University of Queensland Asbestos Management Plan

PROPERTY AND FACILITIES DIVISION, THE UNIVERSITY OF QUEENSLAND
# The University of Queensland
## Asbestos Management Plan

This document replaces the Asbestos Management Plan of March 2006 and supersedes all previously issued asbestos management plans

<table>
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<th>UQ - OHS Unit</th>
<th>February 2007</th>
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1.0 INTRODUCTION

The University of Queensland (UQ) has a legal obligation under the Queensland Work Health and Safety Act 2011, to ensure the health and safety of each of its staff, students, contractors and visitors at University of Queensland (UQ) campuses. UQ also has an obligation to ensure the health and safety of others is not affected by the way they conduct their business. As part of this obligation, UQ will ensure that asbestos-containing materials that have been used in the construction of UQ buildings will be properly managed to ensure the risk posed by the asbestos hazard is minimised.

1.1 Background

Asbestos containing materials (ACM) have been used in the construction of numerous UQ buildings over many years. The manufacture of asbestos cement products (a large portion of the asbestos building materials) was effectively banned in the mid-1980s and the sale of stockpiled asbestos cement products gradually subsided during the late 1980s. Buildings constructed after 1990 are generally regarded as being asbestos free.

Considering the age of the University campuses, it is not surprising that many of the buildings contain ACM. Surveys have identified the presence of ACM in numerous UQ facilities and this asbestos management plan will enable UQ to control these in-situ ACM in a consistent and effective manner.

1.2 Scope and Limitations

The University of Queensland asbestos management plan (UQAMP) applies to all UQ owned facilities and sites

The UQAMP 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 Stations, etc.).

1.3 Purpose of the AMP

The management of asbestos containing materials is important to ensure that they are not damaged or deteriorate to such an extent that University staff, students, external contractors or visitors are unnecessarily exposed to airborne asbestos fibres.

The following three steps are prescribed by the Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC: 2018 (2005)] (page 2) in order to manage the health risk from situ ACM.

- Identify all ACM in the workplace, as far as practicable;
- Assess the risks associated with all ACM; and
- Introduce control measures to prevent, as far as practicable, the generation of airborne asbestos fibres and any exposure to airborne asbestos fibres.
1.4 General Principles when Developing an AMP

The University of Queensland’s principles of asbestos management have been adapted from general principles published on page 19 of the Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC:2018(2005)].

Reasonable steps must be taken to identify all possible locations of ACM within the University of Queensland. The process is illustrated in figure 1. Notwithstanding figure 1 all buildings constructed before 31 December 1989, require an asbestos survey.

The ultimate goal is for the University of Queensland to be free of asbestos containing materials. **UQ policy is the removal of ACM during any 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 of risk assessments conducted for the identified or presumed ACM.

Only competent persons should undertake the identification and risk assessment of ACM.

All UQ workers and contractors and all other persons who may be exposed to ACM, must be provided with information, training and instruction on the occupational health and safety consequences of exposure to asbestos and 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.
Figure 1. General principles of an asbestos management plan

Figure 1 (National Occupational Health and Safety Commission, 2005)
2.0 OBJECTIVES OF THE AMP

- Reduce the number of asbestos items to zero or as close to zero as possible.
- Remove all high-risk asbestos items where possible.
- Deliver effective asbestos management work programs.
- Ensure that no one from the University Community is exposed to hazardous asbestos fibres.
- Ensure compliance with this Asbestos Management Plan.
- Ensure the asbestos database and register is 100% accurate.

