REPORT TO

HEALTH INFRASTRUCTURE C/- CBRE

ON

HAZARDOUS BUILDING MATERIALS SURVEY

FOR

PROPOSED NEPEAN HOSPITAL STAGE 2 DEVELOPMENT

AT

NEPEAN HOSPITAL, DERBY STREET, KINGSWOOD, NSW

Date: 5 November 2021
Ref: E34236PLrpt2-HAZ

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DOCUMENT REVISION RECORD

Report Reference	Report Status	Report Date
E34236PLrpt2-HAZ	Final Report	5 November 2021

Table of Contents

List of Tables

Attachments

Abbreviations

Asbestos Containing Material	**ACM**
Chain of Custody	**COC**
JK Environments	**JKE**
National Association of Testing Authorities	**NATA**
Personal Protective Equipment	**PPE**
Polychlorinated Biphenyls	**PCB**
Practical Quantitation Limit	**PQL**
Synthetic Mineral Fibre	**SMF**

1 INTRODUCTION

Health Infrastructure ('the client') commissioned JK Environments (JKE) to undertake a hazardous building materials survey for the proposed Stage 2 development at Nepean Hospital, Kingswood, NSW ('the site'). The site location is shown on Figure 1 and the survey was confined to the external areas and publicly accessible internal areas of the building and structures within the development area as shown on Figure 2.

This document was prepared specifically for the proposed site development works and should not be considered 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

Based on the details provided, JKE understand that the proposed development includes:

- Substantial demolition works throughout North Block;
- Demolition of the Doctor's Accommodation, Hope Cottage and Pathology buildings;
- Alterations and additions to the remaining buildings and structures;
- Roadworks and landscaping in external areas and along Barber Avenue; and
- Construction of the main Stage 2 building which will link the Stage 1 tower building.

1.2 Scope of Work

The survey was undertaken generally in accordance with a JKE proposal (Ref: EP54363PL-HAZ) of 1 July 2021 and written acceptance from the client of 24 August 2021. Due to restrictions associated with COVID-19 at the time of the survey, only the external areas and the publicly accessible internal areas of the building and structures within the Stage 2 development area were included in this initial survey.

The scope of work included the following:

- A detailed inspection of the external areas and publicly accessible internal areas only 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 assessment.

2 SITE DESCRIPTION

Field work for this investigation was undertaken between 6 and 8 November 2021. The site description at the time of the field work is outlined below. The site location is shown on Figure 1 and the general site layout is shown on Figure 2.

The site is located to the east of Parker Street and south of Barber Street, Kingswood, NSW. The site included in the scope of this survey generally consists of a large multi-level hospital building (North Block) surrounded by multiple smaller buildings and structures, as shown on the attached Figure 2. Several of the structures were made up of semi-permanent, demountable style buildings.

A general description of each building/structure is outlined below:

Table 2-1: Summary of Building Descriptions

Building	Description
North Block	North Block was constructed post 1975 as part of the wider Nepean Hospital development and expansion. The block is connected to other 'blocks' of the hospital and generally consisted multiple levels containing several aspects of the hospital including domestic services, pathology, rehab ICU, Aged Care ICU, ACTRU, Anaesthetics, Pharmacy, Medical Administration and CSSD. Internal areas of the building were not inspected in detail due to the constraints in access. The building was of brick, metal and concrete construction with fibre cement eaves and awnings, concrete floors, brick and concrete external walls, plaster and brick internal walls, plaster ceilings and a concrete and metal roof.
Maintenance and Asset Management (TAMS) Compound	The TAMs compound consisted of a two-storey administration building to the north and two longer sheds to the south containing workshops and staff areas. The administration building contained several offices, staff amenities and a reception. The buildings and structures were constructed post 2009. Internal areas of the building were not inspected in detail due to the constraints in access. The administration building was of brick, concrete and metal construction with brick and metals external walls, plaster and metal internal walls, plaster ceilings, concrete and metal floors and a metal roof. The longer sheds were of corrugated metal construction on concrete slab foundations.
Administration and Population Health	The Administration and Population Health buildings consisted of two joined single storey demountable buildings that contained offices and staff amenities. These buildings are currently used as the Nepean Redevelopment offices. Internal areas of the building were not inspected due to the constraints in access. The buildings were of timber and metal construction with brick pier foundations, metal external walls, timber and plaster internal walls, timber floors and metal roof.
Doctors Accommodation Building	The Doctors Accommodation building was constructed post 2009 and consisted of a rectangular single storey demountable building that contained accommodation rooms and amenities. Internal areas of the building were not inspected due to the constraints in access. The building was of brick and metal construction with brick pier foundations, fibre cement and metal external walls and a metal roof.
Hope Cottage	Hope Cottage was constructed post 2000 and consisted of single storey brick building that contained accommodation rooms and amenities, as well as staff areas and reception. Internal areas of the building were not inspected due to the constraints in access.

Building	Description
	The building was of brick construction with fibre cement and brick external walls, fibre cement eaves and a metal roof.
Disaster Room	The Disaster Room building was constructed post 2000 and consisted of a small demountable building with a single room inside. Internal areas of the building were not inspected due to the constraints in access. The building was of timber and metal construction within brick pier foundations, metal external walls and a metal roof.

2.1 Previous Assessment

An existing hazardous material register for a limited area of the hospital was provided by the client for information purposes during the survey. The register was reported by JBS&G with an issue date of 24 August 2018[1]. The register confirmed various asbestos containing materials (ACM) and SMF materials within the internal and external areas of the buildings surveyed.

