Hazardous Materials Re-Inspection Report

South Eastern Sydney Illawarra Area Health Service

Edmund Blackett West (6)

May 2011

Our Ref: SS0272 : 87308-6

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Hazardous Materials Re-Inspection Report

South Eastern Sydney Illawarra Area Health Service

Edmund Blackett West, Avoca Street, Randwick NSW

Executive Summary

Purpose

This report presents the findings of a Hazardous Materials Re-Inspection Survey conducted of Edmund Blackett West, Avoca Street, Randwick NSW. Noel Arnold & Associates Pty Ltd (NAA) carried out the survey in May 2011 at the request of David Crabtree, Assistant Engineer of South Eastern Sydney Illawarra Area Health Service.

Scope

The survey involved a visual re-inspection of previously identified hazardous materials and the collection and analysis of samples of suspected asbestos containing materials. Hazardous materials assessed included asbestos, Synthetic Mineral Fibre (SMF), Polychlorinated Biphenyls (PCBs) containing capacitors and lead containing paint. Limited destructive sampling techniques were employed where practicable.

Findings

Asbestos

Asbestos containing materials were identified in the following areas:

- Level 0, Room 01, Lower walls – Fibre cement sheeting;
- Exterior, Gable ends (North & South) – Fibre cement sheeting;
- Exterior, Level 0, Eaves – Fibre cement sheeting; &
- Exterior, South-east Corner, Adjacent Walkway, Downpipe – Moulded fibre cement.

Asbestos containing material is suspected in the following area:

- Exterior, Level 0, Switchboard – Electrical backing board.

Synthetic Mineral Fibre (SMF)

SMF product was identified in the following area:

- Level 0, Throughout old Ceiling Space – Insulation batts;

SMF products are suspected in the following areas:

- Level 0, Room 01, Hot Water Unit – Internal insulation; &
- Room 07, Ceiling Space, Hot Water Unit – Internal insulation.

Polychlorinated Biphenyls (PCBs)

PCB containing capacitors are suspected in the following area:

- Level 0, Exterior, East Walkway – 1200mm double tubed fluorescent light fittings.

Lead Containing Paint

Lead containing paints were identified in the following areas:

- Level 0, Exterior, Southern Room, Walls – Cream coloured paint system;
- Level 0, Exterior, South Wall, Window Frames – White coloured paint systems;
- Level 0, Exterior, East Walkway, Wooden Posts – Brown coloured paint systems;
- Level B1, Exterior, South Wall – White coloured paint system;
- Level B1, Exterior, South Wall, Door – Lower layer multi coloured paint systems; &
- Level B1, Exterior, South Wall, Door Frame – White coloured paint system.

Recommendations

Asbestos Materials

- Encapsulate the moulded fibre cement downpipe in fair condition located at Level 0, Exterior, South-east Corner, Adjacent Walkway.
- Maintain asbestos materials in good condition. Remove all asbestos materials under controlled conditions by an appropriately licensed contractor prior to refurbishment/demolition works.
- Conduct asbestos fibre air monitoring and clearance inspections during the removal of all asbestos containing materials.
- Schedule periodic reassessment of the asbestos containing materials remaining on-site to monitor their aging/deterioration - as per the *Management and Control of Asbestos in Workplaces* [NOHSC: 2018 (2005)].
- Prior to demolition/refurbishment works, undertake a Destructive Hazardous Material Survey as per Australian Standard AS 2601:2001 *'The Demolition of Structures'*.

Synthetic Mineral Fibre (SMF)

- Confirmed SMF materials should be maintained in goof condition and removed under controlled conditions prior to any refurbishment works likely to disturb the material as per the *National Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC: 2006(1990)].*

Polychlorinated Biphenyls (PCBs)

- Confirm status of suspected PCB containing capacitors within fluorescent light fittings prior to refurbishment or demolition in the presence of a licensed electrician. Confirmed PCB containing electrical equipment should be handled with care and disposed of in accordance with Department of Environment Climate Change and Water (DECCW) guidelines.

Lead Containing Paint

- Remove flaking lead paint under controlled conditions by a suitably qualified contractor and stabilise (overpaint) the deteriorating lead based paint systems with a non-lead based paint system.
- If refurbishment works are likely to involve the disturbance of confirmed lead containing paint, dust suppression techniques should be utilised and a Lead Paint Removal Plan developed by a suitably experienced consultant.

Hazardous Materials Re-Inspection Report

South Eastern Sydney Illawarra Area Health Service

Edmund Blackett West, Avoca Street, Randwick NSW

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Statement of Limitations

This report has been prepared in accordance with the agreement between South Eastern Sydney Illawarra Area Health Service and Noel Arnold & Associates Pty Ltd.

Within the limitations of the agreed upon scope of services, this assessment has been undertaken and performed in a professional manner, in accordance with generally accepted practices, using a degree of skill and care ordinarily exercised by members of its profession and consulting practice. No other warranty, expressed or implied, is made.

This report is solely for the use of South Eastern Sydney Illawarra Area Health Service and any reliance of this report by third parties shall be at such party's sole risk and may not contain sufficient information for purposes of other parties or for other uses. This report shall only be presented in full and may not be used to support any other objective than those set out in the report, except where written approval with comments are provided by Noel Arnold & Associates Pty Ltd.

This report was prepared for South Eastern Sydney Illawarra Area Health Service solely for the purpose set out herein and it is not intended that any other person use or rely on it. Whilst this report is accurate to the best of our knowledge and belief Noel Arnold & Associates Pty Ltd cannot guarantee completeness or accuracy of any descriptions or conclusions based on information supplied to it during site surveys, visits and interviews. Responsibility is disclaimed for any loss or damage, including but not limited to, any loss or damage suffered by South Eastern Sydney Illawarra Area Health Service arising from the use of this report or suffered by any other person for any reason whatsoever.

This report relates only to the identification of asbestos containing materials used in the construction of the building and does not include the identification of dangerous goods or hazardous substances in the form of chemicals used, stored or manufactured with the building or plant.

The following should also be noted:

While the survey has attempted to locate the asbestos containing materials within the site it should be noted that the review was a visual inspection and a limited sampling program was conducted and/or the analysis results of the previous report were used. Representative samples of suspect asbestos materials were collected for analysis. Other asbestos materials of similar appearance are assumed to have a similar content.

Not all suspected asbestos materials were sampled. Only those asbestos materials that were physically accessible could be located and identified. Therefore it is possible that asbestos materials, which may be concealed within inaccessible areas/voids, may not have been located during the audit. Such inaccessible areas fall into a number of categories, including but not restricted to:

(a) In set ceilings or wall cavities.

