Safety Regulation 2011*.

The hierarchy of controls for the management of hazardous materials is as follows:



1. Elimination/removal (most preferred).

2. Substitution.

3. Isolation, such as erection of permanent enclosures encasing the material.

4. Engineering controls, such as negative air pressure enclosures for removal works, HEPA filtration systems.

5. Administrative controls – including the incorporation of registers and management plans, the use of signage, personnel training, safe work procedures, regular re-inspections, and registers; and

6. The use of **Personal Protective Equipment** (PPE) (least preferred).

Figure 3. Hierarchy of controls (Part 3.1 of the QLD Work Health and Safety Regulation 2011.)

1. Elimination – The ultimate goal is to achieve an asbestos free site - The decision to remove asbestos containing materials will also take into account the Priority Risk, consideration of Mater Critical Areas with the impact of any stoppage of services and whether it is reasonably practicable to remove asbestos from any given area of the site.

2. Substitution – Where reasonably practicable building works that are required will be planned in order to avoid disturbance of in situ asbestos materials.

3. Isolation – Where reasonably practicable permanent barriers will be erected to prevent access to asbestos containing materials or the material will be enclosed to prevent access.

4. Engineering – Given that some areas of the site are considered sensitive in relation to asbestos risk. Where it is considered following a suitable and sufficient risk assessment, that minimum legislative requirements are not sufficient engineering controls during asbestos related and remediation works will be increased to ensure the highest level of protection from asbestos exposure is achieved.

5. Administrative – Asbestos registers, management plans, policies, procedures, work instructions, training, and signage.

6. PPE – The use of PPE will be required where the above controls cannot sufficiently reduce risk of asbestos exposure.

5.1 Restricted Access Asbestos Areas

On occasion, it is not reasonably practicable to remove damaged asbestos containing items when they are first discovered. In these circumstances, the affected material must be enclosed or isolated and the area where the items are located must be restricted to prevent the accidental disturbance of the material. Barricades, signs, and a work permit are used to control these areas.

5.1.1 Permit to Access Restricted Asbestos Space

UQ Permit to Access Restricted Asbestos Space form (PF430) must be obtained for any work occurring in a location where high-risk ACM remains in situ.

Before being issued with a PF430, individuals will be required to peruse the UQAMP and any Asbestos Registers relevant to their work area.

The PF430 is designed to ensure appropriate work practices are employed when working in areas where it is possible to be exposed to elevated concentrations of airborne asbestos fibres. The PF430 will document what ACM are present and how they are likely to cause the exposure to respirable asbestos fibres. The permit will also indicate the required controls such as respiratory protective equipment (RPE) and personal protective equipment (PPE), barricading and airborne fibre monitoring.

When a project involves a team of more than one worker, the person in charge of the team will be issued with the PF430. The worker with the permit will be responsible to ensure that their workers are aware of their responsibilities.

When work is completed, the permit shall be signed and returned to the management plan controller who will cancel it after inspection the site.

The format of the Permit to Access Restricted Asbestos Space form (PF430) is illustrated in ***Appendix B Permit to Access Restricted Asbestos Space form.***

5.2 Accidental Disturbances & Emergency Procedures

For any previously identified or suspected ACM that are disturbed accidentally or if the air monitoring control levels are exceeded, the Management Plan Controller must be notified immediately to carry out the necessary corrective actions.

The Management Plan Controller will instigate the appropriate corrective actions and arrange to have the damage assessed, if necessary, and the materials repaired or removed as required. The flowcharts in ***Appendix C Accidental Disturbance of Asbestos Procedure*** must be adhered to when a known or suspected ACM has been disturbed.

Recording these disturbances in UQSafe and notification to WHSQ Regulator as required in discussion with Director HSW.

If the air monitoring control levels are exceeded, follow the process outlined in Section 5.3**.**

Any incident involving asbestos or ACM that could result in risks to health and safety are to be reported in UQSafe. Refer to **Section 6.5** for further information.

6. Removal of Asbestos Containing Material

6.1 Licensed Asbestos/Hazardous Material Removal Contractors

In accordance with the *QLD Work Health and Safety Regulation, 2011*, ACM that require abatement, should be undertaken by either a Class A (friable) licensed asbestos contractor for friable works, or a

Class B (non-friable) licensed asbestos contractor for non-friable asbestos materials only. The contractor must perform all works in accordance with licensing requirements and standard industry practice for ACM.

Any work commissioned by UQ that involves the removal of ACM must only be carried out by a licenced asbestos removalist.

