



**REPORT TO
HEALTH INFRASTRUCTURE C/- CBRE

ON
HAZARDOUS BUILDING MATERIALS SURVEY

FOR
PROPOSED NEPEAN CAMHS**

**AT
NEPEAN HOSPITAL, DERBY STREET, KINGSWOOD,
NSW**

Date: 18 February 2021
Ref: E33780PLrpt-HAZ

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Abbreviations

Asbestos Containing Material
Chain of Custody
JK Environments
National Association of Testing Authorities
Personal Protective Equipment
Polychlorinated Biphenyls
Practical Quantitation Limit
Synthetic Mineral Fibre

ACM
COC
JKE
NATA
PPE
PCB
PQL
SMF

1 INTRODUCTION

Health Infrastructure ('the client') commissioned JK Environments (JKE) to undertake a hazardous building materials survey (HAZMAT) for the proposed Nepean Child and Adolescent Mental Health Service (CAMHS) development at the Nepean Hospital, Derby Street, Kingswood, NSW ('the site'). The site location is shown on Figure 1 and the survey was confined to the development area as shown on Figure 2.

This document was prepared specifically for the proposed site development works and is not a hazardous building materials management plan or removal control plan.

The document does not contain information regarding an assessment of risk, safe work procedures or control measures associated with hazardous building materials. In the event that hazardous building materials remain within the buildings/structures at the site a hazardous building materials management plan must be prepared.

1.1 Proposed Development Details

The proposed development includes demolition of the existing hospital buildings and construction of a new CAMHS building. The new CAMHS building will comprise a single storey concrete framed building with an under-croft basement.

1.2 Scope of Work

The survey was undertaken generally in accordance with a JKE proposal (Ref: EP53288P) of 21 December 2020 and written acceptance from the client via email of 13 January 2021. The scope of work included the following:

- A detailed inspection of the existing building and structures shown on Figure 2;
- Sampling of representative materials in accordance with the assessment criteria and inspection procedure outlined in Section 4;
- Documentation of inspection finds including sample location, material type, condition, friability, photographic evidence and site location;
- Laboratory analysis of selected representative materials; and
- Preparation of a report presenting the results of the hazardous building materials survey.

2 SITE DESCRIPTION

Field work for this investigation was undertaken on 4 February 2021. The site description at the time of the field work is outlined below. The site location is shown on Figure 1 and the site layout plan is shown on Figure 2.

The site is located within the wider Nepean Hospital campus, to the north of Derby Street, Kingswood, NSW. The site generally consisted of two hospital buildings named 'Nepean 1' and 'Nepean 2', with Nepean 1 located to the west and Nepean 2 to the east, as shown on the attached Figure 2.

A general description of each building is outlined below:

Nepean 1 – The single storey building contained the Media Centre and payroll staff offices. The internal areas consisted of a mix of open plan and private offices with staff amenities, including a kitchen and several bathrooms. An external electrical switch room was attached to the eastern end of the building. The building was of brick and concrete construction with brick and timber clad external walls, rendered brick and plaster internal walls, acoustic tile and plaster ceilings, corrugated metal roof, and concrete floor. It was estimated the building was constructed around the 1970's.

Nepean 2 – The two-storey building contained the training and ICT centre on the ground floor with the nutrition and dietetics department on the first floor. The ground floor internal areas consisted of offices, training rooms and lecture rooms with male and female toilets. The first floor contained offices, storage rooms and laboratory areas. The sub-floor of the building was accessible for maintenance staff and contained the air-conditioning units and ductwork. The building was of brick and metal construction with corrugated metal external walls, plaster internal walls, corrugated metal roof, plaster internal walls and timber floors. It was estimated the building was constructed around the 1990's.