During the JKE inspection items recorded in the register were reinspected and re-sampled for the purpose of completeness. Materials listed in the 2018 register have been included in the current hazardous building materials register provided in Appendix B.

[1] *JBS&G (2018). Non-Destructive Hazardous Building Materials Survey - Main Works, Nepean Hospital Redevelopment, Nepean Hospital, Derby Street, Kingswood, NSW dated 24 August 2018* (referred to as JBS&G report)

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

4 ASSESSMENT CRITERIA AND INSPECTION PROCEDURE

The assessment included a visual inspection of the external areas and publicly accessible internal areas of the buildings/structures, 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 0.09m^2 (which corresponds to an area 30 cm × 30cm) and in any event not less than 0.01m^2, 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 m^2 is calculated using the equation (µg/swab ÷ 0.09) ÷ 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/m^2.

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.

In the absence of current published lead levels in dust, the acceptance level of 8 mg/m^2 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/Asbestos Register in Appendix B and the laboratory analysis report in Appendix C.

5.1 Asbestos

Asbestos containing materials were identified within the exterior of the existing buildings and structures at the site at the time of the inspection. Only bonded (non-friable) 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

Lead containing paint systems were identified on the on the metal air-conditioning units and associated ductwork within the plant room corridor located on the roof of North Block. The paint systems were all deteriorated at the time of the inspection. Refer to Section 6.2 of this report for recommendations on lead paint systems.

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 throughout the site. 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, metal wrapped insulation, sprayed insulation, fire stopper insulation, vinyl sheeting and water heater systems 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

Due to restrictions associated with COVID-19 at the time of the survey, only the external areas and the publicly accessible internal areas of the building and structures within the Stage 2 development area were included in this initial survey.

At the time of the survey, JKE were requested to inspect the air-conditioning and handling units within the plant room corridor located on the roof of North Block. Access was permitted in this area only and the scope was limited to the air-conditioning and handling units only.

Access within the publicly accessible areas of North Block were limited to hallways and common areas open to the public. Access into ceilings voids, roof spaces, offices, amenities and other back of house areas was not possible.

6 COMMENTS AND RECOMMENDATIONS

6.1 Asbestos Materials

Asbestos fibre containing construction materials have been identified within 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. Completion of the survey of the internal areas must also occur.

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

Deteriorated paint films containing elevated lead levels were identified to the air-conditioning units and associated ductwork within the plant room corridor located on the roof of North Block during the assessment. All identified lead containing paint films must be removed / treated in accordance with the regulations and codes outlined in Section 3 and by an experienced hazardous materials removal contractor.

Completion of the survey of the internal areas must also occur.

6.3 Lead in Accumulated Dust

Not identified within the scope and limitations of the report. Completion of the survey of the internal areas must occur prior to demolition.

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 capacitor were identified generally within movement areas throughout the site. 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 contaminated 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 water heating systems, foil wrapped pipework, vinyl sheeting, sprayed insulation, fire stopper insulation and foil backed insulation 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.

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Reference must be made to each section throughout this report which details further limitations to this survey as a result of access restrictions.

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

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

Title: **SITE LOCATION PLAN**

Location: NEPEAN HOSPITAL, DERBY STREET, KINGSWOOD, NSW

Project No: E34236PL

Figure No: 1

JKEnvironments

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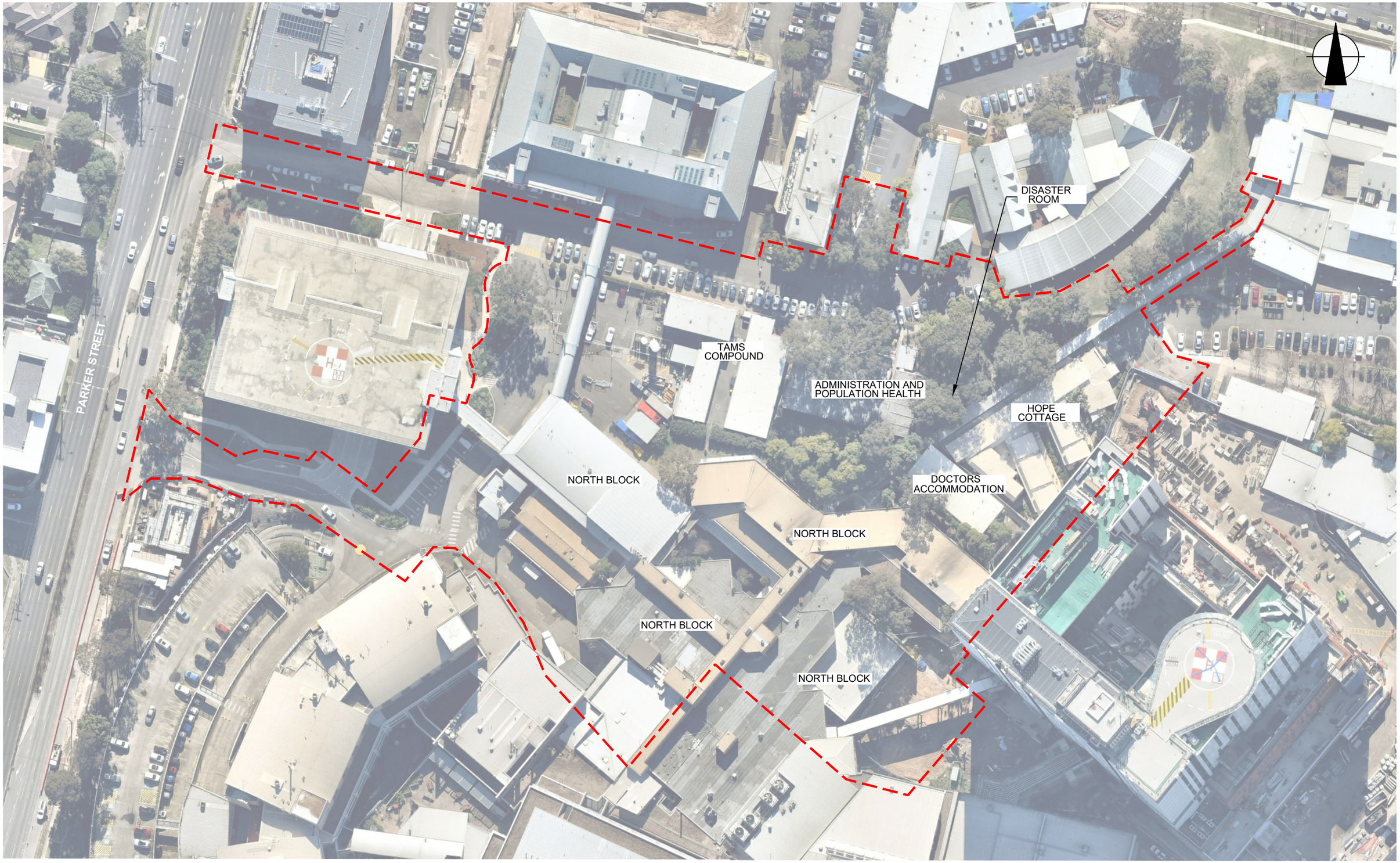