There are two types of asbestos removal licences: Class A and Class B. The type of licence required will depend on the type and quantity of asbestos or ACM that is being removed. Table 3 outlines what type of licence is required to remove asbestos:

Type of Licence	**What asbestos can be removed?**
Class A	Can remove any amount or quantity of asbestos or ACM, including: • any amount of friable asbestos or ACM • any amount of asbestos contaminated dust or debris (ACD) • any amount of non-friable asbestos or ACM
Class B	Can remove: • any amount of non-friable asbestos or ACM • ACD associated with the removal of non-friable asbestos or ACM

Table 3. Licence Requirements for asbestos removal (*QLD How to Safely Remove Asbestos Code of Practice 2011*)

Before a licensed asbestos removalist is employed at UQ the following documentation must be provided to show continued compliance to QLD *How to Safely Remove Asbestos Code of Practice 2011.*

- Asbestos removal licence.
- Asbestos Removal Control Plan (ARCP).
- Servicing records for all equipment used during removal works, including current Dispersed Oil Particulate (DOP) certificates for H Type Vacuums cleaners.
- Quantitative face fit records for all respiratory protective equipment (RPE) to be used, including full face for any friable works.
- Training records; and
- Confirmation of health surveillance.
- Workplace Health and Safety Queensland must be notified by the licenced asbestos removalist via Form 65 of any removal work at least 5 days before work starts. Proof of reporting must be produced when requested.
    - It may not be possible to provide five days' notice, and removal work may commence immediately in the following limited circumstances:
        - A sudden unexpected event that may lead to a situation where there is a risk of exposure, for example a burst pipe that was lagged with asbestos or a forklift crashing into an asbestos cement sheet wall.
        - An unexpected breakdown of an essential service that requires immediate rectification, for example gas, water, sewerage, or telecommunications services.

– If this is the case, the licensed asbestos removalist must notify the regulator immediately by telephone and in writing within 24 hours after the notice provided over the telephone.

6.2 Airborne Fibre Monitoring

Asbestos fibre air monitoring (air monitoring) must be conducted prior to, during and upon completion of the removal friable ACM. This must be undertaken by a licensed asbestos assessor (friable) as per the *QLD Work Health and Safety Regulation 2011*. Where non-friable asbestos removal is undertaken works in progress air monitoring must be conducted during removal, additional air monitoring will be conducted as agreed by stakeholders.

The requirements for air monitoring must be established prior to the commencement of the works.

Type of ACM Remediation	Air Monitoring Requirements
Any friable ACM removal or encapsulation works	Pre-start, work-in-progress, clearance air monitoring and reassurance air monitoring by a licensed asbestos assessor is mandatory
Non-friable ACM removal – Internal	Work in progress air monitoring to be conducted, clearance air monitoring may also be required unless otherwise advised
Non-friable ACM removal – External	Work in progress air monitoring to be conducted unless otherwise advised
Minor works (i.e. less than 10m2 of 10lm) on, or encapsulation of, non-friable ACM	Work in progress air monitoring to be conducted unless otherwise advised

Table 3. Determining Need for Air Monitoring

All air monitoring must be conducted in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition* [NOHSC:3003(2005)] and all results must be analysed by a National Association of Testing Authorities (NATA), Australia accredited laboratory.

It is up to the discretion of the hygienist/Licensed Asbestos Assessor to determine where the air monitoring equipment should be placed during the removal works. As a guide, during the removal of ACM, air monitors should be placed at the perimeter of the work area, particularly to boundaries with sensitive receptors i.e., occupied areas. At the conclusion of the removal works, clearance air monitoring is required within the removal work area to determine whether the removal area is safe for re-occupation by unprotected personnel.

Airborne fibre monitoring must be conducted during and after removal of friable and in some cases non-friable ACM by an independent Licensed Asbestos Assessor. Air monitoring is conducted during the removal works to check the effectiveness of control measures implemented by the contractor (e.g., isolating the removal work area with a sealed, airtight enclosure fitted with negative air pressure generating units, etc.).

Air monitoring is conducted after the ACM has been completely removed and the work area has passed a satisfactory visual inspection to determine whether the area is safe to reoccupy by unprotected persons.

6.3 Control Levels for Asbestos Fibre Air Monitoring

When air monitoring control levels are exceeded during asbestos removal works, it indicates that there is a need to review the control measures used during the removal of ACM. The control levels are occupational hygiene 'best practice' and are not health-based standards.

The control levels provided in **Table 4** should be used for the purposes of determining the effectiveness of control measures.

Table 4: Asbestos Fibre Air Monitoring Control Levels		
Action level (fibres/ml)	Control	Action
< 0.01	No new control measures are necessary	Continue with control measures
0.01 to ≤ 0.02	1 – Review	Review control measures
	2 – Investigate	Investigate the cause
	3 - Implement	Implement controls to eliminate or minimise exposure and prevent further release
> 0.02	1 - Stop removal work	Stop removal work
	2 - Notify regulator	Notify the regulator (WHSQ) 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
	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 ≤ 0.01 fibres/ml), wet wipe and vacuum the surrounding area, seal any identified leaks 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 ≤ 0.01 fibres/ml

Table 4. Asbestos Fibre Air Monitoring Control Levels

Refer to **Section 6.5 (Incident Reporting)** for information regarding an incident where the air monitoring samples return results above 0.02 fibres/ml.