(b) Those areas accessible only by dismantling equipment or performing minor localised demolition works.

(c) Service shafts, ducts etc, concealed within the building structure.

(d) Energised services, gas, electrical, pressurised vessel and chemical lines.

(e) Voids or internal areas of machinery, plant, equipment, air-conditioning ducts etc.

(f) Totally inaccessible areas such as voids and cavities created and intimately concealed within the building structure. These voids are only accessible during major demolition works.

(g) Height restricted areas.

(h) Areas deemed unsafe or hazardous at time of audit.

In addition to areas that were not accessible, the possible presence of hazardous building materials may not have been assessed because it was not considered practicable as:

1. It would require unnecessary dismantling of equipment; and/or
2. It was considered disruptive to the normal operations of the building; and/or
3. It may have caused unnecessary damage to equipment, furnishings or surfaces; and/or
4. The hazardous material was not considered to represent a significant exposure risk;
5. The time taken to determine the presence of the hazardous building material was considered prohibitive.

Only minor destructive auditing and sampling techniques were employed to gain access to those areas documented in Appendix A. Consequently, without substantial demolition of the building, it is not possible to guarantee that every source of hazardous material has been detected.

During the course of normal site works care should be exercised when entering any previously inaccessible areas or areas mentioned above and it is imperative that work cease pending further sampling if materials suspected of containing asbestos or unknown materials are encountered. Therefore during any refurbishment or demolition works, further investigations and assessment may be required should any suspect material be observed in previously inaccessible or areas not fully inspected previously i.e. carpeted floors.

This report is not intended to be used for the purposes of tendering, programming of works, refurbishment works or demolition works unless used in conjunction with a specification detailing the extent of the works. To ensure its contextual integrity, the report must be read in its entirety and should not be copied, distributed or referred to in part only.

1. Introduction

This report presents the findings of a Hazardous Materials Re-Inspection Survey conducted of the Edmund Blackett West, Avoca Street, Randwick NSW. The survey was undertaken to identify any potential hazardous materials located on-site. Stuart Carroll of Noel Arnold & Associates Pty Ltd (NAA) carried out the survey on 12th May 2011 at the request of David Crabtree, Assistant Engineer of South Eastern Sydney Illawarra Area Health Service.

2. Scope of Work

The scope of this re-inspection was to:

- Inspect representative areas of the site to reassess previously identified hazardous materials;
- Review any records of previous audits and of any remedial works previously undertaken at the site;
- Update the Hazardous Materials Register for the site; &
- Make recommendations for the ongoing management/removal of the asbestos/hazardous materials.

The interior & exterior of the building were surveyed. Hazardous materials assessed included:

- Asbestos containing materials;
- Synthetic Mineral Fibre (SMF) materials;
- Polychlorinated Biphenyls (PCBs); &
- Lead containing paint.

The survey was conducted during normal business hours while the building was occupied at the time of inspection.

3. Site Description

Site Details					
Site Address	Edmund Blackett West, Avoca Street, Randwick NSW				
Age	1900	**Size**	~1,00m^2	**No of Levels**	2
Standard Construction Materials - Interior					
Walls	Brick, masonite & fibre cement sheeting				
Ceilings	Acoustic SMF & plasterboard				
Floors	Concrete & timber with carpet coverings				
Standard Construction Materials - Exterior					
Walls	Sandstone blockwork & timber				
Roof	Slate tiles				
Awnings/Eaves	Metal & fibre cement sheeting				

3.1 Previous Survey Information

Hazardous Building Materials Inspection Documentation History		
Company	**Report**	**Date**
Noel Arnold & Associates	*Hazardo*us Materials Survey *Report*	July 2009

4. Methodology

The survey involved a visual inspection of previously identified accessible hazardous materials and the collection and analysis of materials suspected of containing asbestos.

Limited destructive sampling techniques were undertaken where practicable. The site was visually inspected for the presence of the following hazardous materials:

Asbestos - This component of the assessment was carried out in accordance with the guidelines documented in the *Management and Control of Asbestos in Workplaces* [NOHSC: 2018 (2005)]. Two (2) representative samples suspected of containing asbestos were collected during the survey in 2009 (NAA Ref SP0068: 74436-6). Two (2) representative samples suspected of containing asbestos were collected during this re-inspection and placed plastic clip-lock sealed bags. These samples were analysed in Noel Arnold & Associates' NATA-accredited laboratory for the presence of asbestos by Polarised Light Microscopy.

Synthetic Mineral Fibres (SMF) - This report broadly identifies SMF materials found or suspected of being present during the survey based on a visual assessment.

Polychlorinated Biphenyls (PCBs) - Where safe access was gained, detailed information of capacitors in fluorescent light fittings and other electrical equipment were noted for cross-referencing with the *ANZECC Identification of PCB Containing Capacitors Information Booklet – 1997*. Due to the inherent hazard in accessing electrical components, or other reasons such as height restrictions, immovable equipment and furniture, some light fittings may not be safely accessed. In these instances, comment is made on the likelihood of PCB containing materials based upon age and appearance.

Lead Paint - Representative painted surfaces were tested unobtrusively for the presence of lead using the LeadCheck paint swab method in several locations. This method can detect lead in paint at concentrations of 0.5% and above, and may indicate lead in some paint films as low as 0.2%. The sampling program was representative of the various types of paints found within the site, concentrating on areas where lead based paints may have been used (eg. Exterior gloss paints, window and door architraves, skirting boards etc). The objective of lead paint identification in this survey is to highlight the presence of lead-based paints within the building, not to specifically identify every source of lead-based paint.

4.1 Areas Not Accessible/Not Inspected

It is noted that given the constraints of practicable access encountered during the risk assessment survey, the following areas were not accessed or inspected:

- Level 0, Southern Room, Interior;
- Within wall cavities;
- Within those areas accessible only by dismantling equipment;
- Within service shafts, ducts etc, concealed within the building structure;
- Within voids or internal areas of plant, equipment, air-conditioning ducts etc;
- Energised services, gas, electrical, pressurised vessel and chemical lines;
- Areas deemed unsafe or hazardous at time of audit;
- Within totally inaccessible areas such as voids and cavities created and intimately concealed within the building structure. These voids are only accessible during major demolition works; &
- Height restricted areas.

We advise that should refurbishment and demolition operations entail possible disturbance of materials in these locations, further investigation and sampling of specific areas should be conducted as part of an asbestos management and abatement program prior to any works proceeding.