3.0 KEY PERFORMANCE INDICATORS

3.1 Key Performance Indicators (KPI) Table

<table>
<thead>
<tr>
<th>OBJECTIVE</th>
<th>KPI</th>
<th>TARGET</th>
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<tbody>
<tr>
<td>To reduce the number of high and medium risk items</td>
<td>Number of very high risk in-situ ACM items.*</td>
<td>0 by the end of 2016</td>
</tr>
<tr>
<td></td>
<td>Number of high risk in-situ ACM items</td>
<td>0 by the end of 2017</td>
</tr>
<tr>
<td></td>
<td>Number of medium risk in-situ asbestos items</td>
<td>0 by the end of 2020</td>
</tr>
<tr>
<td>To continually reduce the number of building that have identified asbestos items so that the University is relatively asbestos free by the year 2040</td>
<td>% pre 1990 building with no identified asbestos</td>
<td>At least 1 building per annum</td>
</tr>
<tr>
<td>Ensure that no one from the University Community is exposed to asbestos hazards.</td>
<td>Number incidents</td>
<td>0</td>
</tr>
<tr>
<td>Ensure compliance with this AMP, UQ and P&amp;F’s statutory obligations.</td>
<td>Statutory Authority contraventions</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Non-compliance with OHS Policy and AMP. Number of events.</td>
<td>0</td>
</tr>
<tr>
<td>Ensure the asbestos database and register is accurate.</td>
<td>Errors reported</td>
<td>Less than 5 errors per annum</td>
</tr>
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Table 1 * See 6.4 for details of risk determination

3.2 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.

4.0 REGULATORY REQUIREMENTS

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

4.1 State Legislative Requirements - Queensland

Relevant State legislation includes:
• Work Health and Safety Regulations 2011.
• Environmental Protection Act 1994.
• Environmental Protection Regulation 2008.

4.2 Codes of Practice

Key Codes of Practice include:
• Code of Practice 2011 - PN11163 “How to manage and control asbestos in the workplace”
• Code of Practice 2011 - PN11164 “How to safely remove asbestos”

4.3 UQ Requirements

All asbestos identified within the scope of any refurbishment or repair work should, wherever practicable, be removed.

All Staff, Students and Contractors must comply with this Plan.

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.

5.0 ORGANISATIONAL RESPONSIBILITIES

Table 2 has been developed to indicate the duties of key positions within UQ for the safe management of in situ asbestos.
<table>
<thead>
<tr>
<th>PERSON / PARTY</th>
<th>RESPONSIBILITY</th>
</tr>
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<tbody>
<tr>
<td>Vice Chancellor</td>
<td>• Approve Asbestos policy</td>
</tr>
</tbody>
</table>
| Vice Chancellor’s Risk and Compliance Committee | • Approve Asbestos Management Plan.  
• Seek assurance that there is compliance with the UQAMP by receiving and commenting on the annual asbestos management report.                                                                                                                                                                                                                     |
| Director OHS                           | • Training and awareness where necessary.  
• Issue Asbestos Permit to work.  
• Respond to incidents.                                                                                                                                                                                                                                                                                                                        |
| Director Property & Facilities         | • Ensure P&F staff and contractors comply with the provisions of the UQAMP.  
• Allocate funding for the implementation of the UQAMP.                                                                                                                                                                                                                                                                                        |
| P&F Associate Directors                | • Ensure all staff and contractors working for them and their sections are aware of and comply with the UQAMP  
• Project management  
• Approve the annual asbestos management report and submit to VCRCC (through Director, OHS)                                                                                                                                                                                                                                           |
| P&F Project Managers and Project Officers | • Project management.  
• Identification and bringing to the attention of appropriate staff any suspect material – notification to HSC, security and cleaning managers of asbestos removal jobs.  
• Ensure all contractors working on asbestos are aware of and meet the requirements of the UQAMP.  
• Ensure project personnel (including contractors) are inducted.  
• Ensure licensed asbestos removalist are able to produce required documentation prior to appointment.  
• Ensure that the licensed asbestos assessor or competent person performing the clearance inspection is independent of the person removing the asbestos.                                                                                                                                                                 |
| P&F Health and Safety Coordinator      | • Maintain electronic asbestos management system.  
• Surveying, identification and sampling of suspected asbestos containing materials.  
• Training and awareness.  
• Manage the asbestos works program and removal program.  
• Issue Asbestos Permit to work.  
• Respond to incidents.  
• Produce annual report.  
• Review contractor Asbestos Removal Control Plans and Safe Work method Statement prior to asbestos removal works.                                                                                                                                                                                                                          |
| Heads of School                        | • Ensure compliance, of their section, with the UQ Asbestos Management Plan.                                                                                                                                                                                                                                                                 |
| P&F Associate Director Asset Services  | • Budget for asbestos management                                                                                                                                                                                                                                                                                                              |
| Contractors and Trades Staff           | • Not to impact on an asbestos containing material without complying with the UQ AMP  
• To bring to the attention of the PM/PO any suspect material  
• Refer to the UQAMP for guidance to identify, manage, and remove asbestos  
• Submit Asbestos Permit to Work when performing asbestos removal work.  
• Undergo P&F Contractor Induction  
• Develop a site specific asbestos removal control plan prior to performing the asbestos removal work.                                                                                                                                                                                                                                 |
6.0 IDENTIFICATION OF ACM AND EVALUATION OF RISK