3 REGULATORY BACKGROUND INFORMATION

All work associated with the inspection and reporting of hazardous building materials is generally undertaken in accordance with the following legislation, guidelines and standards:

Table 3-1: Guidelines / Documents

GUIDELINES / REGULATIONS / DOCUMENTS
Asbestos
<i>Code of Practice How to Manage and Control Asbestos in the Workplace, Safe Work NSW, August 2019</i>
<i>Code of Practice How to Safely Remove Asbestos, Safe Work NSW, August 2019</i>
SMF
<i>National Standard for the Safe Use of Synthetic Mineral Fibres [National Occupational Health and Safety Commission:1004 (1990)]</i>
<i>National Code of Practice for the Safe Use of Synthetic Mineral Fibres [National Occupational Health and Safety Commission:2006 (1990)]</i>
<i>Code of Practice for the Safe Use of Synthetic Mineral Fibres, WorkCover: 1993.</i>
Lead
<i>Guide to Lead Paint Management - Part 2: Residential and Commercial Buildings, Australian Standard AS4361.2, 1998</i>
<i>Guide to Hazardous Paint Management, Part 2: Lead Paint in Residential, Public and Commercial Buildings, Australian Standard AS4361.2, 2017</i>
PCBs
<i>Identification of PCB-Containing Capacitors, Australian and New Zealand Environment and Conservation Council (ANZECC), 1997</i>
General
<i>Work Health and Safety Act 2011 (NSW)</i>
<i>Work Health and Safety Regulation 2017 (NSW)</i>
<i>The Demolition of Structures, Australian Standard AS2601 (2001)</i>

4 ASSESSMENT CRITERIA AND INSPECTION PROCEDURE

The assessment included a visual inspection of the buildings, sampling and laboratory analysis as described in the following sections.

4.1 Asbestos Fibre Containing Materials

Representative samples of construction materials identified as potentially containing asbestos were obtained using hand tools by personnel wearing suitable personal protective equipment (PPE). The samples were placed in sealed plastic bags and labelled with a unique job number, sampling location and date. All samples were recorded on the chain of custody (COC) record presented in Appendix C.

Following the completion of the field inspection, the samples were forwarded to a National Association of Testing Authorities (NATA) registered laboratory, Envirolab Services Pty Ltd (NATA Accreditation No. 2901), for analysis. The asbestos samples were analysed using stereo and polarising light microscopy methods with dispersion staining techniques.

4.2 Lead Containing Materials

Representative samples of deteriorated paint films and accumulated dust that potentially contain elevated lead concentrations were obtained using hand tools by personnel wearing suitable PPE.

Only significantly deteriorated paint systems that are considered likely to impact on demolition/refurbishment practices or that are considered a health or environmental hazard were sampled and recorded.

The paint flakes obtained included all layers of paint on a particular surface and so are considered to be composites of the materials at each location. The paint flake samples were placed in sealed plastic bags and labelled with a unique job number, sampling location and date. All samples were recorded on the COC record presented in Appendix C.

In accordance with the Australian Standard AS4361.2, 2017 *“Guide to Hazardous Paint Management, Part 2: Lead Paint in Residential, Public and Commercial Buildings*, a lead in paint concentration greater than 0.1% w/w is considered to be lead based paint.

Settled dust sampling involved the collection of settled dust from a known surface area by wet wipe. The area should preferably be 0.09m² (which corresponds to an area 30 cm × 30cm) and in any event not less than 0.01m², depending on the amount of dust present. A non-alcoholic moistened wipe is folded to form a firm swab. The swab is placed flat onto the surface in one corner of the area to be sampled and rubbed across the entire area in an ‘S’ pattern. The wipe is re-folded so that the collected dust is on the inside and is again rubbed across the area at 90° to the first ‘S’. The wipe is again folded with the dust inside and placed in the sterile sample container.

The lead concentration per m² is calculated using the equation $(\mu\text{g}/\text{swab} \div 0.09) \div 1000$.

Following the completion of the field inspection, the samples were forwarded to a NATA registered laboratory for analysis. Analysis for lead content is performed using a nitric and hydrochloric acid digest followed by ICP-AES (Inductively Coupled Plasma – Atomic Emission Spectroscopy) quantification methods.

The result, when received from the laboratory, is converted to milligrams, and then divided by the area sampled (in square metres) to give a lead loading expressed in mg/m².

4.2.1 Lead Materials Assessment Criteria

As stated above, a lead in paint concentration greater than 0.1% w/w is considered to be lead based paint. Where the laboratory reports lead results in mg/kg, these results are converted by JKE and presented in the register in %w/w.

In the absence of current published lead levels in dust, the acceptance level of 8mg/m² for exterior surfaces as published in *Australian Standard AS4361.2, 1998 Guide to Lead Paint Management - Part 2: Residential and Commercial Buildings*, is considered the most appropriate guideline for comparison for lead in ceiling dust, and has been adopted for the assessment.

