Facilities Asbestos Management Procedure – Removal & Renovation

Purpose/Objectives

- *To prevent asbestos-related disease resulting from exposure to airborne asbestos in the workplace.*
- *To ensure asbestos containing materials are managed and controlled according to Victorian and Australian legislative requirements.*

Scope/Application

This procedure applies to:

- *This procedure applies to building and large plant demolition and renovation activities across the University including Victoria University buildings, surface coverings, plant and devices.*
- *This procedure applies to VU Facilities Personnel, the VU Contracted Maintenance Provider and Contractors performing works for the University.*

Definitions

ACM – Asbestos Containing Material. This can include cement sheeting, vinyl floor tiles, ceiling tiles, insulation of old furnaces, boilers and water heaters, bar heaters, heating mantles, pump gaskets, pipe gaskets, switchboard linings, heat resistant mats and asbestos gloves.

Asbestos – Naturally occurring fibrous minerals. Asbestos was commonly used in a wide variety of industrial, Manufacturing, building and construction applications in Australia between the 1940s and late 1980s. The presence of asbestos does not pose health risks unless it is broken, in poor or deteriorated condition, or disturbed during activities that produce dust containing asbestos fibres. Inhalation of asbestos fibres is a serious health risk and can lead to diseases such as mesothelioma, lung cancer and asbestosis.

The Asbestos Consultant – Removal – A qualified Occupational Hygienist, who is an independent party, with specialist knowledge to oversee the requirements for asbestos removal to ensure that all aspects of the removal specification are strictly followed. For small asbestos jobs this may be a suitably qualified member of the OH&S Team. Any testing used by the Hygienist must be accredited by NATA.

Asbestos Coordinator – the person appointed by the University to act as the main contact for asbestos related issued. This person is responsible for the safe management of asbestos within the University.

Asbestos Disturbance – Where actions to asbestos containing materials occur causing airborne asbestos fibers For example where asbestos containing materials are removed, cut, damaged or drilled or where enclosed areas which contain ACM are opened and/or entered

Asbestos Exposure Standard - means 0·1 f/ml of air measured in a person's breathing zone and expressed as a time weighted average fibre concentration of asbestos calculated over an 8 hour working day and measured over a minimum period of 4 hours in accordance with regulatory specified methods. (f/ml = fibre per millilitre of air)

Asbestos Management Procedure – Explains the overall management system for asbestos at Victoria University.

Asbestos Register – a register identifying all the locations where asbestos is present within the University. The Register details the location of asbestos containing materials in all buildings, its condition and priority classification. The register must also include records of tests completed where there is uncertainty regarding the presence of asbestos, the type of asbestos containing material, whether material is friable or non-friable, level of access, material condition, priority for remediation and whether the asbestos is likely to sustain damage. The register is updated as required and at least every 5 years (Ref Division 5 Asbestos Risk assessment OH&S Regs 2007)

Asbestos Removalist – a company appointed by the principal contractor or directly by the University and must be licenced for asbestos removal works with the Worksafe under Part 4 of the Victorian OH&S Regulations 2007

Nominated Builder – Where capital works exceed $350,000 the Nominated Builder will assume the responsibilities of the Asbestos Coordinator

Contractor –maintenance person or company or builder engaged by the University or the Contracted Maintenance Provider to undertake, maintenance, construction or upgrade works.

Contracted Maintenance Provider – a company that is engaged by the University to manage all the day-to-day facilities works and services and the works and services contractors.

Division 5 Risk Assessment – Assessment of the health risk associated with the presence of asbestos. In general, the Division 5 Risk Assessment provides an overview of the entire University. Is termed the Asbestos Register in this procedure.

Division 6 Risk Assessment - Prior to the commencement of any works, the employer or occupier of the work area must determine whether asbestos is present. In general, a Division 6 Risk Assessment offers a more detailed assessment of a specific work area.

Friable Asbestos – asbestos-containing materials which, when dry, can be crumbled or pulverized to a powder by hand or, as a result of a work process, becomes such that it may be crumbled, pulverised or reduced to powder by hand pressure.