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

6.1 Non-destructive Asbestos Surveys

Asbestos surveys are typically non-destructive in nature and involve inspecting 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 competent person who is responsible for:
- identifying and sampling the suspect materials.
- accurately recording the precise location of each individual asbestos situation.
- assessing the physical condition of the ACM.
- assessing the risk to health posed by the ACM.
- preparing a detailed asbestos register.

A complete record of the asbestos survey shall be maintained using the electronic asbestos management system.

6.2 Destructive Asbestos Surveys

Destructive asbestos surveys are similar to non-destructive asbestos surveys except the Competent Person 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.

If the ACM identified during the survey is to be removed as part of the refurbishment/demolition works, it may not be necessary for the Competent Person to assess the condition and risk posed by the ACM as this is largely irrelevant if the ACM is to be removed.
6.3 Asbestos Re-surveys/ Re-inspections

The current WHS legislation requires the building owner to conduct asbestos re-surveys/re-inspections every 5 years or sooner if the asbestos situation requires more frequent attention.

Re-inspections or re-surveys are to be conducted by a Competent Person 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 Competent Person will be required to update and re-issue the asbestos register at the completion of the resurvey.

6.4 Evaluation of Health Risk from In Situ ACM

The risk rating of each ACM item is determined by the competent person and is assigned a value of low, medium, high, very high or unknown. Details on this determination is listed in appendix 1.

7.0 CONTROL OF ASBESTOS HAZARDS

As part of the asbestos survey or subsequent resurvey, the Competent Person is required to assess the risk posed by the ACM and determine what, if any, control measures may be required. Generally, there are four control options available to select:

- Leave in-situ and manage.
- Seal / encapsulate.
- Enclose / isolate.
- Remove.

The controls are to be appropriate to the risk of the ACM in question. The following information should be used as a guideline when determining the correct control measure for management the ACM risks.

If the ACM are friable and not in a stable condition, and there is a risk to health from exposure, they should be removed.

If the ACM are friable and are in a stable condition but are accessible and may be disturbed, serious consideration should be given to their removal. If removal is not immediately practicable, short-term control measures, such as encapsulation or isolation, may be implemented until removal is possible.

If the ACM are non-friable and in a stable condition, encapsulation may be appropriate if the ACM are unsealed. Encapsulation is not necessarily required if the ACM are unsealed but it does provide another “barrier” to the potential release of asbestos fibre as well as prolonging the lifespan of the material by providing protection against UV radiation, etc.
ACM that are non-friable, stable and sealed, which are unlikely to be disturbed during normal activities, should be left in-situ and managed. ACM must be removed prior to the commencement of demolition, partial demolition, renovation or refurbishment if they are likely to be disturbed by those works, in accordance with the Code of Practice 2011 - PN11164 “How to safely remove asbestos”

7.1 Enclose or Isolate ACM

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 restricted to prevent the accidental disturbance of the material. Barricades, signs and a work permit are used to control these areas.

7.1.1 ASBESTOS PERMIT TO WORK

The University of Queensland Asbestos Permit to Work form (PF430) must be obtained for any work occurring in a location where high risk ACM remains in situ. Before being issued with an Asbestos Permit to Work, individuals will be required to peruse the UQAMP and the Asbestos Register.

The Asbestos Permit to Work 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 Asbestos Permit to Work 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 an Asbestos Permit to Work form (PF430). He/she will be responsible to ensure that his/her workers are aware of their responsibilities.

