WASTE MANAGEMENT PLAN

CHILDRENS HOSPITAL WESTMEAD STAGE 2 –PROJECT: CHW & VVMF REFURBISHMENT
CONTRACT NUMBER: HI 22029

31/05/2023

CHANGE HISTORY

ISSUE	CHANGE TYPE	AMENDMENT SUMMARY	AUTHOR	APPROVED	DATE
01	For Approval	For CC	SS	SB	28/02/23
02	Reviewed	Minor adjustments to address PwC comments	SS	SB	31/05/23
03					
04					
05					
06					
07					

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Review of Environmental Factors (REF) Conditions

REF	Requirement	Document Reference / Location
11.1	A Demolition/Construction Waste Management Plan shall be prepared by an appropriately qualified contractor prior to the commencement of works. The Waste Management Plan should be prepared in accordance with DECCW's "Waste Classification Guidelines (2008)" and the Protection of the Environment Operations Act 1997.	Refer CWMP (this document)
11.2	The Demolition/Construction Waste Management Plan is to include the following requirements and details:	See below;
11.2 (a)	The type and volume of all waste materials (e.g. excavation material, green waste, bricks, concrete, timbers, plasterboard and metals) is to be estimated prior to the commencement of works, with the destination for each waste identified. Waste should be re-used or recycled as much as practicable. Where not practicable, the location of a suitable waste disposal facility is to be identified.	Refer Section 6.0, Attachment A, and Attachment B
11.2 (b)	Cleaning out of batched concrete mixing plant is not permitted within any construction compound.	Refer Section 3.0
11.2 (c)	Non-recyclable waste and containers are to be regularly collected and disposed of at a licensed disposal site. Frequency of collection should be identified.	Refer Section 3.0
11.2 (d)	No burning or burying of waste is permitted on the site.	Refer Section 3.0
11.2 (e)	Any bulk garbage bins delivered by authorized waste contractors are to be placed and kept within the property boundary.	Refer Section 3.0
11.3	The following mitigation measures will be implemented in order to prevent adverse impacts in relation to waste generated by the proposed works:	See below;
11.3 (a)	No materials will be used in a manner that will pose a risk to public safety and waste generated from the proposed works will be recycled where possible.	Refer Section 4.0
11.3 (b)	Unnecessary resource consumption will be avoided.	Refer Section 4.0

PSB SSDA Conditions

Note: Applicable only for the PATHOLOGY EXPANSION works

PSB SSDA	Requirement	Document Reference / Location
B18	The Construction Waste Management Sub-Plan (CWMSP) must address, but not be limited to, the procedures for the management of waste including the following:	See below;
B18 (a)	The recording of quantities, classification (for materials to be removed) and validation (for materials to remain) of each type of waste generated during construction and proposed use for materials to remain;	Refer Section 6.0, Attachment A, and Attachment B
B18 (b)	Information regarding the recycling and disposal locations; and	Refer Section 6.0, Attachment A, and Attachment B
B18 (c)	Confirmation of the contamination status of the development areas of the site based on the validation results.	Refer Section 7.0

1.0 INTRODUCTION

This Waste Management Plan is relevant to the development of the CHW Refurb & VVMF Building located on Kid's Research Lane, Westmead. The works include the following;

- The refurbishment of all milestones as per the principal's documentation that includes but not limited to relevant standards, BCA, HI Engineering Services Guidelines, Review of Environmental factors and HI CHW Refurb & VVMF Guidance Notes (DGN's)
- Construction of stairs in the galleria and airlocks located on the eastern & western entrances of Block 6
- The refurbishment of the Clinical Research Centre, Pathology Collections, Gait lab & dining, CSRA & Blood Bank, Pathology Expansion
- The fit-out of expanded Viral Vector Manufacturing Facility and Kid's Research Rooftop
- Expansion of the Link Bridge between the Kid's Research Building and the Central Acute Services Building
- The fit-out of the Viral Vector Manufacturing Facility within the Acute Services Innovation Centre Building.
- Provision of improved pedestrian access, signage and lighting around the site during and after construction. Ensure all temporary and permanent pedestrian pathways are DDA / BCA compliant
- Associated building services including but not limited to electrical, mechanical, hydraulic, security, IT / Communications, fire protection, medical gases.
- Establishing a safe surrounding environment at the various interfaces, and continuity of healthcare services, air quality, and vibration management, acoustic controls, overland flow, fire egress and maintenance routes. (High risk workshops will be required prior to new work types to ascertain tooling and methodology appropriateness).