Online Asbestos Notification System – replaces previous forms and provides for online notification of asbestos removal

VU Facilities Project Manager - The Victoria University Facilities staff person responsible for managing the works. This person plans and oversees works for a given building demolition, excavation or renovation job. This responsibility cannot be transferred to builders or other companies engaged by the University.

NATA – National Australian Testing Authority – approves the methods and accredits the providers of asbestos content determinations and sampling for airborne asbestos fibres. Only laboratories with NATA accreditation can be used for the analysis of materials for asbestos content and area sampling for asbestos fibres during demolition work.

Non-friable Asbestos – asbestos containing materials that when dry cannot be crumbled by hand pressure.

SMF – Synthetic Mineral fibres.

Victoria University Incident Management System –Quicksafe

Worksafe Notification – Requirement for notification of Worksafe prior to asbestos removal work.

Worksafe – the Victorian WorkCover authority

Roles/Responsibilities

Roles	Responsibility
Identify key roles involved in procedural steps	*Summarise key responsibilities*
Director of Facilities	*Delegate a responsible person to act as the Asbestos Coordinator.* *Ensure the Asbestos Coordinator is aware of responsibility and is provided with the necessary support, resources and training to perform the responsibilities detailed in the Asbestos Management Procedure.* *Inform Staff of the availability of the Asbestos Register, the names and*

Roles	Responsibility
	responsibilities of the Asbestos Coordinator and *the risk and measures in place to control risks associated with asbestos.*
Asbestos Coordinator	*Ensure any asbestos removal minimises health risks and complies with legislative requirements* *Consult with University Health and Safety Representatives regarding any planned asbestos removal activities.* *Retain all Asbestos Removal Documentation in the VU Records Management system* *Arrange for immediate remediation for any sites or locations identified during asbestos audits where the asbestos is friable or in poor condition.* *Ensure the required risk assessment for asbestos containing materials is completed prior to any building demolition, excavation or refurbishment (Division 6 Risk Assessment)* *Open and manage the Asbestos Work Permit which is used during demolition and refurbishment works.* *Arrange for the remediation and replacement of ACM as required and as programmed* *Arrange for the update of the Asbestos Register following removal work.*
Asbestos Consultant - Removal	*Determine the process for making safe or removing asbestos containing materials.* *Oversee the make safe and/or removal process including review of the Asbestos Removalists Asbestos Control Plan* *Ensure that personal and area air monitoring is carried out according to standards as required.* *Certify the workplace has been made safe with provision of Asbestos Clearance Certificates.*
OH&S Team	*Support and advise the Asbestos Coordinator* *Audit of compliance with this procedure*
Victoria University Employees and Directly Employed Contracted Personnel	*Check asbestos content of materials by reference to the relevant building Asbestos Register prior to organising any drilling cutting or removal of VU building or structure.*
Contracted Maintenance Provider	*Ensure that the Asbestos Register is consulted prior to carrying out any work which could pose risks of asbestos exposure. E.g. drilling holes, cutting pipework, electrical refurbishment.*
Contractors engaged by Contracted Maintenance Provider	*Ensure a risk assessment which includes ACM identification is conducted prior to commencing work.* *Follow and ensure employees abide by any guidelines for working safely should hazardous materials be identified*
Licensed Asbestos Removalist	*Ensure any asbestos removal work is completed safely according to the Victorian OH&S Regulations* *Complete the Asbestos Removal Work Worksafe Notification* *Document the Asbestos Control Plan prior to start of removal works* *Ensure all personnel are adequately trained, provided with compliant PPE and manage work area to minimise risk of generating airborne asbestos fibres.*
VU Facilities Project Manager Capital Works < $350,000 *This responsibility can be delegated to the VU Facilities Appointed Nominated Builder for Major Capital Works > $350,000 only*	*Review the specific location Asbestos Register (Division 5 Risk Assessment) prior to any projects, demolition or refurbishment work.* *Ensure a Division 6 risk assessment is conducted prior to demolition work* *Engaging the correct people to mitigate the risks associated with asbestos exposures according to this procedure and Victorian Legislative requirements.* *Liaise with the Asbestos Coordinator during projects, demolition or refurbishment work and ensure that work is conducted according to requirements including the completion and display of the Asbestos Work Permit* *Forward all documentation relating to asbestos removal and refurbishment to the VU Asbestos Coordinator.*

Procedures

Overall Requirements

As far as is reasonably practicable, any risk associated with the presence of asbestos must be eliminated by removing the asbestos.