LEGEND

APPROXIMATE SITE BOUNDARY

AERIAL IMAGE SOURCE: MAPS.AU.NEARMAP.COM

0 10 20 30 40 50

SCALE 1:1000 @A3 METRES

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

Title: **SITE LAYOUT PLAN**

Location: NEPEAN HOSPITAL, DERBY STREET, KINGSWOOD, NSW

Project No: E34236PL

Figure No: 2

JKEnvironments

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Appendix B: Hazardous Building Materials Register

JKEnvironments

Stage 2 Development, Nepean Hospital, Kingswood, NSW
Hazardous Building Materials Register - October 2021

Location	Material Type	Sample ID	Laboratory result	Condition	Friable / Non-Friable	Approximate extent	Recommendation	Is the area accessible	Photograph
North Block									
ASBESTOS MATERIALS									
External, Aged Care IPU, South-east corner, Level 1, Eave and awnining linings	Flat fibre cement sheet	S8	Chrysotile asbestos detected	Generally intact	Non-friable	60m^2	Remove prior to refurbishment / demolition by appropriately licensed asbestos removal contractor in accordance with the relevant standard/code of practice/guidelines.	No (access via ladder only)	
External, ACTRU, Ground floor, Eave and awnining linings	Flat fibre cement sheet	S9	No asbestos detected	-	-	-	-	-	-
External, Concrete and brick walls, Expansion joints	Mastic	S10	No asbestos detected	-	-	-	-	-	-
External, ACTRU/Anaesthetist Office, Northern side, Upper wall, Infill panels above windows	Flat fibre cement sheet	S11	No asbestos detected	-	-	-	-	-	-
External, Conrete paths and walkways, Expainsions joints	Bituminous mastic	S12	No asbestos detected	-	-	-	-	-	-
External, Rehab IPU, Ground floor, Eave linings	Flat fibre cement sheet	S13	Chrysotile asbestos detected	Generally intact	Non-friable	20m^2	Remove prior to refurbishment / demolition by appropriately licensed asbestos removal contractor in accordance with the relevant standard/code of practice/guidelines.	No (via ladder only)	

Location	Material Type	Sample ID	Laboratory result	Condition	Friable / Non-Friable	Approximate extent	Recommendation	Is the area accessible	Photograph
North Block (Cont.)									
ASBESTOS MATERIALS (Cont.)									
External, Rehab IPU, Level 1, Eave linings	Flat fibre cement sheet	S14	Chrysotile asbestos detected	Generally intact	Non-friable	120m^2	Remove prior to refurbishment / demolition by appropriately licensed asbestos removal contractor in accordance with the relevant standard/code of practice/guidelines.	No (via ladder only)	
External Pathology, Eaves and awnining linings	Flat fibre cement sheet	S15	No asbestos detected	-	-	-	-	-	-
External, Roof, Plant room corridor, Air-conditioning unit AC8	Sprayed fibrous insulation	S16	No asbestos detected SMF detected	-	-	-	-	-	-
External, Roof, Plant room corridor, Air-conditioning unit AC8, Flow switch cover panels	Fire stopper insulation	S17	No asbestos detected SMF detected	-	-	-	-	-	-
External, Roof, Plant room corridor, Air-conditioning unit AC10	Sprayed fibrous insulation	S18	No asbestos detected SMF detected	-	-	-	-	-	-
External, Roof, Plant room corridor, Air-conditioning unit AC10, Flow switch cover panels	Fire stopper insulation	S19	No asbestos detected SMF detected	-	-	-	-	-	-
Internal, Medical administration movement areas, Level 2, Floor covering	Mottled beige vinyl sheet	S20	No asbestos detected	-	-	-	-	-	-
Internal, Medical administration movement areas, Level 1, Floor covering	Mottled grey vinyl sheet	S21	No asbestos detected SMF detected	-	-	-	-	-	-
Internal, Medical administration movement areas, Level 1, Floor covering	Mottled pink vinyl sheet	S22	No asbestos detected	-	-	-	-	-	-
Internal, Medical administration, Public hallway, Ceiling, Manhole cover	Flat fibre cement sheet	S23	No asbestos detected	-	-	-	-	-	-