The Key Participants in the design and delivery of the CHW & VVMF project includes:

Principal	Health Infrastructure
User Group	Sydney Children's Hospital Network (SCHN)
	Western Sydney Local Health District
Project Manager (Client)	Price Waterhouse Cooper (PwC)

The objective of this Waste Management Plan (WMP) is to outline measures to classify and dispose of all waste generated from the project during the Construction Phase and to ensure that resources are used efficiently in an attempt to minimise waste volumes. The processes detailed within this plan will ensure that waste will be correctly managed in line with the relevant Legislative requirements as well as the guidelines and priorities set out by the NSW Environment Protection Authority (EPA). Effective Waste Management is considered a communal responsibility, although specific responsibilities have been defined to ensure active implementation of Waste Management Procedures.

The management of Waste associated with the Operations of the completed facility are considered to be at the discretion of the End User Group and will therefore not be addressed within this Waste Management Plan.

This Demolition/Construction Waste Management Plan was prepared in consultation with Cabra Contracting Pty Ltd, an appropriately qualified contractor, as per the Demolition Work Plan and VVMF IC Waste Management Plan included in Attachment A and Attachment B respectively.

2.0 LEGISLATION / STANDARDS / GUIDELINES

NSW Protection of the Environment Operations Act, 1997 (POEO Act);

NSW Protection of the Environment Operations (Waste) Regulation 1996;

NSW Waste Avoidance and Resource Recovery Act 2001;

NSW Waste Minimisation and Management Act 1995;

Office Environment & Heritage (OEH) Waste Classification Guidelines: Part 1 Classifying Wastes (DECC 2009a)

The strategies employed to minimise waste on-site will parallel the approach to Waste depicted in the EPA Waste Management Hierarchy:

Figure 1: Waste Management Hierarchy. Sourced from EPA

3.0 PROCESS

Waste creation during the completion of construction works shall consist of a) Building material waste b) general waste from staff engaged during the creation of the facility c) demolition waste produced by the demolition sub-contractor.

During the construction phase, key waste sources include:

- Excess spoil from excavations;
- Construction and general waste such as demolition waste from the existing buildings currently onsite;
- Asphalt and concrete waste;
- Liquid wastes such as oils and used chemicals from equipment maintenance domestic waste from site personnel including food scraps, glass and plastic bottles, paper and plastic containers;
- Site sewage and other wastewater run-off including water utilised for dust suppression.

Generally, activities identified to facilitate the reduction of waste creation include:

- Utilise separate re-cycling bins
- Where practical use “prefabrication” rather than “in-situ materials”
- Ensure materials are recycled where practical.
- Monitor waste disposal.
- Ensure adequate site bins are available to control waste.

The following waste management processes will be followed by all sub-contractors on-site

- The cleaning out of batched concrete mixing plant will not be conducted and is not permitted within any construction compound.
- The burning or burying of any waste on site is strictly not permitted.
- All Non-recyclable waste and containers will be regularly collected and disposed of at a licensed disposal. (In put frequency of collection.
- All bulk garbage bins will be delivered by authorised waste contractors and are to be placed and kept with the property boundary.

The management of waste will be conducted in accordance with the process illustrated in Table 1.