- *If the ACM can't be removed and any risk remains, it must be enclosed.*
- *If the ACM has been enclosed but there is still a health risk, the material must be sealed.*
- *If the ACM is present it must be labelled.*

Where asbestos is fully encased and sealed it presents no risk, but this material must be labelled as containing asbestos and listed on the Asbestos Register.

Identification of Asbestos Containing Materials

- *The Asbestos Coordinator will ensure that the locations of the asbestos containing materials are identified in the Asbestos Register and are labelled as far as is reasonably practicable.*

Asbestos Containing Materials Labels

Figure 1: Example of VU Asbestos Containing Materials Label.

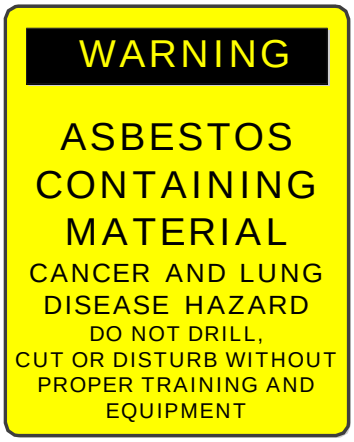

Figure 2: Example of VU future Asbestos Containing Materials Label.

Asbestos Containing Floor Tiles

The tiles depicted below in Figures 3 to 5 show floor tiles in Victoria University rooms which contain asbestos, and/or the glue sealing the tiles contain asbestos. Where these tiles are identified, assume they are asbestos containing and follow this procedure should tiles be drilled, cut or removed. Vinyl asbestos containing floor tiles were manufactured in three sizes, 9",12" and 18" squares.

Figure 3 Mustard with white flecks.

Figure 4. Fawn with white flecks

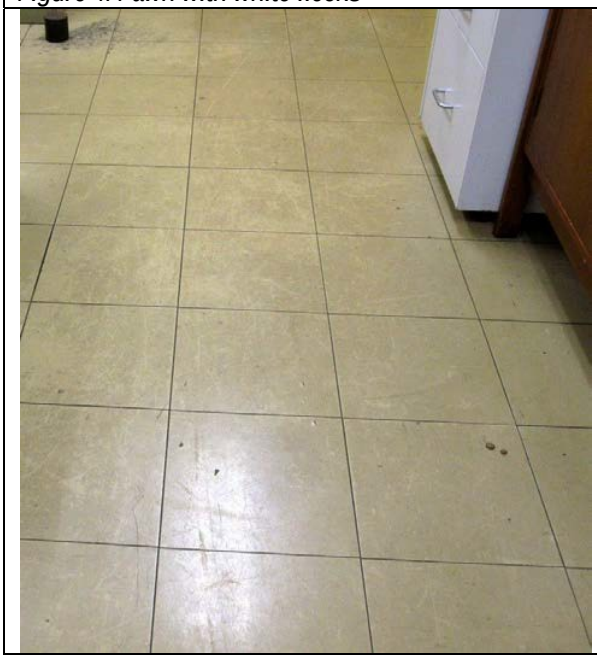

Figure 5. Pale Mustard

Planning and Quoting Demolition, Excavation and Refurbishment work

The VU Facilities Project Manager and the Contracted Maintenance Provider must ensure that a copy of the Asbestos Register is provided to Contractors/Asbestos Consultants who are planning or quoting for any works involving the disturbance of asbestos containing materials.