6.4 Clearance Air Monitoring

The need for clearance air monitoring should be assessed by a Licensed Asbestos Assessor prior to the commencement of asbestos removal/remedial works. It is also a mandatory requirement that clearance air monitoring is undertaken for any friable asbestos remedial works and that this must be conducted by a licensed asbestos assessor (as per
QLD Work Health and Safety Regulation 2011

). However, it is at the discretion of the Licensed Asbestos Assessor whether clearance air monitoring is undertaken for any non-friable asbestos remedial works.

Clearance air monitoring should be undertaken by a Licensed Asbestos Assessor who is independent of the person responsible for the asbestos remedial works. It should be undertaken after the

removal/remedial works have been completed and the work area is dry i.e., representing a normal workplace.

The air monitoring equipment should be placed in the asbestos work area. For jobs involving a temporary enclosure, air monitoring equipment should be placed within the enclosure, following the completion of work, but prior to the enclosure being removed.

The removal/remedial works enclosure is only considered to be cleared and completed once an airborne fibre result of <0.01 fibres/mL is achieved. When airborne fibre results ≥ 0.01 fibres/mL are returned for a clearance monitoring shift, the work area is to be re-cleaned by the licensed asbestos contractor and another clearance monitoring shift shall be undertaken until an airborne fibre result of <0.01 fibres/mL is achieved.

6.5 Current Occupational Exposure Standard and Control Level

As asbestos poses a risk to health by inhalation when asbestos fibres are airborne, all exposure should be prevented. The current occupational exposure standard for all forms of asbestos fibres is 0.1 fibres/mL of air in a person's breathing zone and expressed as a time weighted average fibre concentration calculated over an eight-hour working day and measured over a minimum period of four hours in accordance with the membrane filter method.

This occupational exposure standard should **never** be exceeded outside an asbestos work area.

The membrane filter method is used throughout Australia for conducting airborne asbestos fibre monitoring. The detection limit for this method is 0.01 fibres/mL of air. This detection limit is also the primary control level in relation to asbestos removal and abatement works. Control measures should be reassessed whenever air monitoring indicates that control levels of 0.01 fibres/mL or above have been reached. Refer to **Section 7.3** for further information.

6.6 Clearance Certificates

Before an area can be re-occupied post asbestos removal, a clearance inspection must be performed. The clearance inspection must be undertaken by an independent licensed asbestos assessor and a clearance certificate must be obtained.

Annex C of the *QLD How to Safely Remove Asbestos Code of Practice 2011 provides an example of what a clearance certificate should contain:*

- The ACM have been removed to the appropriate legislative requirements.
- Most recent air monitoring results are below the detection limit (<0.01 f/ml).
- The name of the licensed asbestos contractor that removed the ACM.
- Any limitations to the visual inspection; and
- That the area is safe for re-occupation by unprotected personnel.
- Asbestos materials removed referenced to Building name and number and item number as reported in current asbestos register.
- The name of the Licensed Asbestos Assessor or licensed asbestos assessor conducting the clearance inspection.
- The licensed asbestos assessor's license number.
- Whether the asbestos was friable or non-friable.
- Photographs of the site set up/containment.
- Photographs of the areas post clearance; and

- Photographs of the areas upon removal of asbestos containment.

Consistent with Section 3.2 of the *QLD How to Manage and Control Asbestos in the Workplace Code of Practice 2011*, the asbestos register must be revised following the removal or remediation of ACM. All clearance documentation should be provided to the Asbestos Management Plan Controller as soon as it is received by the Principal Contractor/Site Project Manager.

The Licensed Asbestos Assessor must upload the clearance certificate to the UQ Asbestos Database and ensure any ACM items recorded in the database have been marked as removed.

6.7 Disposal of Asbestos

Waste containing asbestos must be stored and transported in a receptacle designed to prevent the release of its contents. This can include:

- unused heavy duty 200µm (minimum thickness) polyethylene bags (double bagged and labelled),
- unused heavy duty 200µm (minimum thickness) polyethylene sheeting (double wrapped and adhesive tape applied to the entire length of every overlap to secure the bundles and labelled); or
- suitably sealed and labelled drums (drums are to be lined with plastic (minimum 200 µm thickness)

All containers containing a hazardous chemical such as asbestos must conform to the labelling elements of the GHS. Labels should include a warning such as:

- asbestos waste bags should be labelled with appropriate signage stating that they contain asbestos, and that dust creation and inhalation should be avoided; and
- asbestos waste drum labels warning of the asbestos waste should be placed on the top and side of each drum or bin with the words, ‘Danger: Asbestos Do not break seal’ or a similar warning.