4.3 Polychlorinated Biphenyls (PCBs) Containing Electrical Equipment

The major use of PCBs in the electrical industry has been inside transformers and capacitors. Transformers may include relatively small transformers inside electrical mains/fuse cabinets. Capacitors containing PCBs were installed in numerous types of fluorescent light fittings during the 1950's, 60's and 70's.

Representative samples of each type of electrical equipment identified within the existing structure were visually examined to assess whether the equipment is insulated with PCBs. Details on the make, type, capacitance, dimensions, date and power were recorded and checked with the ANZECC database of known PCB containing electrical equipment and the results of the review were noted.

4.4 Synthetic Mineral Fibre Containing Materials

Construction materials identified as potentially containing synthetic mineral fibre (SMF) were examined by site personnel and their location was noted. In the event that the materials were suspected to contain asbestos fibres, representative samples were obtained using hand tools by personnel wearing suitable PPE. The material samples were placed in sealed plastic bags and labelled with a unique job number, sampling location and date. All samples were recorded on the COC record presented in Appendix C.

Following the completion of the field inspection, the samples were forwarded to a NATA registered laboratory for asbestos fibre analysis. The samples were analysed using stereo and polarising light microscopy methods with dispersion staining techniques.

5 RESULTS OF THE INSPECTION

The results of the inspection and subsequent laboratory analysis are summarised in the following sections. For specific locations and details of materials identified during the inspection, please refer to the Hazardous Building Materials Register in Appendix B and the laboratory analysis report in Appendix C.

5.1 Asbestos

Asbestos containing materials were identified within the interior and the exterior of the existing building and structures at the site at the time of the inspection. Only bonded asbestos containing materials were encountered at the site.

Refer to Section 6.1 of this report for recommendations on asbestos and the Hazardous Building Materials Register for details of material sampled and inspected for asbestos.

5.2 Lead in Paint

Not identified within the scope and limitations of the report.

5.3 Lead in Accumulated Dust

Not identified within the scope and limitations of the report.

5.4 Polychlorinated Biphenyls (PCBs)

Fluorescent light fittings potentially housing PCB containing capacitors were identified to the external areas of Nepean 1 building. The fittings were visually inspected at the time of the inspection. Refer to Section 6.4 of this report for recommendations on PCBs.

5.5 Synthetic Mineral Fibre (SMF)

Materials containing SMF were identified in the form of foil wrapped insulation, foil backed insulation, acoustic ceiling tiles, vinyl tiles and vinyl sheeting at the site. All materials were in good condition at the time of the inspection. Refer to Section 6.5 of this report for recommendations on SMF containing materials.

5.6 Site Access Limitations

Access throughout the site was generally restricted due to furniture, fittings, floor coverings, stored materials and occupation by staff of the hospital.

Several rooms including storage rooms, electrical cupboards and lecture rooms within Nepean 2 were locked and inaccessible at the time of the inspection.

6 COMMENTS AND RECOMMENDATIONS

6.1 Asbestos Materials

Asbestos fibre containing construction materials have been identified within the interior and the exterior of the existing building and structures at the site. All asbestos materials were considered to be non-friable. Any materials presumed to contain asbestos must be treated as such.

Prior to demolition or refurbishment work this document must be provided as a register to the demolition/building contractor.

All works associated with the disturbance and removal of asbestos containing materials must be undertaken by a Licenced *Class B* Asbestos Removalist.

The asbestos removalist must prepare an Asbestos Removal Control Plan for the proposed works. The control plan should include an allowance for asbestos air fibre monitoring during the removal and thorough clean up works upon completion of the removal works.

An asbestos management plan must be prepared for the proposed works in areas containing asbestos.

A clearance inspection must be undertaken on completion of works and prior to any other construction activities being undertaken.

If previously unidentified materials (suspected of containing asbestos) are identified during the demolition phase, works should cease and the material should be inspected and classified by an experienced consultant. The area should be isolated and barricaded until the material has been classified as non-hazardous or removed and the area cleared.

All asbestos containing materials (and materials presumed to contain asbestos) must be removed in accordance with the regulations and codes outlined in Section 3 and by an experienced asbestos removal contractor.

6.2 Lead in Paint

Not identified within the scope and limitations of the report.

6.3 Lead in Accumulated Dust

Not identified within the scope and limitations of the report.