Location	Material Type	Sample ID	Laboratory result	Condition	Friable / Non-Friable	Approximate extent	Recommendation	Is the area accessible	Photograph
North Block (Cont.)									
SYNTHETIC MINERAL FIBRE (SMF)									
External, Service Dock, Pipework	Foil wrapped insulation	NA - Visually inspected	NA - Assumed to contain SMF	Generally intact	Non-friable	30m (lineal)	Remove prior to refurbishment / demolition by appropriately licensed hazardous materials contractor in accordance with the relevant standard/code of practice/guidelines.	Yes	
External, Roof, Plant room corridor, Air-conditioning unit AC8	Sprayed fibrous insulation	S16	SMF detected	Generally intact	Non-friable	25m^2	Remove prior to refurbishment / demolition by appropriately licensed hazardous materials contractor in accordance with the relevant standard/code of practice/guidelines.	Yes	
External, Roof, Plant room corridor, Air-conditioning unit AC8, Flow switch cover panels	Fire stopper insulation	S17	SMF detected	Generally intact	Non-friable	2m^2	Remove prior to refurbishment / demolition by appropriately licensed hazardous materials contractor in accordance with the relevant standard/code of practice/guidelines.	Yes	
External, Roof, Plant room corridor, Air-conditioning unit AC10	Sprayed fibrous insulation	S18	SMF detected	Generally intact	Non-friable	25m^2	Remove prior to refurbishment / demolition by appropriately licensed hazardous materials contractor in accordance with the relevant standard/code of practice/guidelines.	Yes	

Location	Material Type	Sample ID	Laboratory result	Condition	Friable / Non-Friable	Approximate extent	Recommendation	Is the area accessible	Photograph
North Block (Cont.)									
SYNTHETIC MINERAL FIBRE (SMF) (Cont.)									
External, Roof, Plant room corridor, Air-conditioning unit AC10, Flow switch cover panels	Fire stopper insulation	S19	SMF detected	Generally intact	Non-friable	2m^2	Remove prior to refurbishment / demolition by appropriately licensed hazardous materials contractor in accordance with the relevant standard/code of practice/guidelines.	Yes	
Internal, Medical administration movement areas, Level 1, Floor covering	Mottled grey vinyl sheet	S21	SMF detected	Generally intact	Non-friable	80m^2	Remove prior to refurbishment / demolition by appropriately licensed hazardous materials contractor in accordance with the relevant standard/code of practice/guidelines.	Yes	

Location	Material Type	Sample ID	Laboratory result	Condition	Friable / Non-Friable	Approximate extent	Recommendation	Is the area accessible	Photograph
North Block (Cont.)									
LEAD IN PAINT									
External, Eastern side, Concrete columns	Peeling purple paint	LP7	<0.005% (less than the criteria of 0.1%)	-	-	-	-	-	-
External, Rehab IPU, Level 1, Eaves and awnings	Peeling beige paint	LP8	<0.005% (less than the criteria of 0.1%)	-	-	-	-	-	-
External, Pathology, Eaves and awnings	Peeling pink paint	LP9	<0.005% (less than the criteria of 0.1%)	-	-	-	-	-	-
External, Roof, Plant room corridor, Air-conditioning unit AC7 (representative of all units)	Peeling green paint	LP10	0.25% (greater than the criteria of 0.1%)	Localised areas of deterioration	NA	90m^2	Stabilisation / abatement by appropriately licensed hazardous materials contractor in accordance with the relevant standard/code of practice/guidelines.	Yes	No photograph
External, Medical administration, Ceilings	Peeling white paint	LP11	0.005% (less than the criteria of 0.1%)	-	-	-	-	-	-
LEAD IN DUST									
Internal, Roof, Plant room corridor, Air handling unit AHU20	Settled dust	D1	0.37mg/m^2 (less than the adopted criteria of 8 mg/m^2)	-	-	-	-	-	-
Internal, Roof, Plant room corridor, Air-conditioning unit AC7	Settled dust	D2	0.53mg/m^2 (less than the adopted criteria of 8 mg/m^2)	-	-	-	-	-	-
Internal, Roof, Plant room corridor, Air-conditioning unit AC8	Settled dust	D3	0.39mg/m^2 (less than the adopted criteria of 8 mg/m^2)	-	-	-	-	-	-
Internal, Roof, Plant room corridor, Air-conditioning unit AC5	Settled dust	D4	0.11mg/m^2 (less than the adopted criteria of 8 mg/m^2)	-	-	-	-	-	-
Internal, Roof, Plant room corridor, Air-conditioning unit AC6	Settled dust	D5	0.63mg/m^2 (less than the adopted criteria of 8 mg/m^2)	-	-	-	-	-	-
Internal, Roof, Plant room corridor, Air-conditioning unit AC9	Settled dust	D6	0.84mg/m^2 (less than the adopted criteria of 8 mg/m^2)	-	-	-	-	-	-
Internal, Roof, Plant room corridor, Air-conditioning unit AC10	Settled dust	D7	0.19mg/m^2 (less than the adopted criteria of 8 mg/m^2)	-	-	-	-	-	-
Internal, Medical administration public hallway, Ceiling space, Upper surface of ceiling	Settled dust	D8	0.1mg/m^2 (less than the adopted criteria of 8 mg/m^2)	-	-	-	-	-	-

Location	Material Type	Sample ID	Laboratory result	Condition	Friable / Non-Friable	Approximate extent	Recommendation	Is the area accessible	Photograph
North Block (Cont.)									
POLYCHLORINATED BIPHENYLS (PCBS)									
External and internal, movement areas	Twin and single tube fluorescent light fitting	NA - Visually inspected	Of an age indicative of housing PCB containing capacitors	Generally intact	NA	50 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)	