The transportation and disposal of asbestos waste is regulated and must be disposed of at an approved waste facility that is licensed to accept asbestos waste. Asbestos transporters and facilities receiving asbestos waste in QLD weighing more than 100 kilograms or consisting or more than 10 square metres of asbestos sheeting in one load must track and report this waste to the Queensland Department of Environment and Science.

Asbestos shall not be stored for extended periods or buried on university property.

To achieve “final completion” of an asbestos removal project, UQ require verification that the asbestos waste has been transported and disposed of. A copy of the Department of Environment and Science waste tracking documentation is the required documentation for disposal, and a copy of the necessary licences for carrying out this removal and disposal is the required documentation for transportation.

6.8 Record Keeping

UQ Property and Facilities Division shall maintain detailed records of all activities relation to asbestos works, which have been undertaken on UQ premises. The records kept should include:

- Copies of all asbestos survey/audit reports, including updates and amendments.
- Copies of asbestos removal work documentation including contract documentation, ARCPs permits and approvals.

- Details of asbestos that has been removed from site, including clearance certificates and waste certificates.
- Site induction records pertaining to the information of contractors about the presence of asbestos on site.
- Records pertaining to the informing of UQ employees about the presence of asbestos on site.
- Clearance certificates indicating areas are safe to reoccupy after asbestos abatement works.
- Airborne fibre monitoring results.
- Previous versions of the asbestos register.
- Health surveillance records for UQ staff required to work with asbestos items; and
- Asbestos incident records; and
- Training records for UQ staff required to work with asbestos items.

All asbestos related records and documents are to be retained for a period of 40 years following the last day of works regarding the project.

6.9 Labelling

As per the *QLD How to Manage and Control Asbestos in the Workplace Code of Practice 2011*, ACM that have been identified on the site are required to be labelled with an asbestos warning label to highlight the risk of inadvertently disturbing the material.

The warning signs and labels should comply with *AS 1319-1994 (R2018) Safety Signs for the Occupational Environment.* A Licensed Asbestos Assessor or hygienist/asbestos assessor should determine the number of labels to be used and where the labels should be affixed.

The warning labels and signs must be consistent with the locations of the ACM identified within the site asbestos register. If it is impractical to label any ACM, a prominent warning sign should be posted in the immediate vicinity, identifying the location of the ACM, or on the entrance to an area containing the ACM.

6.9.1 Guidance on Labelling ACM

The following information within **Table 5** has been developed by Prensa to assist the Management Plan Controller with the labelling of ACM within the site. **However, please note, this is to be used as a guide only and it is up to the discretion of the Licensed Asbestos Assessor and/or hygienist/asbestos assessor to label ACM accordingly.**

Table 5: Warning Labels Guidance Information

Type of Material	Location of Label	Consistency of the Label
Fibre Cement Sheeting	Upper or lower corner of the sheeting	1 label every 10 metres
Fire door core insulation	Internal spine of the door	1 label per door
Vinyl floor tiles (VFTs) or vinyl sheeting	Skirting boards adjacent to the VFTs	1 label per corner of room
Fibre cement pipe conduit	Centre of pipe conduit	1 label every 5 metres
Electrical backing boards	Corner of the EBB	1 label per EBB
Pipe lagging/Rope lagging	Centre of the pipe lagging on the calico wrapping	1 label every 3 metres

Table 5. Warning Labels Guidance Information

6.9.2 Warning Signs

All university buildings which are known or suspected to contain ACM's shall have a warning sign at every main entry into the building indicating that an asbestos register exists for the building and a point of contract must be contacted before undertaking any works which may impact on the building.

The warning sign must be clearly visible from all directions leading into the building and comply with *AS 1319-1994 (R2018) Safety Signs for the Occupational Environment*.

7. Safe Work Practices

Prior to commencing any works on UQ premises, such as demolition, refurbishment, maintenance or installation of new equipment, the asbestos register must be consulted to determine if any ACM are present which may be disturbed. This ACM must be removed before commencement of the work. In exceptional circumstances and if approved by the Director of HSW, the ACM may be encapsulated. If known materials, or undocumented materials suspected of containing asbestos are encountered during building works, stop works and follow the incident response procedures in ***Appendix C Accidental Disturbance of Asbestos Procedure.***

If a project is likely to impinge upon an ACM, the principal contractor must engage a licensed asbestos removalist to perform the asbestos removal work.

7.1 Maintenance Procedures

Maintenance tasks that may impact on ACM are to be performed under controlled conditions to prevent the distribution of airborne asbestos fibres. The *QLD How to Manage and Control Asbestos in the Workplace Code of Practice 2011* has safe work practices listed in Appendix F – Recommended safe working practices for certain maintenance tasks and these must be followed. These maintenance tasks include:

- Drilling of ACM.
- Sealing, painting, coating, and cleaning of asbestos-cement products.
- Cleaning leaf litter from gutters of asbestos cement roofs.
- Replace cabling in asbestos cement conduits or boxes.
- Working on electrical mounting boards (switch boards) containing asbestos; and
- Inspection of asbestos friction materials.