It should be noted that the presence of any residual asbestos insulation and applications on steel members, concrete surfaces, pipe work, equipment and adjacent areas from prior abatement or refurbishment works cannot be ascertained without extensive removal and damage to existing insulation, fittings and finishes.

Other specific areas not accessed or inspected are described in Appendix A.

5. Survey Summary

Asbestos

Asbestos containing materials were identified in the following areas:

- Level 0, Room 01, Lower walls – Fibre cement sheeting;
- Exterior, Gable ends (North & South) – Fibre cement sheeting;
- Exterior, Level 0, Eaves – Fibre cement sheeting; &
- Exterior, South-east Corner, Adjacent Walkway, Downpipe – Moulded fibre cement.

Asbestos containing material is suspected in the following area:

- Exterior, Level 0, Switchboard – Electrical backing board.

Synthetic Mineral Fibre (SMF)

SMF product was identified in the following area:

- Level 0, Throughout old Ceiling Space – Insulation batts;

SMF products are suspected in the following areas:

- Level 0, Room 01, Hot Water Unit – Internal insulation; &
- Room 07, Ceiling Space, Hot Water Unit – Internal insulation.

Polychlorinated Biphenyls (PCBs)

PCB containing capacitors are suspected in the following area:

- Level 0, Exterior, East Walkway – 1200mm double tubed fluorescent light fittings.

Lead Containing Paint

Lead containing paints were identified in the following areas:

- Level 0, Exterior, Southern Room – Cream coloured paint system;
- Level 0, Exterior, South Wall, Window Frames – White coloured paint systems;
- Level 0, Exterior, East Walkway, Wooden Posts – Brown coloured paint systems;
- Level B1, Exterior, South Wall – White coloured paint system;
- Level B1, Exterior, South Wall, Door – Lower layer multi coloured paint systems; &
- Level B1, Exterior, South Wall, Door Frame – White coloured paint system.

6. Recommendations

6.1 Asbestos

- Encapsulate the moulded fibre cement downpipe in fair condition located at Level 0, Exterior, South-east Corner, Adjacent Walkway.
- Maintain asbestos materials in good condition. Remove all asbestos materials under controlled conditions by an appropriately licensed contractor prior to refurbishment/demolition works.
- Conduct asbestos fibre air monitoring and clearance inspections during the removal of all asbestos containing materials.
- Schedule periodic reassessment of the asbestos containing materials remaining on-site to monitor their aging/deterioration - as per the *Management and Control of Asbestos in Workplaces* [NOHSC: 2018 (2005)].
- Prior to demolition/refurbishment works, undertake a Destructive Hazardous Material Survey as per Australian Standard AS 2601:2001 *'The Demolition of Structures'*.

6.2 Synthetic Mineral Fibre (SMF)

- Confirmed SMF materials should be maintained in goof condition and removed under controlled conditions prior to any refurbishment works likely to disturb the material as per the *National Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC: 2006(1990)].*

6.3 Polychlorinated Biphenyls (PCBs

- Confirm status of suspected PCB containing capacitors within fluorescent light fittings prior to refurbishment or demolition in the presence of a licensed electrician. Confirmed PCB containing electrical equipment should be handled with care and disposed of in accordance with Department of Environment Climate Change and Water (DECCW) guidelines.

6.4 Lead Containing Paint

- Remove flaking lead paint under controlled conditions by a suitably qualified contractor and stabilise (overpaint) the deteriorating lead based paint systems with a non-lead based paint system.
- If refurbishment works are likely to involve the disturbance of confirmed lead containing paint, dust suppression techniques should be utilised and a Lead Paint Removal Plan developed by a suitably experienced consultant.

Hazardous Materials Re-Inspection Report

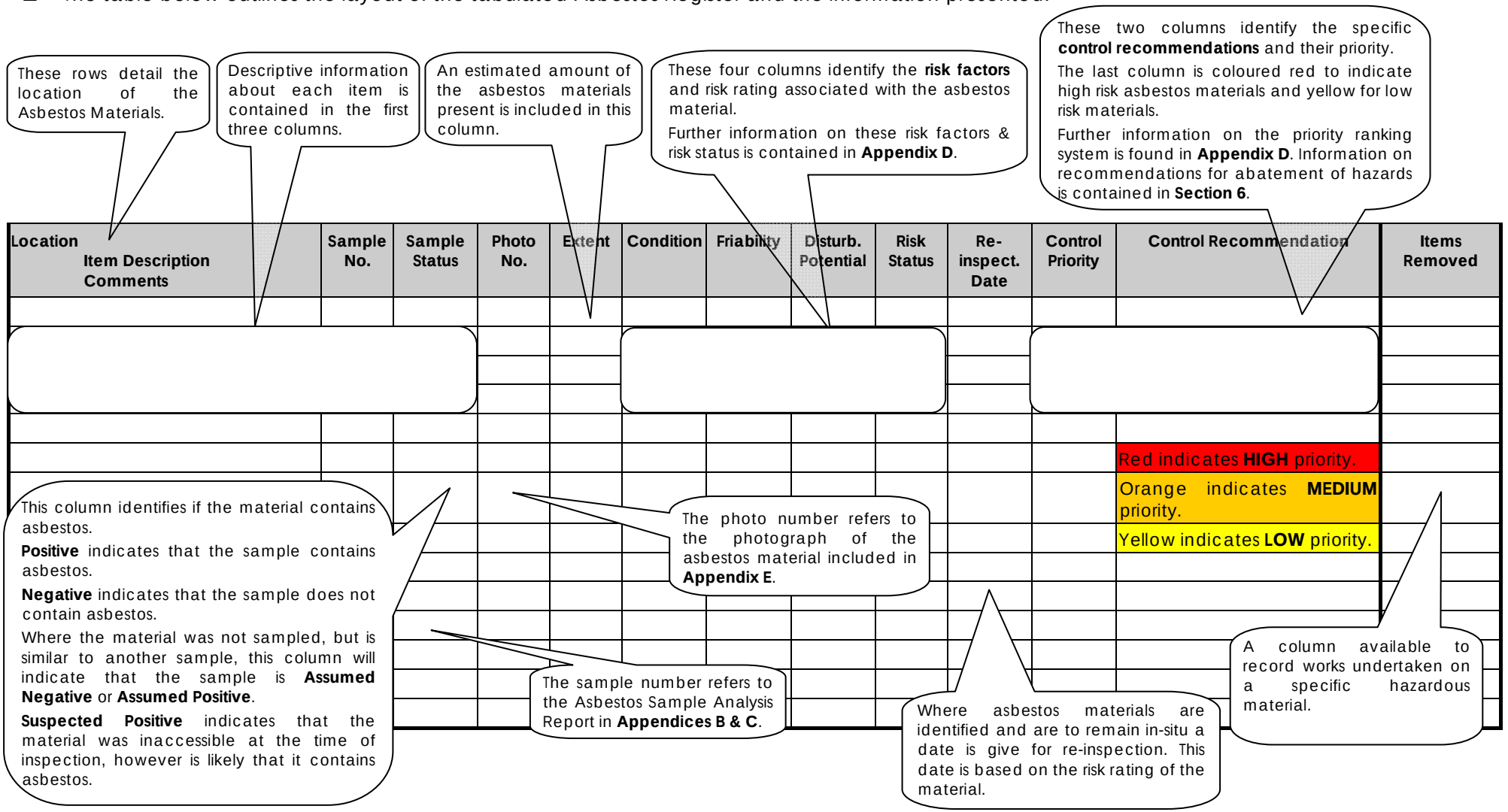
South Eastern Sydney Illawarra Area Health Service