Stage 2 Development, Nepean Hospital, Kingswood, NSW
Hazardous Building Materials Register - October 2021

Location	Material Type	Sample ID	Laboratory result	Condition	Friable / Non-Friable	Approximate extent	Recommendation	Is the area accessible	Photograph
Maintenance and Assest Management (TAMS) Compound									
ASBESTOS MATERIALS									
No potential asbestos containing materials identified at the time of the inspection.									
SYNTHETIC MINERAL FIBRE (SMF)									
No SMF materials identified at the time of the inspection.									
LEAD IN PAINT									
No deteriorated paint systems identified at the time of the inspection.									
LEAD IN DUST									
Settled dust suitable for sampling was not identified on the external areas of the building at the stime of the inspection.									
POLYCHLORINATED BIPHENYLS (PCBS)									
No fluorescent light fittings suspected of housing PCB containing capacitors were identified at the time of the inspection.									

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Stage 2 Development, Nepean Hospital, Kingswood, NSW
Hazardous Building Materials Register - October 2021

Location	Material Type	Sample ID	Laboratory result	Condition	Friable / Non-Friable	Approximate extent	Recommendation	Is the area accessible	Photograph
Administration and Population Health Building									
ASBESTOS MATERIALS									
External, Eave linings	Flat fibre cement sheet	S5	No asbestos detected	-	-	-	-	-	-
External, Landing at top of entrance ramp	Compressed fibre cement sheet	S6	No asbestos detected	-	-	-	-	-	-
External, North-west corner, On ground, underground service pit, Lid covers	Moulded fibre cement	S7	No asbestos detected SMF detected	-	-	-	-	-	-
SYNTHETIC MINERAL FIBRE (SMF)									
External, North-west corner, On ground, underground service pit, Lid covers	Moulded fibre cement	S7	SMF detected	Generally intact	Non-friable	$3m^2$	Remove prior to refurbishment / demolition by appropriately licensed hazardous materials contractor in accordance with the relevant standard/code of practice/guidelines.	Yes	
LEAD IN PAINT									
No deteriorated paint systems identified at the time of the inspection.									
LEAD IN DUST									
Settled dust suitable for sampling was not identified on the external areas of the building at the stime of the inspection.									
POLYCHLORINATED BIPHENYLS (PCBS)									
External, Movement areas	Twin and single tube fluorescent light fitting	NA - Visually inspected	Of an age indicative of housing PCB containing capacitors	Generally intact	NA	15 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)	

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Stage 2 Development, Nepean Hospital, Kingswood, NSW
Hazardous Building Materials Register - October 2021

Location	Material Type	Sample ID	Laboratory result	Condition	Friable / Non-Friable	Approximate extent	Recommendation	Is the area accessible	Photograph
Doctors Accomodation Building									
ASBESTOS MATERIALS									
External, Wall cladding	Flat fibre cement sheet	S1	No asbestos detected	-	-	-	-	-	-
External, Landing at top of entry stairs	Compressed fibre cement sheet	S2	No asbestos detected	-	-	-	-	-	-
SYNTHETIC MINERAL FIBRE (SMF)									
External, Eastern side, Hot water systems	Internal insulation	NA - Visually inspected	NA - Assumed to contain SMF	Generally intact	Non-friable	2 units	Remove prior to refurbishment / demolition by appropriately licensed hazardous materials contractor in accordance with the relevant standard/code of practice/guidelines.	No (sealed units)	
External, Sub-floor, Underside of flooring	Foil backed insulation	NA - Visually inspected	NA - Assumed to contain SMF	Generally intact	Non-friable	300m^2	Remove prior to refurbishment / demolition by appropriately licensed hazardous materials contractor in accordance with the relevant standard/code of practice/guidelines.	Yes	

Location	Material Type	Sample ID	Laboratory result	Condition	Friable / Non-Friable	Approximate extent	Recommendation	Is the area accessible	Photograph
Doctors Accomodation Building (Cont.)									
LEAD IN PAINT									
External, Walls	Beige paint	LP1	<0.005% (less than the criteria of 0.1%)	-	-	-	-	-	-
LEAD IN DUST									
Settled dust suitable for sampling was not identified on the external areas of the building at the stime of the inspection.									
POLYCHLORINATED BIPHENYLS (PCBS)									
No fluorescent light fittings suspected of housing PCB containing capacitors were identified at the time of the inspection.									

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Stage 2 Development, Nepean Hospital, Kingswood, NSW
Hazardous Building Materials Register - October 2021

Location	Material Type	Sample ID	Laboratory result	Condition	Friable / Non-Friable	Approximate extent	Recommendation	Is the area accessible	Photograph
Hope Cottage									
ASBESTOS MATERIALS									
External, Upper wall cladding	Flat fibre cement sheet	S3	No asbestos detected	-	-	-	-	-	-
External, Eave linings	Flat fibre cement sheet	S4	No asbestos detected	-	-	-	-	-	-
SYNTHETIC MINERAL FIBRE (SMF)									
External, Hot water systems	Internal insulation	NA - Visually inspected	NA - Assumed to contain SMF	Generally intact	Non-friable	2 units	Remove prior to refurbishment / demolition by appropriately licensed hazardous materials contractor in accordance with the relevant standard/code of practice/guidelines.	No (sealed unit)	
LEAD IN PAINT									
External, Northern side, Feature walls	Peeling green paint	LP2	<0.005% (less than the criteria of 0.1%)	-	-	-	-	-	-
External, Northern side, Feature walls	Peeling yellow paint	LP3	<0.005% (less than the criteria of 0.1%)	-	-	-	-	-	-
External, Northern side, Feature walls	Peeling red paint	LP4	<0.005% (less than the criteria of 0.1%)	-	-	-	-	-	-
External, Northern side, Feature walls	Peeling blue paint	LP5	<0.005% (less than the criteria of 0.1%)	-	-	-	-	-	-
LEAD IN DUST									
Settled dust suitable for sampling was not identified on the external areas of the building at the stime of the inspection.									
POLYCHLORINATED BIPHENYLS (PCBS)									
No fluorescent light fittings suspected of housing PCB containing capacitors were identified at the time of the inspection.									