All contractors or staff who will directly work on non-friable ACM i.e., drilling or removing less than 10m^2 non-friable ACM will be required to hold a minimum B class asbestos licence, have a face fit test, and undertake medical surveillance.

7.2 Tools and Equipment

Tools and equipment to be used for asbestos removal are to minimise the generation of airborne asbestos fibres. High-pressure water spray and compressed air must not be used on asbestos on ACM. Power tools, brooms or any other tools or equipment that cause the release of airborne asbestos into the atmosphere must not be used. Manually operated (non-powered) hand tools should be used.

At the end of removal work, all tools should be:

- decontaminated (i.e., fully dismantled and cleaned under controlled conditions as described in *QLD How to Manage and Control Asbestos in the Workplace Code of Practice 2011*); or
- placed in sealed clearly labelled containers (and used only for asbestos removal work); or
- disposed of as asbestos waste.

7.2.1 Asbestos Vacuum Cleaners

For any asbestos abatement works, a specialised industrial vacuum cleaner (HEPA filtered H-Class) is required to be used. The HEPA filtered H-Class industrial vacuum cleaner should comply with the requirements in *AS/NZS 60335.2.69 Household and similar electrical appliances – Safety particular requirements for wet and dry vacuum cleaners, including power brush, for industrial and commercial use (IEC 60335-2-69 Ed 5 MOD)*. The filters for these vacuum cleaners should conform to the

requirements of *AS 4260-1997 (R2018) High efficiency particulate air (HEPA) filters – Classification, construction, and performance* or its equivalent. An asbestos HEPA filtered vacuum cleaner with a current Dispersed Oil Particulate (DOP) certificate should be used on all asbestos removal jobs and it is imperative for the Management Plan Controller ensure that this particular type of vacuum cleaner is used for each asbestos removal project.

7.3 Asbestos Personal Protective Equipment (PPE)

During ACM abatement works, PPE must be worn by the licensed contractor, the hygienist/asbestos assessor and other personnel who are required to enter the asbestos material removal area.

Table 6: Types of Asbestos Materials PPE

PPE	Picture
Half faced respirator with a P2 particulate filter cartridge to be used for non-friable asbestos removal works. Respirators must comply with AS/NZS 1715 – 2009 *Selection, use and maintenance of respiratory equipment*.	
Full faced, powered air purifying respirator with a P3 particulate filter cartridge should be used for friable asbestos removal works. Respirators must comply with AS/NZS 1715 – 2009 *Selection, use and maintenance of respiratory equipment*.	
Disposable coveralls rated Type 5/6 or equivalent e.g., Tyvek	
Disposable booties	

Table 6: Types of Asbestos Materials PPE

It is important to note that the disposable coveralls, booties, and gloves are one use only and **must** be disposed of as asbestos waste after each use. Respirators need to be decontaminated. Cartridges must be inspected and replaced as required, dependent upon type and duration of usage.

Further information on selecting the correct Respiratory Protective Equipment (RPE) for the task is located at Appendix B in the
QLD How to Safely Remove Asbestos Code of Practice 2011

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7.4 Personal Decontamination

Personal decontamination involves the removal of all visible asbestos dust/residue from PPE and RPE. Personal decontamination must be undertaken each time a worker leaves the asbestos removal area and at the completion of asbestos maintenance or service work.

Never leave the asbestos removal work area until decontamination is complete

In order to comply with WHS requirements any waste generated during works must be stored and disposed of appropriately. Asbestos waste is to be contained and labelled in accordance with the Globally Harmonised System of Classification (GHS), this will require the use of asbestos waste bags for any disposable PPE and wipes used. Refer to Section 5.7 for further information on asbestos waste disposal.

Table 7: Personal Decontamination Equipment	
Equipment	**Picture**
Asbestos waste bags New, heavy-duty, 200 µm (minimum thickness) polythene bags that are no more than 1200 mm long and 900mm wide to prevent manual task injuries. The bags should be labelled with appropriate signage stating that they contain asbestos and that dust creation and inhalation should be avoided.	
Wet Wipes	
Cloth tape	

Table 7. Personal Decontamination Equipment

7.4.1 Personal Decontamination Process

- Remove any visible asbestos dust/residue from protective clothing, non-disposable RPE and exposed areas of face using disposable wet wipes.
- Place wet wipes into asbestos waste bags.
- Carefully remove disposable protective clothing and place into asbestos waste bag (RPE must still be worn).
- Take disposable coveralls off and place into asbestos waste bag (RPE must still be worn).
- Use disposable wet wipes to wipe down footwear and place clothes in disposal bag.
- Remove and dispose of pre-filter from RPE and place into asbestos waste bag.
- Seal asbestos waste bag with duct tape and place each into a second asbestos waste bag (swan or goose neck to seal).