Edmund Blackett West, Avoca Street, Randwick NSW

Appendix A: Hazardous Materials Register

How to use this Report

- The findings of the report are contained in this appendix: Hazardous Materials Register.
- A summary of the significant findings is contained in Section 5.
- The table below outlines the layout of the tabulated Asbestos Register and the information presented.



Hazardous Materials Register

Edmund Blackett West, Avoca Street, Randwick NSW

Date: 12th May 2011

Assessed by: Stuart Carroll

Asbestos Materials

Location Item Description Comments	Sample No.	Sample Status	Photo No.	Extent	Condition	Friability	Disturb. Potential	Risk Status	Re-inspect Date	Control Priority	Control Recommendation	Item Removed
Level 0												
Room 01 Lower walls Fibre cement sheeting	74436-06-01	Positive	1	~10m²	Good	Non-Friable	Low	Low	May 2012	4	Maintain in good condition. Remove under controlled conditions by an appropriately licensed contractor prior to refurbishment/demolition works.	-
Exterior Gable ends (North & South) Fibre cement sheeting	Same as 74436-06-02	Assumed Positive	2	~50m²	Good	Non-Friable	Low	Low	May 2012	4	Label, maintain in good condition. Remove under controlled conditions by an appropriately licensed contractor prior to refurbishment/demolition works.	
Exterior Eaves Fibre cement sheeting	74436-06-02	Positive	3	~50m²	Good	Non-Friable	Low	Low	May 2012	4	Maintain in good condition. Remove under controlled conditions by an appropriately licensed contractor prior to refurbishment/demolition works.	-
Exterior Switchboard Electrical backing board *Not sampled; electrical hazard	-	Suspected Positive	4	1 unit	Good	Non-Friable	Low	Low	May 2012	4	Confirm status and maintain in a good condition. Remove under controlled conditions by an appropriately licensed asbestos contractor prior to refurbishment/demolition works.	-

Location Item Description Comments	Sample No.	Sample Status	Photo No.	Extent	Condition	Friability	Disturb. Potential	Risk Status	Re-inspect Date	Control Priority	Control Recommendation	Item Removed
Exterior South-east Corner, Adjacent Walkway Downpipe Moulded fibre cement	87308-6-01	Positive	5	~1m	Fair	Non-Friable	Med	Low	May 2012	3	Encapsulate, label & maintain. Remove under controlled conditions by an appropriately licensed contractor prior to refurbishment/demolition works.	
Level B1												
Exterior Windows Caulking	87308-6-02	Negative	-	-	-	-	-	-	-	-	-	-

Synthetic Mineral Fibre (SMF)

Location Item Description	Photo No.	Form	Extent	Risk Status	Control Recommendation
Level 0					
Room 01 Hot Water Unit Suspected internal insulation	6	Bonded	1 unit	Low	Maintain in current condition. Remove under controlled conditions prior to demolition.
Room 07, Throughout Old Ceiling Space Insulation batts	7	Bonded	~250m^2	Low	Maintain in current condition. Remove under controlled conditions prior to demolition.
Room 07, Ceiling Space Hot Water Unit Suspected internal insulation	8	Bonded	1 unit	Low	Maintain in current condition. Remove under controlled conditions prior to demolition.

Polychlorinated Biphenyls (PCBs)

Location Item Description	Photo No.	Specifications	No. Fittings	Comments/Control Recommendation
Level 0				
Exterior East Walkway 1200mm double tubed fluorescent light fittings	9	-	7	**Suspected PCB present.** Approach with caution during maintenance works. Remove and dispose of appropriately prior to refurbishment or demolition works. Personnel undertaking such works should wear appropriate PPE, including nitrile gloves and disposable overalls.

Lead Containing Paint

Location Colour Description, Comments	Photo No.	Results	Extent	Condition	Control Recommendation
Level 0					
Exterior Southern Room, Walls Cream coloured paint system	10	**Positive**	~50m^2	Fair	Remove flaking paint under controlled conditions. Paint over with a lead-free paint as part of ongoing maintenance. If refurbishment works are likely to involve the disturbance of confirmed lead containing paint, dust suppression techniques should be utilized.
Exterior South Wall Window Frames White coloured paint systems	11	**Positive**	7 Units	Poor	Remove flaking paint under controlled conditions. Paint over with a lead-free paint as part of ongoing maintenance. If refurbishment works are likely to involve the disturbance of confirmed lead containing paint, dust suppression techniques should be utilized.
Exterior East Walkway Wooden Posts Brown coloured paint systems	12	**Positive**	16 Units	Fair	Remove flaking paint under controlled conditions. Paint over with a lead-free paint as part of ongoing maintenance. If refurbishment works are likely to involve the disturbance of confirmed lead containing paint, dust suppression techniques should be utilized.
Level B1					
Exterior South Wall White coloured paint system	13	**Positive**	~10m^2	Poor	Remove flaking paint under controlled conditions. Paint over with a lead-free paint as part of ongoing maintenance. If refurbishment works are likely to involve the disturbance of confirmed lead containing paint, dust suppression techniques should be utilized.
Exterior South Wall Door Upper layer cream coloured paint system	-	Negative	-	-	-

Location Colour Description, Comments	Photo No.	Results	Extent	Condition	Control Recommendation
Exterior South Wall Door Lower layer multi coloured paint systems	14	**Positive**	1 Unit	Fair	Remove flaking paint under controlled conditions. Paint over with a lead-free paint as part of ongoing maintenance. If refurbishment works are likely to involve the disturbance of confirmed lead containing paint, dust suppression techniques should be utilized.
Exterior South Wall Door Frame White coloured paint system	14	**Positive**	1 Unit	Poor	Remove flaking paint under controlled conditions. Paint over with a lead-free paint as part of ongoing maintenance. If refurbishment works are likely to involve the disturbance of confirmed lead containing paint, dust suppression techniques should be utilized.