ACTIONS	RESPONSIBILITY
Appropriate Training All personnel are to receive the project Environmental induction and ongoing waste management awareness and training via tool box talks on a regular basis.	**Environment Manager**
Assessment of Onsite Situation • Identify waste streams and approximate quantities prior to commencement of works. • Identify management measures to reduce, reuse, recover, and recycle in preference to disposing to a licenced landfill. • Advise Environment Manager prior to generating new waste streams. • Refer to Table 1 for waste stream types and disposal locations already identified.	**Site Foreman** **Project Engineer** **Environment Manager**

Waste Management Onsite
• Waste storage facilities/stockpile locations to be established prior to works commencing and identified on the Environmental Control Map.
• Waste storage facilities/stockpile locations to be appropriately signposted e.g. recyclables, steel, concrete, general waste.
• The waste hierarchy of avoid, reduce, reuse and recycle to be employed throughout the project. Examples to be employed on site include:
  ○ Alternative products with recycled content and/or lower embodied energy will be investigated, especially paper, landscaping and concrete products;
  ○ Beneficial reuse will occur on site where feasible to do so;
  ○ Possible offsite crushing and screening will be explored to create a potential reusable product;
  ○ Topsoil will be stockpiled for later reuse in site rehabilitation, where possible.
• Material sent offsite will be classified by an appropriately qualified professional in accordance with the Waste Classification Procedure and OEH's Waste Classification Guidelines: Part 1 Classifying Wastes (DECC 2009a).
	Site Foreman
	Superintendent
	Project Engineer
	Environment Manager

Monitoring and Recording • A waste tracking form is to be used for all materials that require off-site disposal. • Monitoring of waste management practices to be recorded using the **Weekly Environmental Inspection Checklist.** • Monitoring of goals and limits in regards to waste management will be completed by the Environment Manager. • Any actions from inspections to be assigned to the foreman for the area and recorded using the **Environmental Inspection Actions Form.** • Any observations will be kept in a site diary and significant issues are to be raised with the Environmental Manager.	**Site Foreman** **Project Engineer** **Environment Manager**

Table 1: Onsite Waste Management Actions and Responsibilities

4.0 MANAGEMENT

- Waste management and reuse strategies will be considered and implemented where practical and cost-effective. On-site reuse opportunities will be maximised, with efforts made to implement reuse and recycling initiatives. Examples to be employed on site include:
    - Beneficial reuse of spoil as fill where practicable for backfilling, access roads and retaining wall construction at fill locations;
    - Possible offsite crushing and screening will be explored to create a potential reusable product;
    - Topsoil will be stockpiled for later reuse in site rehabilitation, where possible;
    - Where available, and of appropriate chemical and biological quality, stormwater, recycled water or other sources of water shall be used in preference to potable water for construction activities, including concrete mixing and dust control.
- Material sent offsite will be classified by an appropriately qualified professional in accordance with the Waste Classification Procedure and OEH's Waste Classification Guidelines: Part 1 Classifying Wastes (DECC 2009a).
- **Table 2** list the waste generating aspects and identifies the range of solid, hazardous, special and liquid wastes that potentially may be generated by construction.
- **Table 2** also outlines the proposed reuse, recycling or disposal method.
- Staff will be inducted on the principles of waste management and resource use requirements while working on site.
- Waste generated outside the site shall not be received at the site for storage, treatment, processing, reprocessing or disposal on site, except as expressly permitted under the POEO Act, if a licence is required for that waste type.
- Mitigation and management measures for waste impacts during construction are outlined in **Table 3.**