The Asbestos Register must also be consulted by the VU Facilities Project Manager and the Contractor before undertaking any demolition or refurbishment work. This applies to any work involving the potential disturbance of walls, floors ceilings, etc. and including scraping, screwing, cutting or painting which includes sanding.

Architects, Contractors or staff must consult with the VU Facilities Project Manager and the Asbestos Coordinator during the planning stage so that if asbestos is present, the ACM is removed or alternative methods can be used to avoid disturbing the sealed asbestos.

The VU Facilities Project Manager must ensure that:-

- *A Division 6 Risk Assessment and a Hazardous Building Materials Audit are carried out prior to the commencement of works regardless of the project size where there are any removal/demolition activities.*
- *No works are to be commenced until the Division 6 Risk Assessment and a Hazardous Building Materials Audit has been carried out unless the Asbestos Consultant has previously indicated that there is no asbestos in the building or area to be worked in.*
- *Contractors/Asbestos Consultants who are performing any works involving the disturbance of asbestos-containing materials are provided with a copy (which may be electronic) of the current Division 6 Asbestos Register, and building floor plans showing the location of asbestos-containing materials.*
- *Work involving the removal of asbestos containing materials will be carried out according to the Asbestos Removal section below.*
- *If asbestos is present and is likely to be disturbed by the demolition or refurbishment work, it must be removed.*
- *In the case of demolition, the asbestos must be removed before work starts.*
- *Prior to Major Works the VU Facilities Project Manager shall also review potential exposures to the hazardous materials listed in Appendix 1: Synthetic mineral fibres, Lead, PCBs, Respirable crystalline silica.*

NOTE: Where the work exceeds $350,000 this responsibility can be delegated to the Nominated Builder

Where Asbestos Containing Materials are Identified During Demolition or Renovation Work Projects

The work in the vicinity of the ACM must cease and the VU Facilities Project Manager must consult with:-

- *Their Supervisor, reporting that asbestos has been identified and there may be additional costs or delays to the project.*
- *The Asbestos Coordinator who will engage an Asbestos Consultant - Removal*
- *The relevant Department Manager (owner of the space) – who shall consult with their Health and Safety Representatives*
- *The University's OH&S Team to ensure they are informed of all works involving asbestos containing materials.*
- *Work will then proceed as per the Planned Asbestos Removal section below.*

Note: These responsibilities may be delegated to the Nominated Builder where Major Works cost exceeds $350,000

Entry into Crawl Spaces under Buildings or into Sealed Rooms where Asbestos Containing Materials are Present

This work is identified as Asbestos Disturbance and must be carried out according to the asbestos removal/demolition procedure.