6.4 PCB Containing Electrical Equipment

Representative samples of each major type of fluorescent light fitting were visually inspected to determine which lights are fitted with PCB containing ballast capacitors.

Light fittings potentially housing a PCB containing metal capacitors were identified within external areas of the Nepean 1 building. PCBs are a scheduled waste with strict guidelines regarding transport and handling. PCB work is to be conducted in accordance with the Environmental Protection & Heritage Council's *Polychlorinated Biphenyls Management Plan*, Revised Edition April 2003. This briefly includes:

- Prior to demolition when the power is disconnected, inspect the light fittings;
- Metal PCB containing capacitors are to be removed, placed in plastic lined 200 litre drums and disposed of as PCB Scheduled Waste. Any light fitting that shows signs of oil staining from capacitors is to be disposed of as PCB contaminated;
- Protective clothing including eye protection, PCB resistant gloves and overalls are to be worn;
- Contaminated gloves and disposable coveralls are to be disposed of as PCB waste; and
- Contractors licenced to transport and handle PCBs must be used for transport and disposal.

If any metal cased capacitors are found during demolition works that were previously unidentified, they should be treated as containing PCBs. Details on storing, conveying and disposing of PCB material or PCB wastes can be found in *Polychlorinated Biphenyls Management Plan*, Environmental Protection & Heritage Council, Revised Edition April 2003.

6.5 SMF Materials

Sources of SMF containing materials are present as insulation material within the internal areas of the buildings at the site. These SMF materials were in a stable condition at the time of the site inspection.

All SMF containing materials must be removed in accordance with the national Standard and code outlined in Section 3 and by an experienced hazardous materials removal contractor.

7 LIMITATIONS

The conclusions developed in this report are based on site conditions which existed at the time of the survey. They are based on investigation of conditions at specific locations, chosen to be as representative as possible under the given circumstances, and visual observations of the site and vicinity, together with the interpretation of available documents reviewed as described in this report.

Surveys are conducted in a conscientious and professional manner. The nature of the task however, and the likely disproportion between any damage or loss which might arise from the work or reports prepared as a result, and the cost of our services, is such that JKE cannot guarantee that all hazardous building materials have been identified and/or addressed.

Due to the possibility of renovations and additions to the building structures over time, hazardous building materials may have been hidden behind new walls and ceilings. Such areas were inaccessible during the inspection. If any suspect materials are found during further renovation of the buildings, the material should be sent for identification and expert advice sought.

Therefore, while we carry out the work to the best of our ability, we totally exclude any loss or damages which may arise from services we have provided to our client and/or any other associated parties.

Unless specifically noted, the survey did not cover:

- Hidden and/or inaccessible locations such as in or under concrete slabs, wall cavities, hidden storage areas and the like;
- Lift wells and inaccessible/unidentified shafts, cavities and the like;
- Air conditioning, heating, mechanical, electrical or other equipment;
- General exterior ground surfaces and subsurface areas e.g. asbestos in fill/soil;
- Materials dumped, hidden, or otherwise placed in locations which one could not reasonably anticipate;
- Materials other than normal building fabric, materials in laboratories or special purpose facilities and building materials that cannot be reasonably and safely assessed without assistance;
- Areas where access was limited during the time of the site inspection as outlined in Section 6; and
- Materials other than asbestos, lead, PCBs and SMF are generally outside the scope as identification can require specialised analysis/inspection techniques.

Where other potentially hazardous materials are identified these are normally reported on to the best of the consultant's ability. Analysis is not normally included and there is no guarantee that all such materials have been identified and/or addressed.

All work conducted and reports produced by JKE are prepared for a particular Client's objective and are based on a specific scope, conditions and limitations, as agreed upon between JKE and the Client. Information and/or report(s) prepared by JKE may therefore not be suitable for any use other than the intended objective. No parties other than the Client should use any information and/or report(s) without first conferring with JKE.



Before passing on to a third party any information and/or report(s) prepared by JKE, the Client is to inform fully the third party of the objective and scope, and all limitations and conditions, including any other relevant information which applies to the information and/or report(s) prepared by JKE.

It is the responsibility of third parties to investigate fully to their satisfaction if any information and/or report(s) prepared by JKE are suitable for a specific objective. The report(s) and/or information produced by JKE should not be reproduced and/or presented/reviewed except in full.