When work is completed, the permit shall be signed and returned to University of Queensland Property and Facilities Division’s Health and Safety Coordinator who will cancel it after inspecting the site.

The format of the Asbestos Permit to Work form (PF430) is illustrated in Appendix 2.

7.2 Removal of ACM

7.2.1 LICENSED CONTRACTORS

ACM falls into two broad categories (non-friable and friable) and the category the ACM falls under will determine how the ACM is removed. If the ACM is classified as friable (e.g. sprayed limpet, pipe lagging, millboard insulation, vinyl sheet floor coverings with asbestos backing material, etc.) it is necessary to engage a contractor who possesses an A class licence for friable asbestos removal. Figure 2 illustrates the high risk removals. Asbestos cement and below are bonded ACM.
Before a licensed asbestos removalist is employed at UQ the following documentation must be provided to show continued compliance to Queensland Code of Practice 2011 - PN11164 “How to safely remove asbestos.

- Servicing records for ALL equipment, including current DOP certificates for H Type Vacuums cleaners.
- Quantitative face fit records for ALL RPE to be used, including full face for any friable works.
- Training records.
- Confirmation of Health surveillance.

If the ACM is classified as non-friable ACM (e.g. asbestos cement wall linings, Super Six roof sheeting, vinyl floor tiles, Zelemite electrical boards, etc.) the ACM may be removed by a contractor who possesses a B class licence for non-friable asbestos removal.

Workplace Health and Safety Queensland must be notified via Form 65 of any asbestos removal work at least 5 days before work starts. Proof of reporting must be produced when requested.

### 7.2.2 AIRBORNE FIBRE MONITORING

Airborne fibre monitoring must be conducted during and after the removal of friable and in some cases non–friable ACM by an independent competent person. 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 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.

7.2.3 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.

Clearance air monitoring is a mandatory requirement for all friable asbestos removal works and is recommended for non-friable ACM removal works particularly when the non-friable ACM is located internally or near sensitive receptors.

The complete removal of all ACM must be verified with a written clearance certificate, which must include details of a satisfactory clearance inspection conducted by the independent licensed asbestos assessor. If clearance air monitoring has been conducted, the results of the clearance monitoring must be included as part of the clearance certificate. At UQ we also request that photographs of the cleared area form part of the clearance certificate.

7.2.4 WASTE
All asbestos waste shall be disposed of at an approved landfill disposal site by licensed contractors, and in accordance with, the requirements of Queensland legislation. Transport and disposal of asbestos waste shall be carried out only in manner that will prevent the liberation of asbestos fibres into the atmosphere. Asbestos shall not be stored for extended periods or buried on University property.

To achieve "final completion" of an asbestos removal project, The University of Queensland require verification that the asbestos waste has been transported and disposed of in accordance with State/Territory legislative requirements. A copy of the EHP Waste Tracking document is the required documentation for disposal, and a copy of the necessary License for carrying out this removal and disposal is the required documentation for transportation.

7.3 Record Keeping
University of Queensland Property and Facilities Division shall maintain detailed records of all activities relating to asbestos works, which have been undertaken on University of Queensland premises. The records kept should include:

- Copies of all asbestos survey/audit reports, including updates and amendments.
- Details of asbestos that has been removed from site, including clearance certificates and waste certificates.
- Site induction records pertaining to the informing of contractors about the presence of asbestos on site.
- Records pertaining to the informing of University of Queensland employees about the presence of asbestos on site.
- Clearance certificates indicating areas are safe to reoccupy after asbestos abatement works.
- Airborne fibre monitoring results.
7.4 Labelling

Current State and Territory legislation specify the requirements for some form of labelling in buildings. The Queensland code of practice, 2011 “How to manage and control asbestos in the workplace” states all in situ ACM’s must be identified by labelled where practicable. Where a label is not practicable, a local sign close to the ACM must be installed.

7.5 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 contact 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.