Hazardous Materials Re-Inspection Report

South Eastern Sydney Illawarra Area Health Service

Edmund Blackett West, Avoca Street, Randwick NSW

Appendix B: Asbestos Sample Analysis Report

Risk Management Services

NOEL ARNOLD & ASSOCIATES PTY LTD
A.B.N. 76 006 318 010
Level 2, 11 Khartoum Road,
North Ryde, NSW 2113 Australia
Phone: (02) 9889 1800
Fax: (02) 9889 1811
Email: sydney@noel-arnold.com.au
www.noel-arnold.com.au

Monday 31/01/2011

Our ref: SS0272:87308-06

Michael Essex
South Eastern Sydney Illawarra Area Health Service
Avoca Street
RANDWICK NSW 2031

Dear Michael

Re: Asbestos Identification Analysis - Edmund Blackett (West Wing (6)) - Prince of Wales Hospital, Randwick NSW

This letter presents the results of asbestos fibre identification analysis performed on 1 sample collected by Spencer Varndell of Noel Arnold & Associates Pty Ltd on Tuesday 24th January 2011. The sample was collected from Edmund Blackett (West Wing (6)) - Prince of Wales Hospital, Randwick NSW .

All sample analysis was performed using polarised light microscopy, including dispersion staining in our Sydney Laboratory in accordance with Noel Arnold and Associates Pty Ltd Test Method NALAB 302 "Asbestos Identification Analysis" and following the guidelines of Australian Standard AS4964-2004.

The sample will be kept for six months and then disposed of, unless otherwise directed.

The results of the asbestos identification analysis are presented in the appended table.

Should you require further information please contact Spencer Varndell.

Yours sincerely
NOEL ARNOLD & ASSOCIATES PTY LTD

Simon Day: Approved Identifier

Simon Day: Approved Signatory

NATA
WORLD RECOGNISED ACCREDITATION

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Sydney Laboratory
Sample Analysis Results

Site Location:	Edmund Blackett (West Wing (6)) - Prince of Wales Hospital, Randwick NSW		
	Sample ID	**Sample Location/Description/Weight or Size**	**Analysis Result**
1	87308-06 01	Exterior, Walkway, Downpipe - Moulded fibre cement sheeting Dirty brown-painted grey compressed fibre-cement sheet material ~ 120 x 95 x 10 mm	**Chrysotile (white asbestos)**
2	87308-06 02	Exterior, Basement, Windows - Caulking White-painted cream hardened mastic material ~ 32 x 12 x 5 mm	No Asbestos Detected

*** Shaded row with bolded text indicates a positive result for asbestos.**

Hazardous Materials Re-Inspection Report

South Eastern Sydney Illawarra Area Health Service

Edmund Blackett West, Avoca Street, Randwick NSW

Appendix C: Previous Asbestos Sample Analysis Report

Noel Arnold & Associates
Risk Management Services

NOEL ARNOLD & ASSOCIATES PTY LTD
A.B.N. 76 006 318 010
Level 2, 11 Khartoum Road,
North Ryde, NSW 2113 Australia
Phone: (02) 9889 1800
Fax: (02) 9889 1811
Email: sydney@noel-arnold.com.au
www.noel-arnold.com.au

Thursday 13/08/2009

Our ref: SP0068:74436-06

Michael Essex
Prince of Wales Hospital
Avoca Street
RANDWICK NSW 2031

Dear Michael,

Re: Asbestos Identification Analysis - Edmund Blacket West (06) - Prince of Wales Hospital, Randwick NSW

This letter presents the results of asbestos fibre identification analysis performed on 2 samples collected by Mark Walton of Noel Arnold & Associates Pty Ltd on Wednesday 12th August 2009. The samples were collected from Edmund Blacket West (06) - Prince of Wales Hospital, Randwick NSW .

All sample analysis was performed using polarised light microscopy, including dispersion staining in our Sydney Laboratory in accordance with Noel Arnold and Associates Pty Ltd Test Method NALAB 302 "Asbestos Identification Analysis" and following the guidelines of Australian Standard AS4964-2004.

The samples will be kept for six months and then disposed of, unless otherwise directed.

The results of the asbestos identification analysis are presented in the appended table.

Should you require further information please contact Mark Walton.

Yours sincerely
NOEL ARNOLD & ASSOCIATES PTY LTD

Simon Day: Approved Identifier

Simon Day: Approved Signatory

NATA
WORLD RECOGNISED ACCREDITATION

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Sydney Laboratory
Sample Analysis Results

Site Location:	Edmund Blacket West (06) - Prince of Wales Hospital, Randwick NSW		
	Sample ID	**Sample Location/Description/Weight or Size**	**Analysis Result**
1	74436-06 01	Building West, Office RW6-0.01 Walls - Fibre cement sheeting Beige-painted grey compressed fibre-cement sheet material 17 x 10 x 3 mm	**Chrysotile (white asbestos)**
2	74436-06 02	Building West, External, Eaves - Fibre cement sheeting Beige-painted, green lichen-coated grey flat ribbed fibre-cement sheet material 65 x 49 x 5 mm	**Chrysotile (white asbestos)**

*** Bolded text indicates a positive result for asbestos.**

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Edmund Blackett West, Avoca Street, Randwick NSW

Appendix D: Risk Assessment Factors

Risk Assessment Factors - Asbestos

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

- Evidence of physical damage;
- Evidence of water damage;
- Proximity of air plenums and direct air stream;
- Friability of asbestos material;
- Requirement for access for building operations;
- Requirement for access for maintenance operations;
- Likelihood of disturbance of the asbestos material;
- Accessibility;
- Exposed surface areas; &
- Environmental conditions.

These aspects are in turn judged upon; (i) potential for fibre generation, and, (ii) the potential for exposure. Where these factors have indicated that there is a possibility of exposure to airborne fibres, appropriate recommendations for repair, maintenance or abatement of the asbestos containing materials are made.