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If you have any questions concerning the contents of this letter please do not hesitate to contact us.

Important Information About This Report

These notes have been prepared by JKE to assist with the assessment and interpretation of this report.

The Report is based on a Unique Set of Project Specific Factors

This report has been prepared in response to specific project requirements as stated in the JKE proposal document which may have been limited by instructions from the client. This report should be reviewed, and if necessary, revised if any of the following occur:

- The defined subject site is increased or sub-divided; or
- Ownership of the site changes.

JKE will not accept any responsibility whatsoever for situations where one or more of the above factors have changed since completion of the assessment. If the subject site is sold, ownership of the assessment report should be transferred by JKE to the new site owners who will be informed of the conditions and limitations under which the assessment was undertaken. No person should apply an assessment for any purpose other than that originally intended without first conferring with the consultant.

Misinterpretation of Site Assessments by Design Professionals

Costly problems can occur when other design professionals develop plans based on misinterpretation of an assessment report. To minimise problems associated with misinterpretations, the environmental consultant / asbestos assessor should be retained to work with appropriate professionals to explain relevant findings and to review the adequacy of plans and specifications relevant to hazardous building materials.

Read Responsibility Clauses Closely

Because an environmental site assessment is based extensively on judgement and opinion, it is necessarily less exact than other disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, model clauses have been developed for use in written transmittals. These are definitive clauses designed to indicate consultant responsibility. Their use helps all parties involved recognise individual responsibilities and formulate appropriate action. Some of these definitive clauses are likely to appear in the environmental site assessment, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to any questions.



Appendix A: Report Figures



AERIAL IMAGE SOURCE: MAPS.AU.NEARMAP.COM

Title: SITE LOCATION PLAN	
Location: NEPEAN HOSPITAL, DERBY STREET, KINGSWOOD, NSW	
Project No: E33780PL	Figure No: 1
JKEnvironments	

This plan should be read in conjunction with the Environmental report.



PLOT DATE: 18/02/2021 9:46:11 AM DWG FILE: Z:\6 EIS\6C EIS JOBS\33000\SE\33780PL KINGSWOOD\CAD\E33780PL.DWG
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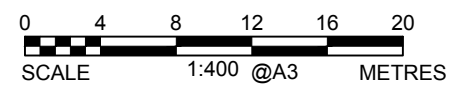


LEGEND



APPROXIMATE SITE BOUNDARY

AERIAL IMAGE SOURCE: MAPS.AU.NEARMAP.COM



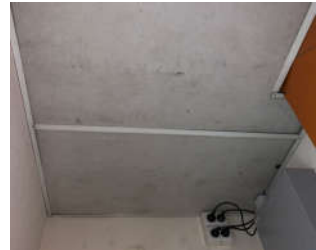
This plan should be read in conjunction with the Environmental report.

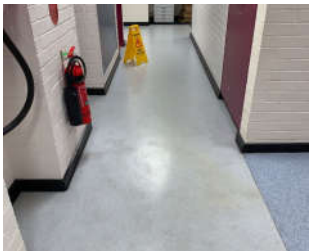
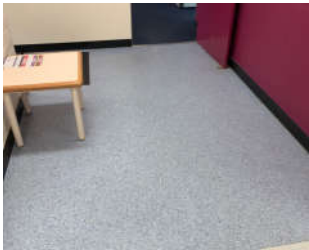

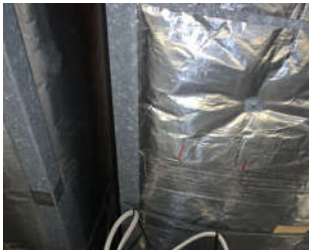
Title: SITE LAYOUT PLAN	
Location: NEPEAN HOSPITAL, DERBY STREET, KINGSWOOD, NSW	
Project No: E33780PL	Figure No: 2
JKEnvironments	