WASTE	CLASSIFICATION	POTENTIAL RECOVERY/REUSE	DISPOSAL (ALL TRACKED)
Green waste from clearing and grubbing of vegetation	General Solid Waste (Non Putrescible)	• Green waste would be reused as mulch onsite or provided to local schools for landscaping.	• Clear and grub sub-contractor would remove timber and excess mulch to appropriately approved facilities.
Virgin Excavated Natural Material (VENM) – residual soil and shales	General Solid Waste (Non Putrescible)	• Where possible, all suitable fill materials would be used on site in a cut to fill operation.	• Wherever possible, VENM would be used on the project and excess material would be transferred to appropriately approved sites requiring VENM.
Excavated Natural Material (ENM)	General Solid Waste (Non Putrescible) – Resource Recovery Exemption	• Where possible, all suitable fill materials would be used on site in a cut to fill operation.	• Wherever possible, ENM would be used on the project and excess material would be transferred to appropriately approved sites requiring ENM.
Mixed Spoil	General Solid Waste (Non Putrescible)	• Where possible, all suitable fill materials would be used on site in a cut to fill operation.	• Mixed unsuitable spoil would be transferred to appropriately approved waste facilities.
Demolition concrete and bitumen	General Solid Waste (Non Putrescible)	• Stockpiled and transported to recycling centre and recycled for project construction activities.	• Nil. Valuable recourse.
Building rubble and structural element demolition materials	General Solid Waste (Non Putrescible)	• Collected in designated collection areas and reused as much as practically possible.	• Mixed unsuitable materials would be transferred to appropriately approved waste facilities.
Waste metals	General Solid Waste (Non Putrescible)	• Stockpiled and transported to recycling centre.	• Nil. Valuable recourse.
Liquid wastes – potholing slurries, site sewage, potholing, paint.	Liquid Waste	• Liquid waste would be clearly identified and stored separate from other waste materials for selective disposal.	• Liquid waste would be stored so as to prevent or control accidental releases to air, soil, and water resources in the area. • A licensed waste collection contractor would collect the liquid wastes generated on site and dispose to appropriately approved liquid waste facilities.
General office waste – paper, cardboard, used printer cartridges.	General Solid Waste (Non Putrescible)	• Office waste such as paper, cardboard boxes, comingled wastes (Cans, plastic bottles etc) and used printer cartridges would be recycled.	• Food wastes and non-recyclables will be sent to landfill.
Asbestos or Asbestos Containing Material	Special Waste	• None currently identified	• A licensed waste collection contractor would collect the liquid wastes generated on site and dispose to appropriately approved special waste facilities.

Table 2: Construction Waste and Management

NO		MITIGATION MEASURE	TIMING	RESPONSIBILITY	TOOL
General					
1.		The 'waste hierarchy' will be maximised during construction and incorporated into work programs, purchase strategies and site inductions, and will be assessed quarterly to identify opportunities for improvement.	Pre-construction and construction	Environmental Manager	Site Inductions / Toolbox Talks
2.		Excavated material would be reused on-site, as far as practically possible.	Construction	Project Engineer	Site Inductions / Toolbox Talks
3.		Cleared vegetation will be reused on-site, as far as practically possible.	Construction	Project Engineer	Site Inductions / Toolbox Talks
4.		All liquid and/or non-liquid waste generated on the site from will be assessed and classified in accordance with Waste Classification Guidelines (DECC, 2008), as described in the **Waste Classification Procedure**.	Construction	Project Engineer	Site Inductions / Toolbox Talks / Waste Classification Procedure
5.		Waste disposal will be in accordance with the POEO Act. Wastes that are unable to be reused or recycled will be disposed of off-site at an appropriately licensed waste management facility, following classification.	Construction	Project Engineer	Site Inductions / Toolbox Talks / Waste Classification Procedure / Waste Tracking Form / Waste Register
6.		A section 143 notice under the POEO Act will be completed by both the project and the relevant property owner, should off-site disposal of construction waste material or VENM onto private property be deemed necessary.	Construction	Project Engineer / Environmental Manager	Section 143 Notice
7.		Waste generated outside the site shall not be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by the project's EPL.	Construction	Project Engineer	Site Inductions / Toolbox Talks
8.		Waste segregation and separation will be promoted to facilitate reuse and recycling as a priority of the waste management program as follows: – waste segregation at the worksites - all waste materials will be separated onsite into dedicated bins/areas where practicable for either reuse onsite or collection by a waste contractor; and – waste separation off-site - all wastes will be deposited into one bin where space is not available on the worksite(s) and the waste will be sorted by a waste contractor.	Construction	Environmental Manager	Site Inductions / Toolbox Talks
9.		Recycled material will be considered for use in rail construction where feasible and reasonable in accordance with the NSW Government's WRAPP.	Construction	Construction Manager	Site Inductions / Toolbox Talks
10.		Where available, and of appropriate chemical and biological quality, stormwater, recycled water or other water sources will be used in preference to potable water for construction activities, including concrete mixing and dust control.	Construction	Construction Manager	Site Inductions / Toolbox Talks / Permit to Pump
11.		A procurement approach will be adopted to reduce waste at the higher end of the waste hierarchy. During the procurement process, alternative products with recycled content and/or lower embodied energy will be investigated, especially paper, landscaping and concrete products. These products will be preferred where they meet all required specifications, are fit-for-purpose, can meet supply requirements and are cost neutral.	Pre-Construction	Environmental Manager	Site Inductions / Toolbox Talks