Planned Asbestos Removal

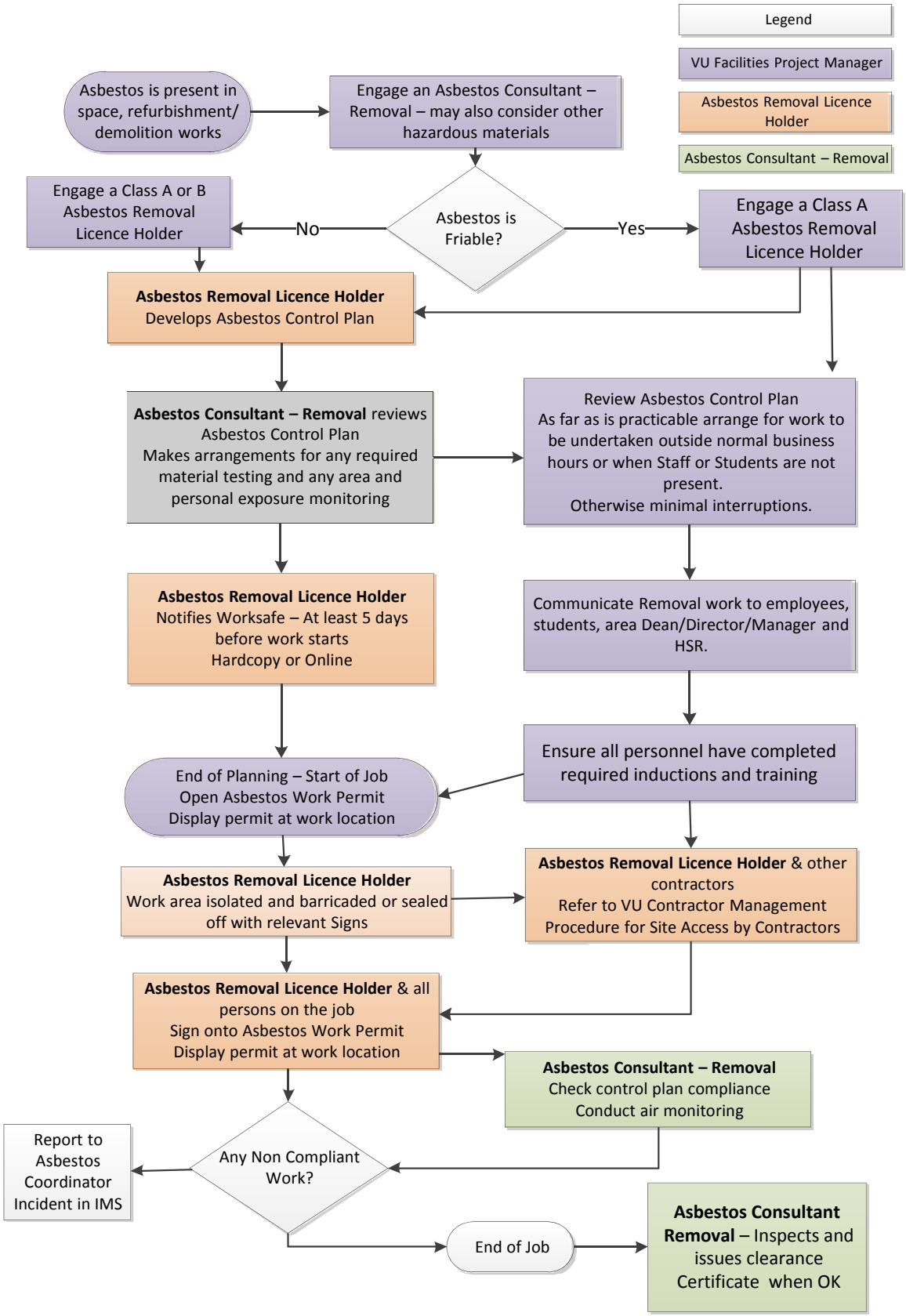

Figure 2: Procedure for Asbestos Removal

Disposal of Asbestos Containing Materials

Asbestos Containing Materials (ACM) are classified as prescribed waste and as such must be disposed of according to the Environment Protection (Industrial Waste Resource) Regulations 2009.
In either case, all asbestos removal documentation shall be forwarded to the VU Asbestos Coordinator who will ensure the Asbestos Register is updated.

Completion of Asbestos Removal

The Asbestos Work Permit Form shall be closed and returned to the University's VU Facilities Project Manager and forwarded to the Asbestos Coordinator.

The Asbestos Consultant – Removal shall provide the University Asbestos Coordinator with:

- *A Clearance Certificate if material has been removed.*
- *An updated copy of the Asbestos Register. The update shall include alterations to the relevant records indicating that asbestos has been removed or other actions take. A reference to the Division 6 Assessment and Hazardous Building Material Audit and / or Clearance Certificate shall be made, plus the date work was performed.*
- *Updated floor plans showing that asbestos has been removed, noting the Division 6 Assessment and Hazardous Building Material Audit and / or Clearance Certificate plus the date the work was performed.*

The VU Facilities Project Manager will ensure that staff and students do not reoccupy a room/area where the removal/demolition of asbestos-containing material has been carried out unless:

- *a visual inspection has been undertaken by the Asbestos Consultant*
- *atmospheric monitoring and air clearance has been carried out by the Asbestos Consultant; and*
- *A clearance certificate is provided*

The Asbestos Coordinator will maintain a register of all issued and cancelled Asbestos Work Permits.