- Seal this second asbestos waste bag (swan or goose neck to seal) and label/mark as ‘Asbestos Waste.’
- Remove non-disposable RPE and place in provided container for storage; and
- Asbestos waste bags to be stored in suitable secure storage facility on site for collection by licensed asbestos waste transfer licence to appropriate waste facility.

7.5 Incident response

In the event that a building material suspected or confirmed to contain asbestos is damaged persons in the vicinity the flowchart in ***Appendix C: Accidental Disturbance of Asbestos Procedure*** has been developed to ensure the most efficient response for these types of incidents.

It may be noted that work health and safety Queensland do not recommend health monitoring for incidental exposure to asbestos dust.

The incident should be recorded by UQ on the incident database UQ Safe (https://staff.uq.edu.au/information-and-services/health-safety-wellbeing/health-safety-workplace).

Affected staff and students are also able to register their suspected exposure to asbestos through the National Asbestos Exposure Register.

8. Electronic Asbestos Management System

An electronic database has been developed to record the condition of all ACM within university buildings. In addition to ACM items, a record has been kept of all items tested to be asbestos free. The database is able to store information for a period of 40 years starting from 2008. It is able to scroll to any year within that period to show the status of the ACM item at that time. The database has sufficient information to show the life of an ACM item from the date it was identified through to the date a disposal certificate is issued.

The database has reporting functions that are able to produce the information required in the Key Performance Indicators section of this plan. Additional reporting functions are also available as required for the maintenance of the database and for managing asbestos at UQ.

8.1 Asbestos Register

UQ is responsible for developing and maintaining an asbestos register and a database for managing ACM in its properties, assess and equipment. The ACM register forms part of a report generated from the asbestos database. This report will be similar to the survey reports generated by asbestos surveying consultants and will include the following:

- Register of ACM items.
- Register of items that were sampled but found to contain no asbestos.
- Certificates of analysis.
- Clearance certificates.
- Photographs.
- Floor plans with asbestos containing items marked up.
- Name of the building.
- Building number.
- Building level number.

- Building room number.
- Building location.
- Friability of the ACM
- Condition of the ACM
- Potential for disturbance of the ACM
- Hazard Rating
- Surveyors name; and
- Surveyor's company name.

The Asbestos register will also include a qualitative risk assessment and rating.

The complete Asbestos Register is to be reviewed by a Licenced Asbestos Assessor at least every 5 years (all low risk) or where necessary in accordance with Regulation 426 of the *QLD Work Health and Safety Regulation 2011*

. High risk reviewed every six months, medium risk every 3 years.

The Asbestos Register is to be made readily accessible to:

- a worker who has carried out, carries out or intends to carry out work at the workplace
- health and safety representatives who represent workers that carry out or intend to carry out work at the workplace
- a person conducting a business or undertaking who has carried out, carries out or intends to carry out work at the workplace
- a person conducting a business or undertaking who has required, requires or intends to require work to be carried out at the workplace

The Asbestos Register is maintained and readily accessible via the electronic asbestos management system. These reports are generated by building and are available online for select users. Printed copies of the reports are available from PF Assist upon request.

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9. Training

9.1 Asbestos awareness training (UQ Project Managers and Client Facilities Managers)

Asbestos awareness training provides participants with a general overview of asbestos including history and background; asbestos types and properties; common asbestos situations; health effects; risk in perspective and management of asbestos. This is to be made available to P&F project Managers who may manage or procure contractors for asbestos remediation or survey work.

The course is typically 4 hours in duration.

NOA awareness training (UQ Workers)