7.6 Safe Work Practices

Prior to commencing any works on University of Queensland 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 OHS, the ACM may be encapsulated. If unknown materials, or undocumented materials suspected of containing asbestos are encountered during building works, stop work and follow the Incident response procedures in figure 2 below.

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.

7.6.1 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 Queensland code of practice 2011 “How to manage and control asbestos in the workplace” has safe work practices listed in an appendix 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 containing asbestos.
- Inspection of asbestos friction materials.

7.6.2 TOOLS AND EQUIPMENT

Tools and equipment to be used for asbestos removal jobs are to minimise the generation of airborne asbestos fibres. High-speed abrasive power or pneumatic tools
such as angle grinders, sanders, saws and high speed drills must never be used. Hand tools are preferred over power tools.

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

- Decontaminated (i.e. fully dismantled and cleaned under controlled conditions as described in the Code, or
- Placed in sealed clearly labelled containers (and used only for asbestos removal work); or
- Disposed of as asbestos waste.

Vacuum cleaners used for asbestos cleaning must comply with:

- Class H requirements in Australian Standard AS/NZS 60335.2.69 Industrial vacuum cleaners and
- AS 4260-1997 High Efficiency Particulate Air Filters (HEPA) – Classification, Construction andPerformance.

7.6.3 NATURALLY OCCURRING ASBESTOS

Naturally occurring asbestos (NOA) is unlikely to be encountered at the majority of the University of Queensland’s workplaces. However, NOA may occur during field work that takes place on construction sites, mine sites, excavation sites etc.

Where UQ staff are visiting such 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 in the hazards associated with NOA may be required prior to site access being granted.

UQ staff conducting field work at other locations where there is a risk of encountering NOA need to consider this during the risk assessment phase prior to arriving on site. An appropriate action plan needs to be established and implemented in the event NOA is discovered and may include isolating the work place or part thereof, dust suppression and the use of PPE.

8.0 INCIDENT RESPONSE

In the event that a building material is damaged or in the event that material or dust is discovered and persons in the vicinity are concern that they may have been exposed to asbestos the flow chart in figure 2 should be followed. Figure 2 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 the University of Queensland on their incident database.

Affected staff and students are also able to register their suspected exposure to asbestos through the National Asbestos Exposure Register.
A material is discovered which is suspected of containing asbestos

Has dust been released or will dust be released if the current activity continues?

NO

YES

Stop work immediately and isolate the area

P&E - HSC and/or OHS division perform an inspection of the site and establish if disturbed material contains asbestos

NO

Asbestos present

YES

Area is cordoned off and warning signs are put in place. Any persons who may have been exposed to respirable airborne fibres are to be advised to report exposure on the OHS website

Area is cleaned, asbestos is removed or made safe by appropriately qualified persons

Clearance certificate is obtained from a qualified occupational hygienist

Back to work

Figure 3
9.0 ELECTRONIC ASBESTOS MANAGEMENT SYSTEM

9.1 Asbestos Database
An electronic database has been developed to record the condition of all asbestos containing materials (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 the University of Queensland.

9.2 ACM Register
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.
- Surveyors name.
- Surveyor’s company name.

These reports are generated by building and are available on line for select users. Printed copies of the reports are available from PF Assist upon request.

10.0 TRAINING

10.1 Asbestos Awareness Training
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 available to any member of staff or student who may be affected by asbestos remediation work.

The course is typically 1 – 2 hours in duration.
10.2 Working safely with asbestos

This course is designed for staff who are likely to interact directly with in-situ asbestos containing materials during the course of their work (e.g. IT staff who may need to drill holes through asbestos cement walls to run cables, etc.). This course is a combination of basic theory principles and practical demonstrations showing participants exactly how to work with the asbestos material safely. Participants are also encouraged to experiment themselves under the guidance of the instructor. Required for trades persons who may interact with asbestos while performing their normal job.

The course is typically run over a 2-3 hour period

11.0 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 risk of exposure to asbestos. UQ staff and students do not engage in any asbestos removal work.

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.
GLOSSARY

Air Monitoring – airborne asbestos sampling to assist in assessing exposure and the effectiveness of control measures. This includes exposure monitoring, clearance monitoring and control monitoring.