Appendix B: Hazardous Building Materials Register

Nepean Hospital, Derby Street, Kingswood, NSW Hazardous Building Materials Register - February 2021									
Location	Material Type	Sample ID	Laboratory result	Condition	Friable / Non-Friable	Approximate extent	Recommendation	Is the area accessible	Photograph
Nepean 1 Building									
ASBESTOS MATERIALS									
External, Eastern end, Electrical switchroom, External wall cladding	Moulded fibre cement	S5	No asbestos detected	-	-	-	-	-	-
External, Eastern end, Electrical switchroom, Fire doors	Internal insulation	NA - Visually inspected	Presumed not to contain asbestos. Labelled 'Year of Manufacture 201_'						
Internal, Western end, Hallway and kitchen, Floor covering	Patterned light grey vinyl sheet	S1	No asbestos detected SMF detected	-	-	-	-	-	-
Internal, Western end, Adjacent kitchen, Movement area, Floor covering	Patterned blue vinyl sheet	S2	No asbestos detected SMF detected	-	-	-	-	-	-
Internal, Eastern end, Reception, Main switchboard cupboard, Ceiling lining	Flat fibre cement sheet	S3	Chrysotile asbestos detected	Generally intact	Non-friable	3m ²	Remove prior to demolition by appropriately licensed hazardous materials contractor in accordance with the relevant standard/code of practice/guidelines.	Yes	
Internal, Eastern end, Reception, MKE cupboard, Floor covering	Blue vinyl tile	S4	No asbestos detected SMF detected	-	-	-	-	-	-

Location	Material Type	Sample ID	Laboratory result	Condition	Friable / Non-Friable	Approximate extent	Recommendation	Is the area accessible	Photograph
Nepean 1 Building (Cont.)									
SYNTHETIC MINERAL FIBRE (SMF)									
Internal, Western end, Hallway and kitchen, Floor covering	Patterned light grey vinyl sheet	S1	SMF detected	Generally intact	Non-friable	50m ²	Remove prior to demolition by appropriately licensed hazardous materials contractor in accordance with the relevant standard/code of practice/guidelines.	Yes	
Internal, Western end, Adjacent kitchen, Movement area, Floor covering	Patterned blue vinyl sheet	S2	SMF detected	Generally intact	Non-friable	6m ²	Remove prior to demolition by appropriately licensed hazardous materials contractor in accordance with the relevant standard/code of practice/guidelines.	Yes	
Internal, Eastern end, Reception, MKE cupboard, Floor covering	Blue vinyl tile	S4	SMF detected	Generally intact	Non-friable	3m ²	Remove prior to demolition by appropriately licensed hazardous materials contractor in accordance with the relevant standard/code of practice/guidelines.	Yes	
Internal, Roof space, Underside of roof	Foil backed insulation	NA - Visually inspected	NA - Assumed to contain SMF	Generally intact	Non-friable	700m ²	Remove prior to demolition by appropriately licensed hazardous materials contractor in accordance with the relevant standard/code of practice/guidelines.	No (access via ladder only)	

Location	Material Type	Sample ID	Laboratory result	Condition	Friable / Non-Friable	Approximate extent	Recommendation	Is the area accessible	Photograph
Nepean 1 Building (Cont.)									
SYNTHETIC MINERAL FIBRE (SMF) (Cont.)									
Internal, Throughout building, Suspended ceiling	Acoustic ceiling tiles	NA - Visually inspected	NA - Assumed to contain SMF	Generally intact	Non-friable	700m ²	Remove prior to demolition by appropriately licensed hazardous materials contractor in accordance with the relevant standard/code of practice/guidelines.	No (access via ladder only)	
Internal, Roof space, Air-conditioning ductwork	Foil wrapped insulation	NA - Visually inspected	NA - Assumed to contain SMF	Generally intact	Non-friable	30m (lineal)	Remove prior to demolition by appropriately licensed hazardous materials contractor in accordance with the relevant standard/code of practice/guidelines.	No (access via ladder only)	
LEAD IN PAINT									
External, Timber framework	Peeling brown paint	LP1	0.005% (less than the criteria of 0.1%)	-	-	-	-	-	-
LEAD IN DUST									
Internal, Roof space, Upper surface of ceiling	Settled dust	D1	1.67mg/m ² (less than the adopted criteria of 8 mg/m ²)	-	-	-	-	-	-
POLYCHLORINATED BIPHENYLS (PCBS)									
External, Eaves and awnings	Single tube fluorescent light fitting	NA - Visually inspected	Of an age indicative of housing PCB containing capacitors	Generally intact	NA	6 units +	Undertake detailed inspection following isolation of electricity supply, OR Handle in accordance with relevant standard/code of practice/guidelines.	No (access via ladder only)	