Training

- *All personnel involved in Project supervision and asbestos removal shall have current Asbestos Awareness Training.*

Record Keeping

The Asbestos Coordinator must ensure that all documents regarding asbestos matters are maintained in a centralised file and the documents are retained in accordance with legislated records retention times. Records should include:

- *Asbestos Register and the regular audit and risk assessment reports (Division 5 and Division 6 Asbestos Audits, Hazardous Building Materials Audit);*
- *All inspection and asbestos test records;*
- *Copy of asbestos removalist's current letter of license from the Victorian WorkCover Authority to undertake asbestos-removal works;*
- *Details of refurbishment and removal/demolition works;*
- *Fully completed Asbestos Work Permits;*
- *Actions taken as a result of accidental breakage of asbestos material; - these shall be recorded in the Incident management system.*
- *Time, day and date of actual asbestos removal;*
- *Atmospheric monitoring results and clearance letters for buildings and areas re-occupied;*
- *Asbestos disposal documentation. EPA Prescribed Waste Documentation*
- *Copy of public liability (recommended at not less than $5,000,000 for any one occurrence); and*
- *Copy of asbestos liability (recommended at not less than $5,000,000 for any one exposure and not less than $5,000,000 for any one person).*

OH&S Incident Management System and People and Culture Workplace shall retain records of

- *Incidents involving asbestos – within the incident management system*
- *Medical records of employees who have been identified as potentially exposed to asbestos during the course of their work – for the required regulated period.*

Mandatory PPE during Inspection or Asbestos Removal

AS/NZS 1719: Selection, Use and Maintenance of Respiratory Protection - Compliant P2 respirator

Disposable coveralls of a suitable standard to prevent penetration of asbestos fibres.

Disposable coveralls rated type 5, category 3 (pr EN ISO 13982–1) or equivalent meet this standard and are suitable for use during asbestos removal.

Templates

.

Asbestos Work Permit: insert link to this document

References

This procedure is required to support the following:

- *Health Safety and Wellbeing Policy - Victoria University Health Safety and Wellbeing Policy*

Supporting Documents

The following documents have been referenced in this procedure:

VU Documents

- *Health and Wellbeing – Asbestos Management Procedure:- (insert link)*
- *VU Asbestos Registers: – http://intranet.vu.edu.au/AsbestosRegisters/*
- *Asbestos Awareness Refresher Training: - To be developed.*
- *Contractor Management Procedure – General Contractor:- Currently under review*
- *Purchasing New Equipment and Material: - Currently under review.*
- *OHS Guidance Note: Asbestos Management*
- *OSH Guidance Note: Asbestos and Excavation*

Victorian Government Documents

- *Asbestos Regulations - Victorian Government Occupational Health and Safety Regulations 2007 Section 4.3 Asbestos*
- *Guidance :- Worksafe Victoria Asbestos Information site – Asbestos.vic.gov.au*
- *Notification of Asbestos Removal to Worksafe online form: Notification of Asbestos Removal*
- *EPA Victoria - Environment Protection (Industrial Waste Resource) Regulations 2009 .pdf*
- *Worksafe Victoria – Listing of Licensed asbestos removal companies licensed-removalists*
- *Worksafe Victoria – Asbestos Contaminated Soil PDF Asbestos Contaminated Soil*