Condition

The condition of the asbestos products identified during the survey is usually reported as either being good or poor.

- *Good* refers to asbestos materials, which have not been damaged or have not deteriorated.
- *Fair* refers to the asbestos material having suffered minor cracking or de-surfacing.
- *Poor* describes asbestos materials, which have been damaged, or their condition has deteriorated over time.

Friability

The friability of asbestos products describes the ease of which the material can be crumbled, and hence to release fibres.

- *Friable asbestos* (eg limpet beam insulation, pipe lagging) can be easily crumbled and is more hazardous than non-friable asbestos products.
- *Non-friable asbestos,* commonly known as bonded asbestos, is typically comprised of asbestos fibres tightly bound in a stable non-asbestos matrix.

Examples of non-friable asbestos products include asbestos cement materials (sheeting, pipes etc), asbestos containing vinyl floor tiles and electrical backing boards.

Accessibility/Disturbance Potential

Asbestos products can be classified as having low, medium or high accessibility/disturbance potential.

- *Low* accessibility describes asbestos products that cannot be easily disturbed, such as materials in building voids, set ceilings etc.
- *Medium* accessibility describes asbestos products that are visible but normal access is impeded, such as materials behind cladding material or is present in a ceiling Space or are height restricted.
- *High* accessibility asbestos products can be easily accessed or damaged due to their close proximity to personnel, eg asbestos cement walls or down pipes.

Risk Status

The risk factors described above are used to rank the health risk posed by the presence of asbestos containing materials.

- A *low* risk ranking describes asbestos materials that pose a low health risk to personnel, employees and the general public providing they stay in a stable condition, for example asbestos materials that are in good condition and have low accessibility.
- A *medium* risk ranking applies to materials that pose an increased risk to people in the area.
- Asbestos materials that possess a *high* risk ranking pose a high health risk to personnel or the public in the area of the material.

Priority Rating System for Control Recommendations

The following schedule of risk status priority rating is adopted to assist in the programming of the removal or containment of risks of asbestos materials in the property.

Priority 1: Hazard with High Risk Potential (Red)

Status: Area has asbestos materials, which are either damaged or are being exposed to continual disturbance. Due to these conditions there is an increased potential for exposure and/or transfer of the material to other parts with continued unrestricted use of this area.

Recommendation: It is recommended that the area is isolated, air-monitoring be conducted (if relevant) and the asbestos material is promptly removed. After abatement of the asbestos material a re-inspection should be conducted to confirm that the area has been satisfactorily cleared of the material.

Priority 2: Hazard with Medium Risk Potential (Orange)

Status: Area has asbestos materials with a potential for disturbance due to the following conditions:

1. Material has been disturbed or damaged and its current condition, while not posing an immediate hazard, is unstable; or
2. The material is accessible and can, when disturbed, presents a short-term exposure risk; or
3. The material could pose an exposure risk if workers are in close proximity.

Recommendation: Appropriate abatement measures to be taken as soon as is practical (3-6 months). Negligible health risks if materials remain undisturbed under the control of an asbestos materials management plan.

Priority 3: Hazard with Low Risk Potential (Yellow)

Status: Area has asbestos materials where:

1. The condition of any friable asbestos material is stable and has a low potential for disturbance; or
2. The asbestos material is in a non-friable condition, however has been damaged, but does not present an exposure risk unless cut, drilled, sanded or otherwise abraded. The damaged bonded material must be removed or repaired by a licensed contractor.

Recommendation: Negligible health risks if the materials are left undisturbed under the control of an asbestos material management plan. Consider abatement within 12 months of the damaged bonded asbestos materials (e.g. asbestos cement material).

Priority 4: Hazard with Negligible (very low) Risk Potential (Yellow)

Status: The asbestos material is in a non-friable form and in good condition. It is most unlikely that the material can be disturbed under normal circumstances. Even if it were subjected to minor disturbance the material poses a negligible health risk.

Recommendation: These materials should be left and their condition monitored during subsequent reviews.

Risk Assessment Factors for SMF

Risk assessment factors for Synthetic Mineral Fibre are very similar for asbestos products, where evidence of damage, accessibility, likelihood of disturbance etc is used when assessing SMF materials. Similarly SMF condition, accessibility and risk status headings used above for asbestos can be applied to SMF materials.

There are two basic forms of SMF insulation, bonded and un-bonded:

- *Bonded* SMF is where adhesives or cements have been applied to the SMF before delivery and the SMF product has a specific shape; &
- *Un-bonded* SMF has no adhesives or cements and the SMF is loose material packed into a package.

Removal of bonded materials is easier and less hazardous than removal of un-bonded SMF material.

Risk Assessment Factors for Polychlorinated Biphenyls

The handling and disposal of PCBs must be performed in accordance with *The New South Wales Protection Of The Environment Operations Act,* 1997.

The following Personal Protective Equipment should be worn when handling items containing Polychlorinated Biphenyls - nitrile gloves, eye protection, and disposable overalls. The PPE should be worn when removing capacitors from light fittings in case Polychlorinated Biphenyls material leaks from the capacitor housing.

Generally, metal-cased capacitors contain PCBs. Plastic–cased capacitors usually do not. However, all leaking capacitors should be treated as if they contain PCBs unless proven otherwise.

Risk Assessment Factors for Lead Paint

Lead paint, as defined by the Australian Standard *AS4361.2 – 1998 Guide to Lead Paint Management – Part 2: Residential and Commercial Buildings,* is that which contains in excess of 1% Lead by weight.

Lead carbonate (white lead) was once the main white pigment in paints for houses and public buildings. Paint with lead pigment was manufactured up until the late 1960's, and in 1969 the National Health and Medical Research Council's Uniform Paint Standard was amended to restrict lead content in domestic paint.

Lead in any form is toxic to humans when ingested or inhaled, with repeated transmission of particles cumulating in lead poisoning. Lead paint is assessed based on two potential routes of exposure. Firstly by the likelihood of inhalation or ingestion by people working in the vicinity of the paint and secondly by the condition of the paint. Paint that is flaking or in poor condition is more likely to be ingested than paint that is in a good, stable condition.