NO		MITIGATION MEASURE	TIMING	RESPONSIBILITY	TOOL
Tracking					
12.		Tracking of waste generation trends by type and amount of waste generated to be recorded on the **Waste Register**.	Construction	Environmental Manager	Toolbox Talks
13.		All waste collected for disposal and/or recycling, including amounts, date and time and details, and location of disposal to be recorded on the **Waste Register**.	Construction	Environmental Manager	Toolbox Talks / Waste Register
Transportation					
14.		On-site and off-site transportation of waste would be conducted so as to prevent or minimise spills, releases and exposures to employees and the public.	Construction	Project Engineer	Site Inductions / Toolbox Talks
15.		All trucks transporting wastes off-site will be appropriately licensed to carry the waste and will have load covers installed.	Construction	Project Engineer	Site Inductions / Toolbox Talks
Monitoring					
16.		Monitoring and reporting requirements to be undertaken including regular visual inspections of waste storage collection and storage areas for evidence of accidental releases and to verify that wastes are properly labelled and stored.	Construction	Environmental Co-ordinator	Site Inductions / Toolbox Talks / Weekly Environmental Inspection Checklist
Hazardous Waste					
17.		Any hazardous waste generated on-site, as classified in accordance with **Waste Classification Procedure**, will be disposed of in accordance with the DECCW Guidelines.	Construction	Project Engineer	Waste Classification Procedure
18.		Special management actions for any hazardous waste discovered, generated or procured on-site shall be implemented, including as appropriate: – storage in closed, bunded containers; – secondary containment systems available and to be at least 110 percent of the largest storage container, or 25 percent of the total storage capacity (whichever is greater), in that specific location; – information to be made readily available on chemical compatibility to employees, including labelling each container to identify its contents; – hazardous waste storage areas to be clearly identified (label) and demarcated, including documentation of the location on a facility map or site plan; and – spill response and emergency plans to be prepared to address accidental release of hazardous materials.	Construction	Construction Manager	Site Inductions / Toolbox Talks / Weekly Environmental Inspection Checklist

Table 3: Mitigation Measures

5.0 MONITORING AND REPORTING

- A waste tracking form is to be used for all materials that require off-site disposal. A copy of the waste tracking form (including dockets and receipts) will be retained to record the date of waste removal, and identify the waste transport contractor and destination of the wastes from the worksite.
- Monitoring, inspection and reporting shall be undertaken including monitoring tools, monitoring frequencies, inspection records, tracking of actions, communication of outcomes and accountabilities.
- The following wastes are subject to special monitoring and reporting requirements by OEH under the waste tracking system:
    - hazardous non-liquid waste (e.g. batteries);
    - industrial non-liquid waste; and
    - Liquid wastes including non-recyclable oils, fuels, chemicals and paint.
- The Weekly Environmental Inspection Checklist will be used to ensure that all environmental aspects are reviewed during inspection of the project.
- Regular inspections will also be undertaken to assess environmental compliance against regulatory requirements.
- Actions arising from the inspections will be recorded on the Environmental Inspection Actions Form and each action will be allocated to the foreman for the work area.

6.0 RECYCLING AND DISPOSAL LOCATIONS

Demolished materials are to be processed and separated into waste streams on site ready for transport and disposal. The various separate waste streams are to be loaded into trucks and removed from site to their respective waste handling, recycling or salvage facilities.

The tables below show a list of waste materials generated and possible recycling and disposal locations.