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Stage 2 Development, Nepean Hospital, Kingswood, NSW
Hazardous Building Materials Register - October 2021

Location	Material Type	Sample ID	Laboratory result	Condition	Friable / Non-Friable	Approximate extent	Recommendation	Is the area accessible	Photograph
Disaster Room									
ASBESTOS MATERIALS									
No potential asbestos containing materials identified at the time of the inspection.									
SYNTHETIC MINERAL FIBRE (SMF)									
No SMF materials identified at the time of the inspection.									
LEAD IN PAINT									
External, Timber entry ramp	Peeling grey paint	LP6	<0.005% (less than the criteria of 0.1%)	-	-	-	-	-	-
LEAD IN DUST									
Settled dust suitable for sampling was not identified on the external areas of the building at the stime of the inspection.									
POLYCHLORINATED BIPHENYLS (PCBS)									
External, Upper walls and awning	Single tube fluorescent light fitting	NA - Visually inspected	Of an age indicative of housing PCB containing capacitors	Generally intact	NA	2 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)	

Appendix C: Laboratory Report & COC Documents

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CERTIFICATE OF ANALYSIS 280005

Client Details

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

Sample Details

Your Reference	**E34236PL, Kingswood**
Number of Samples	23 Material, 11 Paint, 8 Swab
Date samples received	08/10/2021
Date completed instructions received	11/10/2021

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.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	15/10/2021
Date of Issue	15/10/2021

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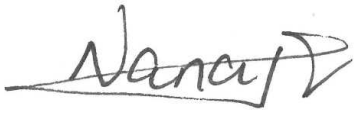
Asbestos Approved By
Analysed by Asbestos Approved Analyst: Wonnie Condos
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By
Hannah Nguyen, Metals Supervisor
Lucy Zhu, Asbestos Supervisor

Authorised By



Nancy Zhang, Laboratory Manager

Asbestos ID - materials						
Our Reference		280005-1	280005-2	280005-3	280005-4	280005-5
Your Reference	UNITS	S1	S2	S3	S4	S5
Date Sampled		6-7/10/2021	6-7/10/2021	6-7/10/2021	6-7/10/2021	6-7/10/2021
Type of sample		Material	Material	Material	Material	Material
Date analysed	-	14/10/2021	14/10/2021	14/10/2021	14/10/2021	14/10/2021
Mass / Dimension of Sample	-	15x15x2mm	15x15x3mm	15x15x3mm	15x15x3mm	35x25x5mm
Sample Description	-	Beige fibre cement material & paint	Beige fibre cement material & paint	Beige fibre cement material & paint	Beige fibre cement material & paint	Beige fibre cement material & paint
Asbestos ID in materials	-	No asbestos detected Organic fibres detected	No asbestos detected Organic fibres detected	No asbestos detected Organic fibres detected	No asbestos detected Organic fibres detected	No asbestos detected Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - materials						
Our Reference		280005-6	280005-7	280005-8	280005-9	280005-10
Your Reference	UNITS	S6	S7	S8	S9	S10
Date Sampled		6-7/10/2021	6-7/10/2021	6-7/10/2021	6-7/10/2021	6-7/10/2021
Type of sample		Material	Material	Material	Material	Material
Date analysed	-	14/10/2021	14/10/2021	14/10/2021	14/10/2021	14/10/2021
Mass / Dimension of Sample	-	10x5x2mm	30x25x4mm	30x15x2mm	40x15x2mm	30x3x2mm
Sample Description	-	Beige fibre cement material	Grey fibre cement material	A)Beige fibre cement material B)Paint	Pink fibre cement material	Brown mastic
Asbestos ID in materials	-	No asbestos detected Organic fibres detected	No asbestos detected Synthetic mineral fibres detected	A)Chrysotile asbestos detected Organic fibres detected B)No asbestos detected	No asbestos detected Organic fibres detected	No asbestos detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - materials						
Our Reference		280005-11	280005-12	280005-13	280005-14	280005-15
Your Reference	UNITS	S11	S12	S13	S14	S15
Date Sampled		6-7/10/2021	6-7/10/2021	6-7/10/2021	6-7/10/2021	6-7/10/2021
Type of sample		Material	Material	Material	Material	Material
Date analysed	-	14/10/2021	14/10/2021	14/10/2021	14/10/2021	14/10/2021
Mass / Dimension of Sample	-	15x15x3mm	40x20x5mm	20x5x5mm	40x15x2mm	10x10x2mm
Sample Description	-	Beige fibre cement material & paint	Brown fibrous material	Beige fibre cement material	A)Fibre cement B)Paint, fibrous material	Beige plaster & paint
Asbestos ID in materials	-	No asbestos detected Organic fibres detected	No asbestos detected Organic fibres detected	Chrysotile asbestos detected Organic fibres detected	A)Chrysotile asbestos detected Organic fibres detected B)No asbestos detected Organic fibres detected Synthetic mineral fibres detected	No asbestos detected Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	[NT]	No asbestos detected	No asbestos detected