Hazardous Materials Re-Inspection Report

South Eastern Sydney Illawarra Area Health Service

Edmund Blackett West, Avoca Street, Randwick NSW

Appendix E: Photographs

Hazardous Materials

Photo 1. Level 0, Room 01, Lower walls – Asbestos containing fibre cement sheeting

Photo 2. Exterior, Gable ends (North & South) – Asbestos containing fibre cement sheeting

Photo 3. Exterior, Level 0, Eaves – Asbestos containing fibre cement sheeting

Photo 4. Exterior, Level 0, Switchboard – Suspected asbestos containing electrical backing board

Photo 5. Exterior, South-east Corner, Adjacent Walkway, Downpipe – Asbestos containing moulded fibre cement

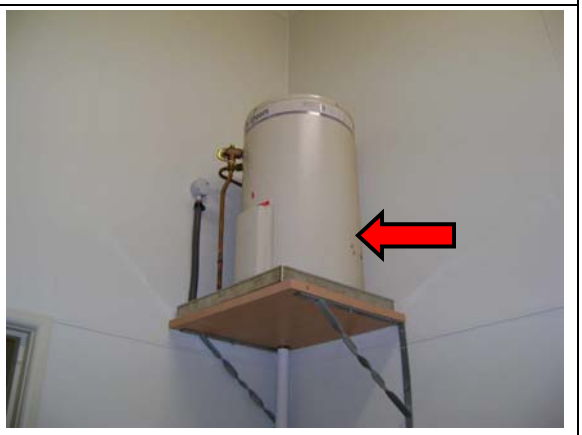

Photo 6. Level 0, Room 01, Hot Water Unit – Suspected internal SMF insulation

Photo 7. Level 0, Room 07, Throughout old Ceiling Space – SMF insulation batts

Photo 8. Level 0, Room 07, Ceiling Space, Hot Water Unit – Suspected internal SMF insulation

Photo 9. Level 0, Exterior, East Walkway, Within 1200mm Double Tubed Fluorescent Light Fitting – Suspected PCB containing capacitor

Photo 10. Level 0, Southern Room exterior – Cream coloured lead paint system

Photo 11. Level 0, Exterior, South Wall, Window Frames – White coloured lead paint systems

Photo 12. Level 0, Exterior, East Walkway, Wooden Posts – Brown coloured lead paint systems

	
Photo 13. Level B1, Exterior, South Wall – White coloured lead paint system	**Photo 14.** Level B1, Exterior, South Wall, Door – Lower layer multi coloured lead paint system; & Door Frame – White coloured lead paint system

Hazardous Materials Re-Inspection Report

South Eastern Sydney Illawarra Area Health Service

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Appendix F: General Hazardous Materials Information

Information on Common Asbestos Materials

Asbestos containing materials can be classified into the following main categories:

- Sprayed or trowelled asbestos materials applied to ceilings, walls and other surfaces for fire-rating purposes. This material is commonly referred to as limpet asbestos.
- Asbestos containing insulation on pipes, boilers, tanks, ducts etc. which is often referred to as asbestos lagging.
- Asbestos cement products, Cementitious or concrete like products.
- Asbestos paper products, millboard in electrical switchboards or underlaying lining for linoleum or vinyl floor coverings.
- Asbestos textiles, braided asbestos, rope, tape, gaskets etc (note that rope and millboard are potentially friable).
- Vinyl tiles, linoleum and vinyl flooring mastic and associated adhesives.
- Asbestos containing compounds, gaskets and mastic from mechanical fittings, and roofing membranes.
- Electrical switchboards containing compressed asbestos tar electrical boards, asbestos cement sheeting, asbestos rope to spark arresters and asbestos millboard from inside auxiliary switchboxes/fuse boards.
- Roofing sealants, bituminous membranes, tar composites and similar materials were occasionally mixed with asbestos materials.
- Some office furnishings such as wall partitions may contain an asbestos cement internal lining inside plaster or “Stramit” type panelling. Certain types of older vinyl covered desktops and workbenches may contain an underlying asbestos millboard lining.

Sprayed Asbestos Materials

Sprayed asbestos or limpet asbestos is most often found on structural steel members to provide a fire-rating. Limpet asbestos is a friable material. Friable materials are those which can easily be crumbled, pulverised or reduced to powder by hand pressure. Limpet asbestos tends to be the most friable of all asbestos containing materials and can contain relatively high percentage of asbestos (30% - 90%).

Limpet asbestos can slowly release fibres as the materials age ie. As its friability increases. Direct mechanical damage or excessive machinery vibration can lead to more significant release of airborne asbestos fibres.

Asbestos Containing Lagging Materials

Insulation such as lagging usually contains a smaller percentage of asbestos (usually 20% - 50%). Protective jackets on the insulation materials (such as metal jacketing or calico on pipe lagging) prevent asbestos fibre release. Physical damage to the protective jacket however, may lead to the release of respirable fibres. The binding material in the insulation can deteriorate with age rendering it more friable.

Asbestos Cement Sheeting Materials

Asbestos cement products and asbestos gaskets generally do not present a significant health risk unless they are cut, sanded or otherwise disturbed so as to release asbestos dust. Fibre release due to occasional damage is negligible and thus not a significant health risk. Care must be taken therefore in the removal of asbestos cement products to avoid the release of airborne fibres. Unless analysis of fibre cement products indicates otherwise, these materials should be considered as containing asbestos.

External asbestos cement claddings become weathered after many years by the gradual loss of cement from the exposed surface. This leaves loosely bound layers enriched with asbestos fibres. In other words, the material becomes more friable through the weathering process.

Asbestos Containing Vinyl Products

Vinyl tiles and linoleum flooring manufactured before 1984 may contain asbestos in various quantities in a well-bound cohesive matrix. Asbestos containing vinyl floor and wall coverings generally do not present a significant health risk unless they are sanded or otherwise mechanically abraded so as to release asbestos dust. Fibre release due to occasional damage is negligible and thus not a significant health risk. Care must be taken therefore, in the removal of asbestos containing vinyl tiles to avoid the release of airborne fibres. Unless analysis of vinyl tiles and linoleum flooring indicates otherwise, these materials should be considered as containing asbestos. Older bituminous adhesives may also contain asbestos and must be removed as an asbestos process in circumstance where the floor is to be renewed and re-Levelled by floor sanding or grinding.

Asbestos Containing Gaskets

Gaskets and sealing compounds in equipment, duct work and re-heat air conditioning boxes may contain asbestos. These should be replaced with non-asbestos equivalents during routine maintenance, as should asbestos containing mastic and seals in air handling duct work joints. These usually do not pose a hazard as the asbestos fibres are firmly held within the plastic resinous compound and should be replaced as part of routine maintenance or removed during the demolition of the plant equipment.