Appendix 1- Summary of Health Effects Hazardous Materials

Contaminant	Potential Locations	Health Effects	SafeWork Exposure Limits/Controls
Asbestos	Items manufactured < 1990 ▪ Heat resistant textiles (cloth, padding), ▪ Cement products - sheets – cladding, lining, roofing, gutters - pipes- old water - Thermal insulation products, boilers - old hot water services • Friction materials - clutch, brakes • Heat Sealing gaskets, • Building Products - Floor tiles, underlay and glue, - Old Laminates - Packing material, paint and protective paper.	Long latency period before symptoms shown 10 – 40 yrs. ▪ Classification – Category 1A Carcinogenic Cancer forms: ▪ Asbestosis – Progressive scarring of lung tissue. ▪ Mesothelioma – Cancer in the Lining of the chest cavity (the pleura) or, less commonly the lining of the abdominal cavity (the peritoneum).	TWA 0.1 f/ml (fibers per milliliter) ▪ Prevent inhalation of fibers
Synthetic Mineral Fibres (SMFs)	▪ Glass fibres most commonly used as insulation or reinforcement in plastics, cement, and plaster products. ▪ Rockwool, slagwool fibres are frequently used as insulating materials. ▪ Ceramic fibres are primarily intended for use in high temperature insulating applications.	Glass Fire, Rockwool, Slag Wool. IARC's (2002) (Class 3) Not classifiable as carcinogenic to humans. For Refractory ceramic fibres and certain special purpose glass fibres, Group 2B classification 'possibly carcinogenic to humans' ▪ Skin – itching, redness, with swelling. ▪ Eyes – inflammatory cells in the eyes. ▪ Respiratory – irritation in the upper airways.	TWA 0.5 fibres/ml ▪ Minimise skin contact ▪ Wear gloves with gauntlets to protect wrists ▪ Eye protection ▪ Respiratory protection when working with refractory ceramic fibres.
Lead	▪ Additive in paint prior to 1990 Welding or heating will generate airborne lead. ▪ Electrical solder ▪ Some plumbing components	▪ High levels – kidney, liver, brain damage, sterility ▪ Lower levels – anaemia, headaches, nausea ▪ Unborn infants and small children are more susceptible and could have developmental problems.	TWA 0.15 mg/m^3 Notification to Worksafe is required prior to any lead risk job where exposure limit could be exceeded. ▪ Prevent inhalation and eye and skin contact.

Contaminant	Potential Locations	Health Effects	SafeWork Exposure Limits/Controls
Polychlorinated Biphenyls (PCBs)	▪ Mainly used as insulating fluids in electrical equipment such as transformers and capacitors. ▪ Electrical transformers. ▪ Fluorescent lights. ▪ Light & Ceiling fan capacitors. ▪ Adhesives, Plastic, Paints.	▪ Increasing evidence suggesting that it causes cancer. ▪ Severe skin rashes. ▪ Thyroid gland disorders. ▪ Headaches. ▪ Nausea, vomiting, abdominal pains. ▪ Liver damage. ▪ Respiratory disorders.	42% Chlorine TWA – 1mg/m^3. STEL 2mg/m^3 54% Chlorine TWA - 0.5mg/m^3. STEL 1 mg/m^3 ▪ Prevent skin and eye contact
Contaminated Soil	Excavations where there has been a garage, petrol station or underground tank	Oil contaminated soil could cause rashes on unprotected skin. Primarily and environmental issue. The soil must be treated or transported as a prescribed waste.	Refer To EPA Victoria
Respirable Crystalline Silica	Silica is in the soil. Soil and rock excavation and movements where dusts are generated. Generated during dry cutting of concrete, tiles or bricks. Demolition of used refractory	Respiratory Conditions ▪ Silicosis – Scarring of the lungs reducing ▪ Lung Cancer	TWA 0.1 mg/m^3 ▪ Prevent inhalation – always wear respiratory protection where visible airborne dust is present.

TWA – Time Weighted Average – the average airborne concentration of a substance over an eight-hour working day, for a five-day working week.

STEL – Short term exposure limit – Average exposure over 15 minutes.

Safe Work Australia: Workplace Exposure Standard for Airborne Contaminants

Procedure Control

Procedure Owner: *Associate Director Operations Planning*

Policy Owner: *Vice Chancellor – OHS Policy*

Date Effective: *2nd December 2015*

Procedure History:

Version	*Approved By*	*Approval Date*	*Effective Date*	*Summary of Changes*
4.0	Laurie Farrugia	12/02/2016	12/02/2016	Added Asbestos Disturbance Definition. Included reference to entry of spaces where asbestos containing materials maybe present. Added "space" to flow diagram. Recommended by Worksafe Occupational Hygienist Halil Ahmet on visit to Sunshine Campus 08/03/16