Refer to **Table 4** for the expected material waste and waste type produced by the demolition works for the VVMF Innovation Centre (refer Attachment B, Waste Management Plan *Cabra Contracting Pty Ltd*);

Type of material	**Est. Vol. (m3)**	**Est. W_t (tonne)**	**Destination**
Non-Recyclable Mixed demolition waste Plasterboard, Synthetic Insulation, Timber, Carpet, MDF etc	30	12	Bingo Recycling Centre Eastern Creek
Masonry / Brickwork	0	0	Concrete Recyclers - Camellia
Concrete	186	372	Concrete Recyclers - Camellia
Salvageable Timber & Plywood	2	4	Cabra Yard
Ferrous & Non-Ferrous Metals	24	30	Sims Metal Recycling - Alexandria

Table 4: Expected Demolition Waste and Destination – Childrens Hospital at Westmead Milestone 7 – Innovation Centre

Refer to **Table 5** for the expected material waste and waste type produced by the demolition works for all remaining milestones (refer Attachment A, Demolition Work Plan *Cabra Contracting Pty Ltd*).

Type of material	**Est. Vol. (m3)**	**Est. W_t (tonne)**	**Destination**
Non-Recyclable Mixed demolition waste Plasterboard, Synthetic Insulation, Timber, Carpet, MDF etc	296	257	Bingo Recycling Centre Eastern Creek
Masonry / Brickwork	540	980	Concrete Recyclers - Camellia
Concrete	295	650	Concrete Recyclers - Camellia
Salvageable Timber & Plywood	0	0	Cabra Yard
Ferrous & Non-Ferrous Metals	66	325	World Wide Scrap – Seven Hills

Table 5: Expected Demolition Waste and Destination – Westmead Childrens Hospital Stage 2 Development

7.0 HAZARDOUS MATERIALS

Refer to Construction Environmental Management Plan (CEMP) for information regarding the unexpected finds protocol for contamination.

Prior to construction, JBS&G were engaged by Health Infrastructure (HI) to undertake a hazardous building materials survey of areas within the Children's Hospital Westmead (CHW) applicable for the Stage 2 Redevelopment Project (refer Attachment 3, Hazardous Materials Survey *JBS&G*). Refer to Attachment 3 for the contamination status of the development areas of this site based on the validation results.

8.0 SUSTAINABILITY

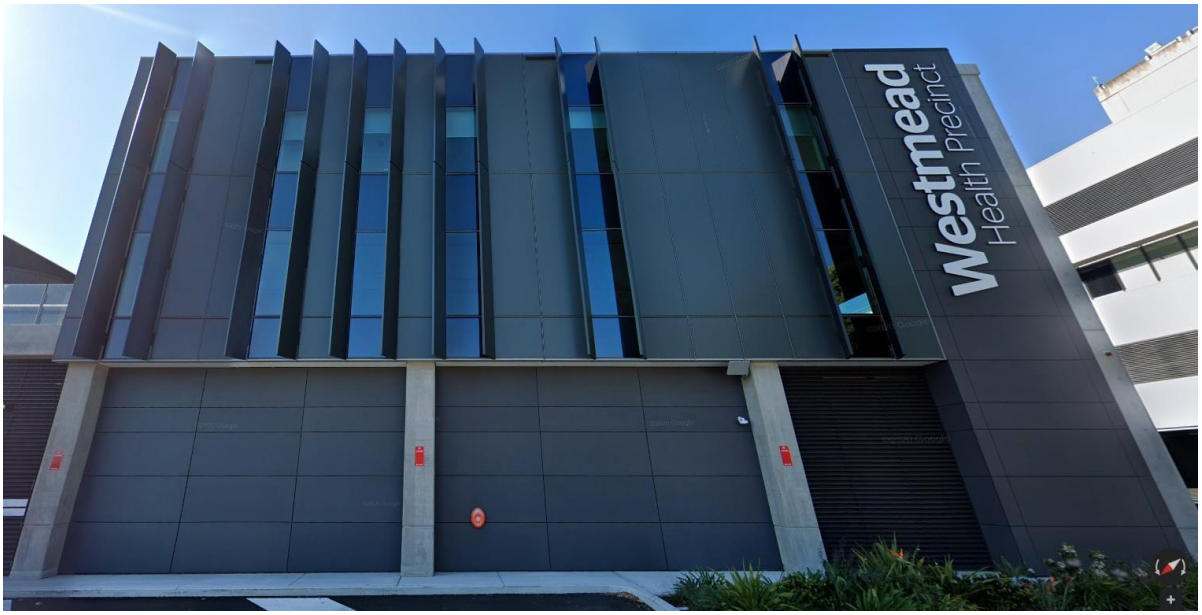
Kane is committed to achieving Green Star Credits 22/22B (Construction and Demolition Waste), which requires demolition and construction waste contractors to provide;