Asbestos Insulation to Re-Heat Boxes

Insulation to internal lining of ductwork sections and electrical re-heat air conditioning boxes generally contain asbestos millboard. These should be replaced with non-asbestos equivalents during routine maintenance.

Asbestos Containing Mastics and Sealants

Many mastic and sealant products contain Chrysotile asbestos within the pliable, resinous matrix. The nature of the substrate is such that it does not readily dry out in situ, and therefore the fibres are well bound and pose a low risk.

Management of Asbestos Hazards

The health effects associated with asbestos exposure are due to the inhalation of airborne respirable asbestos fibres. In general, the asbestos fibres cannot be released to become airborne in significant quantities unless the asbestos containing material is severely disrupted such as in the case of cutting asbestos cement products with power saws etc.

A range of control measures are available for the abatement of asbestos hazards. The selection of the appropriate control measure is based on the assessment risk for each specific location. These measures include:

- **Leave and maintain** in existing condition.
- **Repair and maintain** in good condition.
- **Enclose** asbestos or synthetic mineral fibre material by providing a barrier such as a box enclosure or steel cladding.
- **Remove** by approved methods under controlled conditions.
- **Labelling** of asbestos materials that are to remain in situ should be undertaken where practical to ensure that the asbestos materials are not damaged inadvertently by maintenance contractors etc.

Synthetic Mineral Fibre (SMF)

General

In the late 1980's the International Agency for Research on Cancer (IARC) evaluated certain SMF materials as being possibly carcinogenic to humans. The similarity in application and appearance to asbestos has resulted in some community concern regarding the health effects associated with exposure to SMF.

Current medical research indicates that the slightly increased risk of lung cancer for workers employed in the early days of rockwool and slagwool manufacture, and workers in the glasswool sector is not anticipated under present day working conditions. However, acute health affects such as eye, skin and upper respiratory tract irritation may occur with certain SMF products.

Caution is required when handling SMF products in order to minimise disturbance of the materials and subsequent airborne SMF fibre Levels. Where SMF materials are to be installed or removed, then suitable controls and appropriate personal protection are to be provided.

It is recommended that the following Code of Practice be closely adhered to for appropriate procedures when handling such materials:

- *National Code of Practice for Safe Use of Synthetic Mineral Fibres [NOHSC: 2006(1990)].*

Polychlorinated Biphenyls (PCBs)

General

PCBs are usually identified as a colourless to darker coloured oily liquid. PCBs are considered probable carcinogens. They can be absorbed through the skin, inhaled as a vapour or ingested, therefore contact with them should be prevented. They are often found in old transformers and metallised capacitors of fluorescent light fittings. These synthetic compounds are chemically stable, have good insulating properties and do not degrade appreciably over time or with exposure to high temperatures. It is these properties that made PCBs useful in electrical devices.

Lead containing Paint

General

Lead paint, as defined by the Australian Standard *AS4361.2 – 1998 Guide to Lead Paint Management – Part 2: Residential and Commercial Buildings,* is that which contains in excess of 1% Lead by weight.

Lead carbonate (white lead) was once the main white pigment in paints for Houses and public buildings. Paint with lead pigment was manufactured up until the late 1960's, and in 1969 the National Health and Medical Research Council's Uniform Paint Standard was amended to restrict lead content in domestic paint.

Many older Australian homes and buildings still contain lead paint, even though it may be covered with layers of more recent paint. Lead paint was used mainly on exterior surfaces, and to a lesser degree on interior doors plus door and window architraves, especially in undercoats and primers, where concentrations of up to 20% lead content were used. Interior walls weren't commonly painted with paint containing white lead pigment, though some colours did contain red, orange and yellow lead pigments.

All paints manufactured for Australian dwellings from the 1970's onwards have been required to contain less than 1% lead, though higher lead-content industrial paints may have been applied since then to housing and commercial buildings.

Lead in any form is toxic to humans when ingested or inhaled, with repeated transmission of particles cumulating in lead poisoning. Lead paint removal poses two potential avenues of transmission. Firstly by inhalation or ingestion by workers and public in the vicinity of the works, and secondly by the deposition of particles on nearby footpaths, streets or soil where they may be resuspended, tracked into Houses or buildings where it can be inhaled or ingested.

Hazardous Materials Re-Inspection Report

South Eastern Sydney Illawarra Area Health Service

Edmund Blackett West, Avoca Street, Randwick NSW

Appendix G: Site Plans

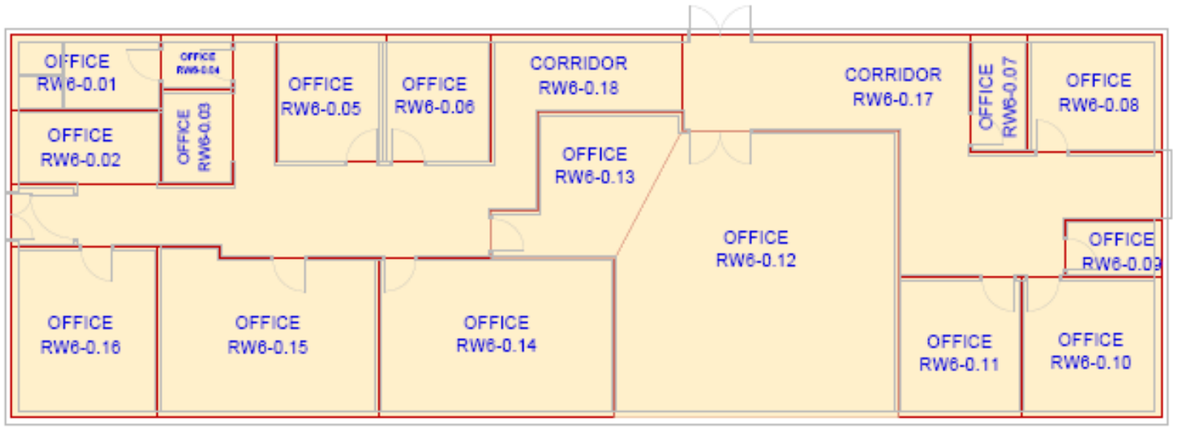
SOUTH EASTERN SYDNEY ILLAWARRA
NSW HEALTH

POW Hosp
Randwick Bldg 06
Level 00

FLOOR PLAN

- Location Status
- Program
- PKI 3
- PKI 4
- Change Status
- Plan Drawing
- Decomm Rooms
- Site/Building List
- Administration
- Back

Aperture



Prince of Wales Hospital	**Edmond Blackett West (6)**	**Level 00**	**Hazardous Materials Survey**