Asbestos – fibrous form of the mineral silicates belonging to the serpentine and amphibole groups of rock-forming minerals and includes:

a) actinolite, amosite (brown asbestos), anthophylite, crocidolite (blue asbestos), chrysotile (white asbestos), tremolite, and;

b) any mixture containing one or more of the above mentioned minerals.

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

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

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 Removal Control Plan – A site specific document to be prepared by the removal contractor based on the information in the Code of Practice 2011 - PN11164 “How to safety remove asbestos”.

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

Asbestos Removal Work – work to remove:

  c) friable asbestos containing material
  d) 10m² or more of non-friable asbestos containing material

Non-friable asbestos – asbestos containing material containing a bonding compound reinforced with asbestos.

Clearance Inspection – an inspection carried out by a licensed asbestos assessor, to verify that an asbestos work area is safe to be returned to normal use after work involving the disturbance of ACM has taken place. A clearance inspection must include a visual inspection, and may include clearance air monitoring. Photographs of the cleared site must be provided.

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

Competent Person – a person possessing adequate qualifications, such as suitable training and sufficient knowledge, experience and skill to perform the specified work. In order to perform non-friable clearance specific training requirements are listed in the Code of Practice 2011 How to safely remove asbestos, page 7.

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


Exposure Monitoring - air monitoring to determine a person’s likely exposure to a hazardous substance. Results from exposure monitoring may be compared to the national exposure standard (NES)

Friable Asbestos – (un-bonded) asbestos containing material that, when dry, is or may become crumbled, pulverised or reduced to powder by hand pressure.
**Hazard** – any matter, thing, process, or practice that may cause death, injury, illness or disease.

**HSC** – Health and Safety Coordinator, Property and Facilities Division, the University of Queensland.

**H Type Vacuum Cleaner** – Class H (High hazard) vacuum cleaner as described in AS/NZS 60335.2.69:2003.

**Licensed asbestos assessor** – means a Competent Person who holds an asbestos assessor licence issued by Workplace Health and Safety Queensland.

**NAD** – No Asbestos Detected

**National Exposure Standard (NES)** – an airborne concentration of a particular substance, within the worker’s breathing zone, which according to current knowledge, should not cause adverse health effects or undue discomfort to nearly all workers. The NES for all forms of asbestos is 0.1 fibre/mL of air, measured using the membrane filter method.

**NOA** – Naturally occurring asbestos.

**OMC** – Office of Media and Communications, The University of Queensland.

**P&F** – Property and Facilities Division, The University of Queensland.

**Person in charge of area** - The person in charge of the building or area affected by the asbestos removal. This person may include Head of School, Building Manager or Executive Dean

**PM/PO** – Project Manager /Project Officer of the asbestos removal job is the University of Queensland’s P&F staff member in control of the project.

**PPE** – Personal protective equipment.

**RPE** – Respiratory protective equipment.

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

**UQ** – The University of Queensland.

**UQAMP** – The University of Queensland Asbestos Management Plan.

**WHSC** – Workplace Health and Safety Co-ordinator.
APPENDIX 1

Risk Assessment

Asbestos containing materials pose a risk to human health only when the asbestos fibres become detached from the host media and enter the airborne environment. The level of risk associated with that hazard depends on whether the person is exposed to the hazard or not and the level of exposure. Asbestos that is in a stable matrix, or effectively encapsulated or sealed, and remains in a sound condition while left undisturbed, represents low risk to health.

For example, the presence of asbestos in a building is a hazard, but while that asbestos remains in sound condition and does not release fibres into the air, the risk is low.

Health-based risk assessments usually indicate the likelihood of the hazard causing harm therefore a “high risk” situation would have a high probability of actually causing harm. The “harm” caused by exposure to asbestos includes asbestos related diseases such as lung cancer, asbestosis and mesothelioma. These diseases are normally associated with high level exposure to airborne asbestos over a prolonged period. Residing or working in buildings that contain asbestos building materials is unlikely to cause any of the above diseases provided it remains relatively stable and undisturbed. As such, most in-situ asbestos containing materials pose a low health-based risk.