Nepean Hospital, Derby Street, Kingswood, NSW Hazardous Building Materials Register - February 2021									
Location	Material Type	Sample ID	Laboratory result	Condition	Friable / Non-Friable	Approximate extent	Recommendation	Is the area accessible	Photograph
Nepean 2 Building									
ASBESTOS MATERIALS									
External, Sub-floor, Ground surface, Debris	Flat fibre cement fragments	S8	Chrysotile asbestos detected Amosite asbestos detected	Poor (debris)	Non-friable	<2m ²	Remove prior to demolition by appropriately licensed asbestos removal contractor in accordance with the relevant standard/code of practice/guidelines.	No (restricted access)	
External, Sub-floor, Air conditioning ductwork	Internal insulation	S7	No asbestos detected SMF detected	-	-	-	-	-	-
External, Sub-floor, Western end, Wall panelling	Flat fibre cement sheet	S9	No asbestos detected	-	-	-	-	-	-
External, Eave linings	Flat fibre cement sheet	S10	No asbestos detected	-	-	-	-	-	-
Internal, Ground floor, Throughout, Floor covering	Mottled grey vinyl tile	S6	No asbestos detected	-	-	-	-	-	-

Location	Material Type	Sample ID	Laboratory result	Condition	Friable / Non-Friable	Approximate extent	Recommendation	Is the area accessible	Photograph
Nepean 2 Building (Cont.)									
SYNTHETIC MINERAL FIBRE (SMF)									
External, Sub-floor, Air conditioning ductwork	Internal insulation	S7	SMF detected	Generally intact	Non-friable	30m (lineal)	Remove prior to demolition by appropriately licensed asbestos removal contractor in accordance with the relevant standard/code of practice/guidelines.	No (restricted access)	
Internal, Ground floor, Suspended ceiling	Acoustic ceiling tiles	NA - Visually inspected	NA - Assumed to contain SMF	Generally intact	Non-friable	1,000m ²	Remove prior to demolition by appropriately licensed hazardous materials contractor in accordance with the relevant standard/code of practice/guidelines.	No (access via ladder only)	
Internal, Level 1, Roof space, Underside of roof	Foil backed insulation	NA - Visually inspected	NA - Assumed to contain SMF	Generally intact	Non-friable	1,000m ²	Remove prior to demolition by appropriately licensed hazardous materials contractor in accordance with the relevant standard/code of practice/guidelines.	No (access via ladder only)	
LEAD IN PAINT									
No deteriorated paint systems identified at the time of the inspection.									
LEAD IN DUST									
Internal, Level 1, Roof space, Upper surface of ceiling	Settled dust	D2	0.21mg/m ² (less than the adopted criteria of 8 mg/m ²)	-	-	-	-	-	-
POLYCHLORINATED BIPHENYLS (PCBS)									
No fluorescent light fittings suspected of housing PCB containing capacitors were identified at the time of the inspection.									



Appendix C: Laboratory Report & COC Documents

CERTIFICATE OF ANALYSIS 261051

Client Details

Client	JK Environments
Attention	Harry Leonard
Address	PO Box 976, North Ryde BC, NSW, 1670

Sample Details

Your Reference	<u>E33780PL, Kingswood</u>
Number of Samples	10 Material, 1 Paint, 2 Swab
Date samples received	05/02/2021
Date completed instructions received	05/02/2021

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	12/02/2021
Date of Issue	09/02/2021
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Asbestos Approved Identifier: Wonnie Condos
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By

Jaimie Loa-Kum-Cheung, Metals Supervisor
Lucy Zhu, Asbestos Supervisor

Authorised By



Nancy Zhang, Laboratory Manager

Asbestos ID - materials						
Our Reference	UNITS	261051-1	261051-2	261051-3	261051-4	261051-5
Your Reference		S1	S2	S3	S4	S5
Date Sampled		04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021
Type of sample		Material	Material	Material	Material	Material
Date analysed	-	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021
Mass / Dimension of Sample	-	40x25x3mm	40x20x2mm	10x10x2mm	70x40x2mm	10x10x5mm
Sample Description	-	White vinyl sheet & adhesive	Blue vinyl tile & adhesive	Beige fibre cement material	Blue vinyl tile & adhesive	Beige fibre cement material
Asbestos ID in materials	-	No asbestos detected	No asbestos detected	Chrysotile asbestos detected	No asbestos detected	No asbestos detected
		Organic fibres detected	Organic fibres detected	Organic fibres detected	Organic fibres detected	Organic fibres detected
		Synthetic mineral fibres detected	Synthetic mineral fibres detected		Synthetic mineral fibres detected	
Trace Analysis	-	No asbestos detected	No asbestos detected	[NT]	No asbestos detected	No asbestos detected