Asbestos ID - materials						
Our Reference		280005-16	280005-17	280005-18	280005-19	280005-20
Your Reference	UNITS	S16	S17	S18	S19	S20
Date Sampled		6-7/10/2021	6-7/10/2021	6-7/10/2021	6-7/10/2021	6-7/10/2021
Type of sample		Material	Material	Material	Material	Material
Date analysed	-	14/10/2021	14/10/2021	14/10/2021	14/10/2021	14/10/2021
Mass / Dimension of Sample	-	70x50x2mm	15x10x3mm	60x40x2mm	10x10x3mm	20x20x2mm
Sample Description	-	Beige vitreous fibrous insulation	White plaster	Beige vitreous fibrous insulation	White plaster	Beige vinyl sheet
Asbestos ID in materials	-	No asbestos detected Organic fibres detected Synthetic mineral fibres detected	No asbestos detected Organic fibres detected Synthetic mineral fibres detected	No asbestos detected Organic fibres detected Synthetic mineral fibres detected	No asbestos detected Organic fibres detected Synthetic mineral fibres detected	No asbestos detected Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected

Asbestos ID - materials				
Our Reference		280005-21	280005-22	280005-23
Your Reference	UNITS	S21	S22	S23
Date Sampled		6-7/10/2021	6-7/10/2021	6-7/10/2021
Type of sample		Material	Material	Material
Date analysed	-	14/10/2021	14/10/2021	14/10/2021
Mass / Dimension of Sample	-	55x15x2mm	70x15x2mm	35x20x5mm
Sample Description	-	Grey vinyl sheet & adhesive	Beige vinyl sheet, plaster & adhesive	Beige fibre cement material
Asbestos ID in materials	-	No asbestos detected Organic fibres detected Synthetic mineral fibres detected	No asbestos detected Organic fibres detected	No asbestos detected Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected

Lead in Paint						
Our Reference		280005-24	280005-25	280005-26	280005-27	280005-28
Your Reference	UNITS	LP1	LP2	LP3	LP4	LP5
Date Sampled		6-7/10/2021	6-7/10/2021	6-7/10/2021	6-7/10/2021	6-7/10/2021
Type of sample		Paint	Paint	Paint	Paint	Paint
Date prepared	-	12/10/2021	12/10/2021	12/10/2021	12/10/2021	12/10/2021
Date analysed	-	13/10/2021	13/10/2021	13/10/2021	13/10/2021	13/10/2021
Lead in paint	%w/w	<0.005	<0.005	<0.005	<0.005	<0.005

Lead in Paint						
Our Reference		280005-29	280005-30	280005-31	280005-32	280005-33
Your Reference	UNITS	LP6	LP7	LP8	LP9	LP10
Date Sampled		6-7/10/2021	6-7/10/2021	6-7/10/2021	6-7/10/2021	6-7/10/2021
Type of sample		Paint	Paint	Paint	Paint	Paint
Date prepared	-	12/10/2021	12/10/2021	12/10/2021	12/10/2021	12/10/2021
Date analysed	-	13/10/2021	13/10/2021	13/10/2021	13/10/2021	13/10/2021
Lead in paint	%w/w	<0.005	<0.005	<0.005	<0.005	0.25

Lead in Paint		
Our Reference		280005-34
Your Reference	UNITS	LP11
Date Sampled		6-7/10/2021
Type of sample		Paint
Date prepared	-	12/10/2021
Date analysed	-	13/10/2021
Lead in paint	%w/w	0.005

Lead in swab						
Our Reference		280005-35	280005-36	280005-37	280005-38	280005-39
Your Reference	UNITS	D1	D2	D3	D4	D5
Date Sampled		6-7/10/2021	6-7/10/2021	6-7/10/2021	6-7/10/2021	6-7/10/2021
Type of sample		Swab	Swab	Swab	Swab	Swab
Date prepared	-	15/10/2021	15/10/2021	15/10/2021	15/10/2021	15/10/2021
Date analysed	-	15/10/2021	15/10/2021	15/10/2021	15/10/2021	15/10/2021
Lead in Swabs	µg/swab	33	48	35	10	57

Lead in swab				
Our Reference		280005-40	280005-41	280005-42
Your Reference	UNITS	D6	D7	D8
Date Sampled		6-7/10/2021	6-7/10/2021	6-7/10/2021
Type of sample		Swab	Swab	Swab
Date prepared	-	15/10/2021	15/10/2021	15/10/2021
Date analysed	-	15/10/2021	15/10/2021	15/10/2021
Lead in Swabs	µg/swab	76	17	9

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	-			15/10/2021	31	12/10/2021	12/10/2021		15/10/2021	[NT]
Date analysed	-			15/10/2021	31	13/10/2021	13/10/2021		15/10/2021	[NT]
Lead in paint	%w/w	0.005	Metals-020/021/022	<0.005	31	<0.005	<0.005	0	101	[NT]

QUALITY CONTROL: Lead in swab						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			15/10/2021	[NT]	[NT]	[NT]	[NT]	15/10/2021	[NT]
Date analysed	-			15/10/2021	[NT]	[NT]	[NT]	[NT]	15/10/2021	[NT]
Lead in Swabs	µg/swab	1	Metals-020/021/022	<1	[NT]	[NT]	[NT]	[NT]	101	[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.

Report Comments

Samples 280005-8 & 14; The supplied samples were sub-sampled (A & B) in order to accurately report the analytical results representative of the entire sample, as per AS4964-2004.