- A 'Compliance Verification Summary' issue by a suitably qualified auditor confirming compliance to GS Construction & Demolition Waste Reporting Criteria, and
- Monthly reporting confirming at least 90% of construction and demolition waste generated (reported in kilograms) has been diverted from landfill. Required to report the total amount of waste generated and the total amount of waste diverted from landfill, and report on the proportion diverted as a percentage.

Attachment A: Demolition Work Plan – Cabra Contracting Pty Ltd

CABRA CONTRACTING

Westmead Childrens Hospital– Stage 2 Development



Demolition Work Plan

Prepared by

Cabra Contracting Pty Ltd

Prepared for

Kane Constructions Pty Ltd

February 2023

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1. Introduction

Cabra Contracting Pty Ltd have been engaged by Kane Constructions to undertake demolition activities involved with the works with the Westmead Children's Hospital Redevelopment Stage 2 and to prepare a Demolition Work Plan for the works.

This document has been compiled as per section 2.3 Work Plan, of Australian Standard Demolition of Structures AS2601-2001.

This demolition work plan will outline the demolition to be conducted and the sequence in which the works will proceed.

2. Cabra Contracting Pty Ltd Details

Cabra Contracting Head Office is located at:

Suite 4, 40 Robert Street, Rozelle NSW 2039

Cabra Contracting mailing address is;

PO Box 6205, Marrickville, NSW, 2204

Cabra Contracting hold the following licence;

- Unrestricted Demolition Licence No: AD213675. This licence entitles Cabra Contracting to conduct all types of demolition work. This licence can be viewed in Appendix 1 – Demolition Licence

Cabra Contracting hold the following insurances;

- Workers Compensation
  - iCare Workers Insurance
  - Policy Number 201767701

Public and Products Liability. This document can be viewed in Appendix 3 – Public Liability Insurance

- Lloyds London via Epsilon Liability.
- Policy Number AWB1152BU

Vehicle and Plant Insurance

- Oamps Insurance Brokers
- Policy Number 06110323

3. Building Description and Extent of Demolition works

The site is located at Westmead, NSW, with the bulk of the works occurring near the Redbank Rd side of the complex. There will be interface with the public in several areas throughout the project.

3.1 Building description

a. The building is a multi-storey live public hospital type structure.
b. The hospital is comprised of multiple buildings.
c. The buildings are spread over a large area of land and are joined by means of internal & external roads, walkways and link bridges.
d. They consist of concrete, brick and steel structures.
e. Interior fit out includes typical commercial environments with both brick, lightweight & glazed walls and ceiling treatments.

3.2 Scope of works

To undertake the demolition works for the alterations at the above project. Our works will include;

- Demolition of the Eastern Airlock. (Milestone 1)
- Demolition of the Galleria Airlock. (Milestone 1)
- Demolition of the Galleria Stair. (Milestone 1)
- Demolition of the Clinical research Centre. (Milestone 2)
- Demolition of the Gait Lab and Dining areas. (Milestone 3)
- Demolition of the CSRA Blood Bank. (Milestone 4)
- Demolition of the Pathology Expansion. (Milestone 5)
- Demolition of the Kids Research rooftop.(Milestone 6)
- Demolition of the corridor widening works
- The demolition of the concrete ramp including supporting steel structure to the Kids Research building. (Milestone 8)

4. Public Protection and Notification

4.1 Public Protection

Public protection is a high priority, due to the dangerous nature of demolition works. Under no circumstances will the public to be permitted to enter the site either during the demolition work or out of hours. There are 3 main forms of risk associated with the public gaining entry which are:

1. Injury due to the actual demolition works.
2. Injury due to the movement of plant and equipment.
3. Injury due to trips and falls when entry is gained out of hours.

Prior to commencement of any demolition works, the work site will be protected against access from the public.

- Kane Constructions will erect and manage A-Class Hoardings and fences at access points.