Asbestos ID - materials						
Our Reference	UNITS	261051-6	261051-7	261051-8	261051-9	261051-10
Your Reference		S6	S7	S8	S9	S10
Date Sampled		04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021
Type of sample		Material	Material	Material	Material	Material
Date analysed	-	09/02/2021	09/02/2021	09/02/2021	09/02/2021	09/02/2021
Mass / Dimension of Sample	-	60x10x2mm	90x70x2mm	55x40x15mm	50x40x5mm	30x20x3mm
Sample Description	-	Grey vinyl tile	Brown fibrous insulation material	Grey fibre cement material	Beige fibre cement material	Beige fibre cement material & paint
Asbestos ID in materials	-	No asbestos detected	No asbestos detected	Chrysotile asbestos detected	No asbestos detected	No asbestos detected
		Organic fibres detected	Organic fibres detected	Amosite asbestos detected	Organic fibres detected	Organic fibres detected
			Synthetic mineral fibres detected			
Trace Analysis	-	No asbestos detected	No asbestos detected	[NT]	No asbestos detected	No asbestos detected

Lead in Paint		
Our Reference		261051-11
Your Reference	UNITS	LP1
Date Sampled		04/02/2021
Type of sample		Paint
Date prepared	-	08/02/2021
Date analysed	-	08/02/2021
Lead in paint	mg/kg	50

Lead in swab			
Our Reference		261051-12	261051-13
Your Reference	UNITS	D1	D2
Date Sampled		04/02/2021	04/02/2021
Type of sample		Swab	Swab
Date prepared	-	08/02/2021	08/02/2021
Date analysed	-	08/02/2021	08/02/2021
Lead in Swabs	µg/swab	150	19

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
Metals-020/021/022	Digestion of Paint chips/scrapings/liquids for Metals determination by ICP-AES/MS and or CV/AAS.
Metals-020/021/022	Digestion of Dust wipes/swabs and /or miscellaneous samples for Metals determination by ICP-AES/MS and/or CV-AAS

QUALITY CONTROL: Lead in Paint					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			08/02/2021	[NT]	[NT]	[NT]	[NT]	08/02/2021	[NT]
Date analysed	-			08/02/2021	[NT]	[NT]	[NT]	[NT]	08/02/2021	[NT]
Lead in paint	mg/kg	50	Metals-020/021/022	<0.005	[NT]	[NT]	[NT]	[NT]	109	[NT]

QUALITY CONTROL: Lead in swab					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-2	[NT]
Date prepared	-			08/02/2021	[NT]	[NT]	[NT]	[NT]	08/02/2021	[NT]
Date analysed	-			08/02/2021	[NT]	[NT]	[NT]	[NT]	08/02/2021	[NT]
Lead in Swabs	µg/swab	1	Metals-020/021/022	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

SAMPLE RECEIPT ADVICE

Client Details

Client	JK Environments
Attention	Harry Leonard

Sample Login Details

Your reference	E33780PL, Kingswood
Envirolab Reference	261051
Date Sample Received	05/02/2021
Date Instructions Received	05/02/2021
Date Results Expected to be Reported	12/02/2021

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	10 Material, 1 Paint, 2 Swab
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	28
Cooling Method	None
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: ahie@envirolab.com.au

Jacinta Hurst

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:



Envirolab Services Pty Ltd

ABN 37 112 535 645

12 Ashley St Chatswood NSW 2067

ph 02 9910 6200 fax 02 9910 6201

customerservice@envirolab.com.au

www.envirolab.com.au

Sample ID	Asbestos ID - materials	Lead in Paint	Lead in swab
S1	✓		
S2	✓		
S3	✓		
S4	✓		
S5	✓		
S6	✓		
S7	✓		
S8	✓		
S9	✓		
S10	✓		
LP1		✓	
D1			✓
D2			✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.

TAT for Micro is dependent on incubation. This varies from 3 to 6 days.

[illegible]