However, experts such as Sandman (Sandman, 1993) suggest Risk = Actual health-based risk + Outrage. If we include the occupant’s perception of the in-situ ACM and the potential outrage factor they may have toward the ACM the “risk” will naturally increase, as most people perceive asbestos as being a high-risk hazard.

The following risk ratings include both the actual health-based risk posed by the asbestos containing material as well as the perceived risk or public outrage factor. The outrage factor is based mainly on the physical condition of the ACM and its location in relation to the occupants. For example if the ACM situation being assessed is situated inside a service duct and is not accessible to the normal occupants then the outrage factor or perceived risk is likely to be lower than say an ACM situation situated inside the occupant’s office.

Low - Typically includes ACM which is in either good or fair condition, is either non-friable or semi-bonded, has low level disturbance AND is not likely to generate measurable levels (>0.01f/ml) of airborne asbestos in its current state.

Med - Typically includes non-friable or semi-bonded ACM, which is in either fair or poor condition OR may include friable ACM in either good or fair condition that is not accessed on a regular basis, and which does not have the potential to enter the Air Supply, AND is not likely to generate measurable levels of airborne asbestos fibre in its current state.

High - Typically includes friable or semi-bonded ACM (not non-friable ACM that has become severely disturbed) that is in poor condition AND is either accessible to building occupants on a regular basis OR is in either fair or poor condition and has the potential to enter the Supply Air AND is unlikely to generate elevated levels (>0.01f/ml) of airborne asbestos.

Very high - Typically includes friable or semi-bonded ACM (not non-friable ACM that has become severely disturbed) that is in poor condition AND is either accessible to building occupants on a regular basis OR has the potential to enter the Supply Air AND is likely to have already generated elevated levels (>0.01f/ml) of airborne asbestos.
Unknown – This assessment is applied to those ACM situations that may or may not be present and cannot be confirmed due to access restrictions. This assessment does not apply to “Suspect” situations that are visible but have not been sampled.

* For building occupants including maintenance personnel during normal use.

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

- There is evidence that the risk assessment is no longer valid.
- There is evidence that controls methods are not effective.
- A significant change is proposed for the workplace or for work practices or procedures relevant to the risk assessment.
- There is a change in the condition of the ACM.
- The ACM have been removed, enclosed or sealed.

Risk assessment review to be conducted every 5 years or earlier. To be organised by HSC and Maintenance Manager Contracts. This is to be performed by a competent person.
APPENDIX 2

PF430 Asbestos Access Permit

PF430 is available from the P&F Web site. The form is illustrated in figure 3 below.

Figure 3
APPENDIX 3

Asbestos Labels and Signs

Labels and signs used in the plan.

Figure 4

![DANGER ASBESTOS Warning Sign](image1)

Figure 5

![WARNING Asbestos Material Exist in This Building](image2)
Figure 6

**WARNING**

ASBESTOS CONTAINING MATERIAL EXIST IN THIS BUILDING

CONSULT ASBESTOS REGISTER PRIOR TO COMMENCING WORK

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**CAUTION**

Asbestos containing material
Do not disturb/damage
For more information contact PF Assist Ph: 336 52222

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**CAUTION**

Do Not Disturb
This Material must not be cut/drilled/removed or otherwise disturbed
For more information contact PF Assist Ph: 336 52222

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**CAUTION**

Asbestos containing material within cavity
For more information contact PF Assist Ph: 336 52222

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**CAUTION**

Non friable asbestos containing material within cavity
For more information contact PF Assist Ph: 336 52222

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Figure 7
BIBLIOGRAPHY

Australian Standard 1319: 1994 *Safety Signs for the Occupational Environment*

Australia / New Zealand Standard 1715: 1994 *Selection Use and Maintenance of Respiratory Protective Devices*

Australia / New Zealand Standard 1716: 2003 *Respiratory Protective Devices*

*Code of Practice 2011 - PN11164 “How to safety remove asbestos”*

*Code of Practice 2011 - PN11163 “How to manage and control asbestos in the workplace”*


Queensland Government, *Environmental Protection Regulation 2008*

References