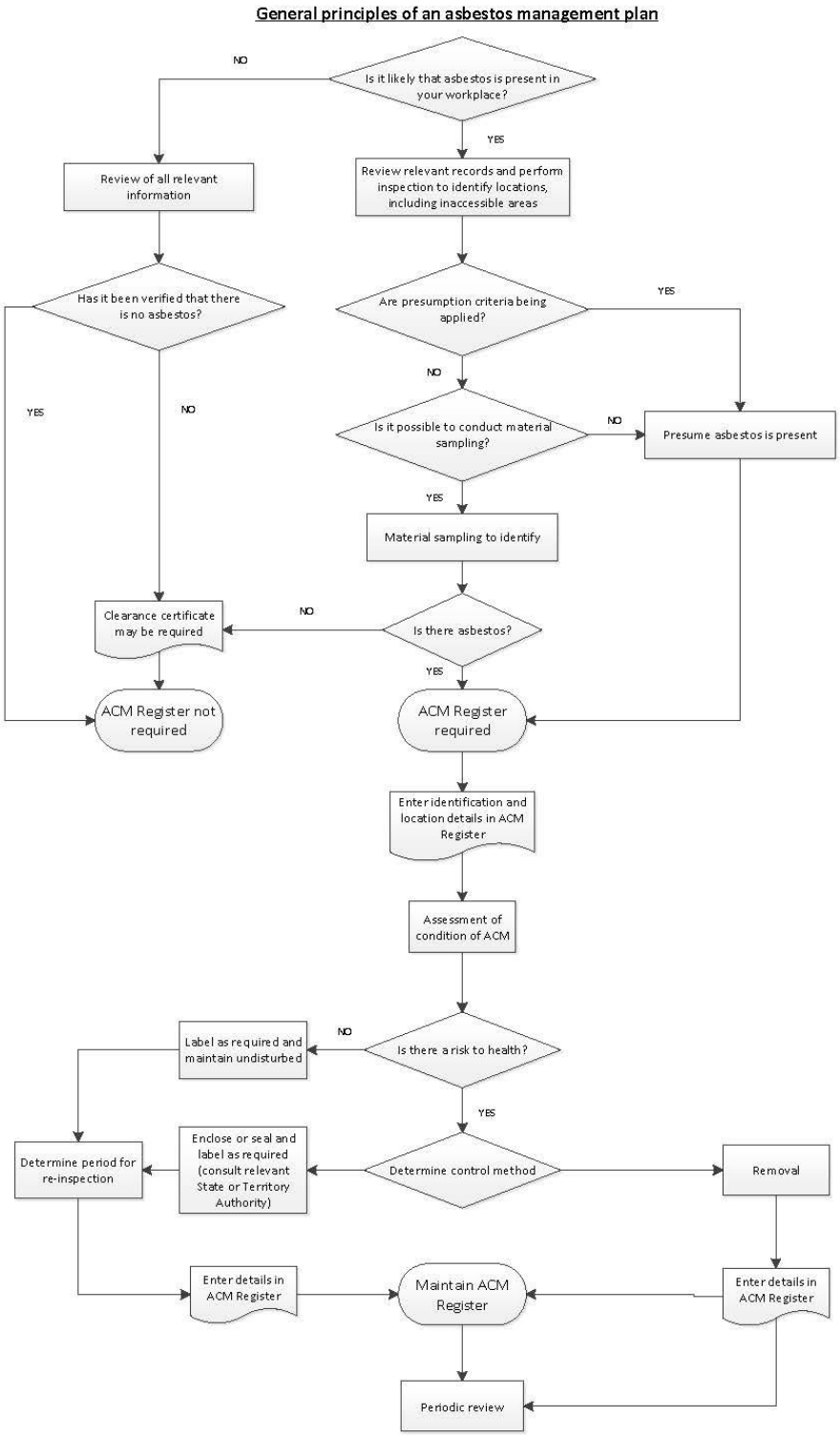
Training on the hazards and risks associated with NOA must be provided to workers who carry out work where NOA is located or are likely to handle and/or process mineral samples containing NOA. The training must be commensurate with the nature of the work, the risk associated with the work and the control measures implemented.

9.2 Health Monitoring

Health monitoring is required for all workers carrying out licensed asbestos removal work, other ongoing asbestos removal work or asbestos related work where there is a risk of exposure to asbestos. UQ staff and students do not engage in any asbestos removal work, however, they may engage in asbestos related work, including work with NOA.

The maintenance work described in **Section 7.6.1** of this document requires a risk assessment to be completed prior to starting work to determine if there is a risk of exposure to respirable asbestos fibres. If the risk exists during this or any other asbestos related work health monitoring will be provided by UQ. The health monitoring must be initiated before the commencement of the work

Appendix A General principles of an AMP



Appendix B Permit to Access Restricted Asbestos Space form

THE UNIVERSITY OF QUEENSLAND
AUSTRALIA

Property and Facilities Division

Form
07/16

PERMIT TO ACCESS RESTRICTED ASBESTOS SPACE PF430

This permit is required in an area or location that has been contaminated with asbestos. This permit **MUST** be available at the site while work is in progress and returned to the Property and Facilities Division Health and Safety Coordinator (HSC) once complete.

1. Start date and time and planned completion date and time.	
2. Name of the person that the permit is issued to:	
3. Department / Organisation:	
4. Contact Telephone Number:	
5. Location of restricted space *(Bldg Name, Bldg No.)*:	
6. Provide details of the asbestos hazard in the space to be accessed.	
7. Provide details of the work to be performed in the restricted space.	
8. Provide details of notification to the occupants of the building or location of the restricted area.	

Page 1 of 2

9. Provide details of PPE and RPE to be used in the restricted space. Include details of personal decontamination and disposal of equipment.
10. Provide details of air monitoring provided during access to the area. If no air monitoring is to be provided please detail the justification.
11. Provide emergency procedures. How will operator be rescued in a medical emergency?