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SAMPLE RECEIPT ADVICE

Client Details

Client	JK Environments
Attention	Harry Leonard

Sample Login Details

Your reference	E34236PL, Kingswood
Envirolab Reference	280005
Date Sample Received	08/10/2021
Date Instructions Received	11/10/2021
Date Results Expected to be Reported	15/10/2021

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	23 Material, 11 Paint, 8 Swab
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	20
Cooling Method	None
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie	Jacinta Hurst
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Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

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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	✓		
S11	✓		
S12	✓		
S13	✓		
S14	✓		
S15	✓		
S16	✓		
S17	✓		
S18	✓		
S19	✓		
S20	✓		
S21	✓		
S22	✓		
S23	✓		
LP1		✓	
LP2		✓	
LP3		✓	
LP4		✓	
LP5		✓	
LP6		✓	
LP7		✓	
LP8		✓	
LP9		✓	

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
LP10		✓	
LP11		✓	
D1			✓
D2			✓
D3			✓
D4			✓
D5			✓
D6			✓
D7			✓
D8			✓

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.

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	JKE Job Number: E34236PL Date Results Required: STANDARD Page: 1 of 2	JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Harry Leonard hleonard@jkenvironments.com.au

Location:	Kingswood	Sample Preserved in Esky on Ice
Sampler:	HL	Tests Required

Date Sampled	Lab Ref:	Sample Number	Sample Container	Sample Description	Asbestos	Lead (mg/kg)	Lead (µg/swab)						
6-7/10/2021	1	S1	P	Material	X								
6-7/10/2021	2	S2	P	Material	X								
6-7/10/2021	3	S3	P	Material	X								
6-7/10/2021	4	S4	P	Material	X								
6-7/10/2021	5	S5	P	Material	X								
6-7/10/2021	6	S6	P	Material	X								
6-7/10/2021	7	S7	P	Material	X								
6-7/10/2021	8	S8	P	Material	X								
6-7/10/2021	9	S9	P	Material	X								
6-7/10/2021	10	S10	P	Material	X								
6-7/10/2021	11	S11	P	Material	X								
6-7/10/2021	12	S12	P	Material	X								
6-7/10/2021	13	S13	P	Material	X								
6-7/10/2021	14	S14	P	Material	X								
6-7/10/2021	15	S15	P	Material	X								
6-7/10/2021	16	S16	P	Material	X								
6-7/10/2021	17	S17	P	Material	X								
6-7/10/2021	18	S18	P	Material	X								
6-7/10/2021	19	S19	P	Material	X								
6-7/10/2021	20	S20	P	Material	X								
6-7/10/2021	21	S21	P	Material	X								
6-7/10/2021	22	S22	P	Material	X								
6-7/10/2021	23	S23	P	Material	X								
6-7/10/2021	24	LP1	P	P Material	X								
6-7/10/2021	25	LP2	P	P Material	X								

Chatswood NSW
Ph: (02) 9910

Job No: 280005

Date Received: 08/10/21
Time Received: 1530
Received By: CH
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken

Remarks (comments/detection limits required):	Sample Containers:
PLEASE REPORT LEAD IN PAINT AS mg/kg	G - 250mg Glass Jar A - Ziplock Asbestos Bag P - Plastic Bag

Relinquished By:	Date:	Time:	Received By:	Date:
	8/10/21	1530	christie.	08/10/21

SAMPLE AND CHAIN OF CUSTODY FORM

TO:		FROM:
ENVIROLAB SERVICES PTY LTD 12 ASHLEY STREET CHATSWOOD NSW 2067 P: (02) 99106200 F: (02) 99106201 Attention: Aileen	JKE Job Number: E34236PL Date Results Required: STANDARD Page: 2 of 2	JKEnvironments REAR OF 115 WICKS ROAD MACQUARIE PARK, NSW 2113 P: 02-9888 5000 F: 02-9888 5001 Attention: Harry Leonard hleonard@jkenvironments.com.au

Location:	Kingswood	Sample Preserved in Esky on Ice
Sampler:	HL	Tests Required

Date Sampled	Lab Ref:	Sample Number	Sample Container	Sample Description	Asbestos	Lead (mg/kg)	Lead (µg/swab)						
6-7/10/2021	26	LP3	P	Paint		X							
6-7/10/2021	27	LP4	P	Paint		X							
6-7/10/2021	28	LP5	P	Paint		X							
6-7/10/2021	29	LP6	P	Paint		X							
6-7/10/2021	30	LP7	P	Paint		X							
6-7/10/2021	31	LP8	P	Paint		X							
6-7/10/2021	32	LP9	P	Paint		X							
6-7/10/2021	33	LP10	P	Paint		X							
6-7/10/2021	34	LP11	P	Paint		X							
6-7/10/2021	35	D1	P	Dust (swab)			X						
6-7/10/2021	36	D23	P	Dust (swab)			X						
6-7/10/2021	37	D3	P	Dust (swab)			X						
6-7/10/2021	38	D4	P	Dust (swab)			X						
6-7/10/2021	39	D5	P	Dust (swab)			X						
6-7/10/2021	40	D6	P	Dust (swab)			X						
6-7/10/2021	41	D7	P	Dust (swab)			X						
6-7/10/2021	42	D8	P	Dust (swab)			X						

Remarks (comments/detection limits required):	Sample Containers: G - 250mg Glass Jar A - Ziplock Asbestos Bag P - Plastic Bag
PLEASE REPORT LEAD IN PAINT AS mg/kg	

Relinquished By:	Date:	Time:	Received By:	Date:
[signature]	8/10/21	1530 CH	[signature]	08/10/21