☐ Permission granted to enter restricted space by HSW Director or P&F Health & Safety Coordinator

Name: _____

Signature: _____ Date: _____

Appendix C Accidental Disturbance of Asbestos Procedure

Appendix D Asbestos Labelling Procedures (Example)

The University Of Queensland	Reference Number:	Page 1 of 2
Work Instruction	Date:	October 2020
Asbestos Management - Labelling of Asbestos Materials	Prepared By:	Prensa Pty Ltd
	Version:	1.0

Labelling of Asbestos Materials

Labelling of materials, which are known, or assumed to contain asbestos is an integral part of the asbestos management program. Labelling of materials, together with the issuing of the Asbestos Register and Management Plan and use of permit to work systems forms the basis of ensuring staff and contractors are aware of the presence of asbestos-containing materials (ACM) at the site.

Types of Labels

Due to the varying type and nature of materials that contain asbestos and the requirement for labelling and desire to avoid unnecessarily alarming staff or visitors to the site, the following types of labels shall be used. These labels shall advise that the contractor must contact the Building Manager prior to working on a particular item. The labels in Attachment A shall comply with Australian Standard (AS) 1319 *Safety Signs for the Occupational Environment.*

Construction Areas

In construction areas due to the rapidly changing environment, it is recommended that a large bespoke signage at the contractor sign in point is used to ensure all subcontractors and visitors entering the area are made aware that asbestos has been identified in the area.

Service Areas

In areas not accessible to the public or general staff, such as plant rooms, switch rooms, roof-mounted plants etc. labels designed to be understood by trade personnel, must be used. These labels contain the word 'Asbestos' and conform to the QLD *How to Manage and Control Asbestos in the Workplace* Code of Practice 2011. An example of this type of label is provided in Attachment A, Label 1.

Public Areas

As the placement of warning labels could be unnecessarily alarming to staff and the public, labels warning of a hazard but omitting the word 'asbestos' can be used in public areas such as toilets, lobbies, offices, and common areas. An example of this type of label is provided in Attachment A, Label 2.

Labelling Protocol

The following labelling protocol is provided as a guide:

ITEM	LABEL TYPE	FREQUENCY
Fire doors	Non-public areas, Label 1; Public areas, Label 2	One on each item
Ceiling spaces	Non-public areas, Label 1; Public areas, Label 2	One at reception sign in/induction point or ceiling void access points
Switchboards & panels	Label 1	One per panel, one per Switchboard containing arc shields and wires.
Fibre cement ceilings	Non-public areas, Label 1; Public areas, Label 2	One per room - On ceiling panel
Textured Coating material	Non-public areas, Label 1; Public areas, Label 2	One per room -
Asbestos containing flooring	Non-public areas, Label 1; Public areas, Label 2	On skirting boards with each room
Asbestos penetrations	Non-public areas, Label 1; Public areas, Label 2	One per penetration

The University Of Queensland	Reference Number:	Page 2 of 2
Work Instruction	Date:	October 2020
Asbestos Management - Labelling of Asbestos Materials	Prepared By:	Prensa Pty Ltd
	Version:	1.0

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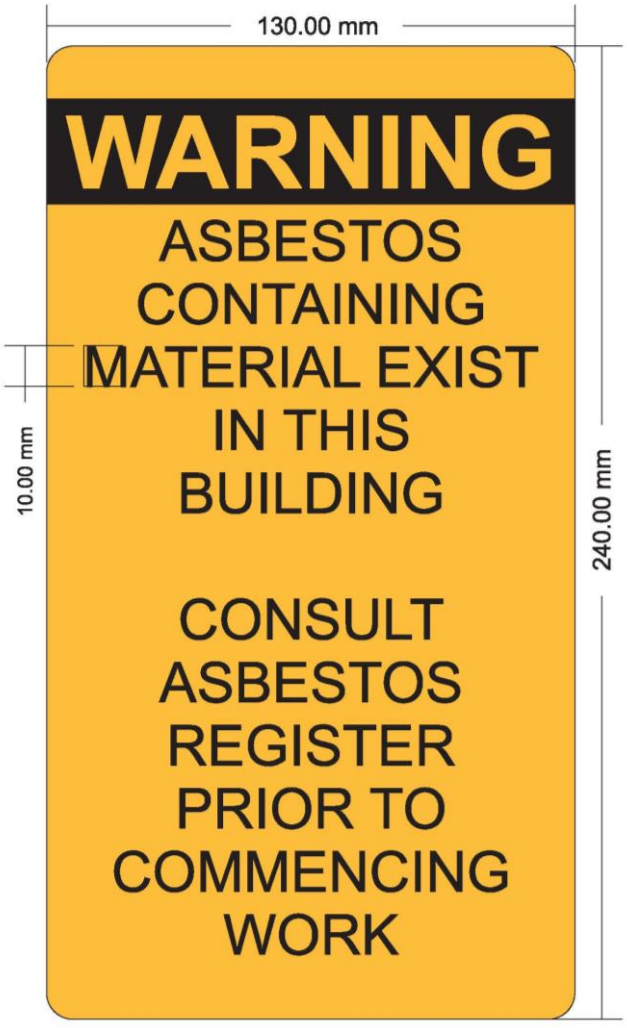

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