Due to the nature of the daily running of a hospital noisy works will be kept to a minimum. Where possible every effort will be made to use alternatives to percussive and vibratory tools.

4.2 Safety Signage

During the course of the demolition works the public will be notified of hazards with safety signage attached to the site hoarding along the perimeter of the site. Signs will also be erected warning the public of construction activities. Particular signs to be erected at regular intervals on the fence around the site include: 'Demolition In Progress', 'Keep Out', 'No Unauthorised Entry'.

A sign will also be erected at a prominent position on the site giving details of the contractor and a 24hr contact number for a responsible person in charge of the site.

4.3 Council Notification

The Principal Contractor is responsible for obtaining all relevant authority approvals prior to demolition works commencing.

4.4 WorkCover Notification

The notifications of demolition works will be sent to SafeWork(NSW) at least 5 calendar days prior to commencement of all notifiable demolition works.

The works requiring SafeWork(NSW) are;

- Demolition of the Kids Research rooftop.(Milestone 6)
- The demolition of the concrete ramp including supporting steel structure to the Kids Research building. (Milestone 8)

5. Service Disconnection

Preliminary investigations have identified the following services currently on-site.

- Sewer
- Fibre Optic services
- Storm-water
- Water
- Electricity
- Telecommunications
- Fire suppression sprinklers
- Medical gases and vacuum systems

Generally, the following principles will be adopted when disconnecting services:

- All service authorities will be consulted prior to the works commencing to ascertain lead times and correct termination locations (where applicable)
- All termination works will be undertaken in accordance with design Engineers' specifications and instructions
- All termination works will be undertaken by suitably licensed contractors or incumbents working for Kane P/L, with a formal isolation form to be completed by each services subcontractor prior to demolition works commencing.
- DBYD Plans will be obtained and referenced before start of excavation or demolition works.

6. Details of Hazardous Materials

After a walkthrough site inspection there is no evidence to show there is any hazardous material present on-site. The relevant Hazardous Materials Registers will be reviewed prior to any works being undertaken in each of the specific areas.

6.1 Unexpected Finds

In the event that hazardous materials are found or suspected in the course of work the following actions will be taken.

Personnel involved in construction works within or near the project area will temporarily suspend work in the affected area.

This area will be isolated to minimise the potential for disturbance of the affected material, soil and/or water.

The field personnel are to notify the Site Manager or Project Manager who will be responsible for evaluation of the nature of the unexpected find.

Due to the potential variability in both the nature and extent of an unexpected find, it is not possible to define specific remedial strategies for potential contamination associated with an unexpected find.

7. Hours of work

Working hours will be in accordance with the Development Application.

7.1 Noisy works

Noisy works such as hammering with excavators and Roadsaw operations, will be undertaken during the main operating hours of the site, generally Monday through Friday between 7AM and 5PM. Noisy works will be conducted for a maximum of 45 minutes followed by a minimum 15 minute break.

Noise suppression devices such as acoustic blankets and hydraulic hammer shrouds will be used to control loud noises as a result of the demolition and excavation works.

Noise Management Plans will be followed for all demolition works.

8. Demolition Methodology

All demolition works will be undertaken in accordance with the following:

- AS2601-2001 – Demolition of Structures.
- Work, Health and Safety Act 2011
- Work, Health and Safety Regulation 2011

The sequence and methods of demolition have been chosen in order to maximize safety of all personnel, the protection of elements of the building to remain and maximum recycling of materials produced during the demolition.

8.1 Demolition of internal rooms.

Including the following areas;

- Eastern Airlock
- Galleria Airlock
- Level 2 CRC + Pathology Collection
- Level 1 Gait Lab + Staff Dining
- Level 2 CSRA and Blood Bank
- VVMF Kids Research
- CHW Corridor Widening

1. The work area is to be isolated by fencing and hoardings. Demolition warning signage will be erected on the outside of fences.
2. Drainage points will be identified and covered to prevent debris or slurry entering the stormwater system.
3. Services will be disconnected by others within the vicinity of the demolition works.
4. Major site dust control will be organized by the builder.
5. Dust suppression in the form of water misting and air filtered fans will be used where ever dusty work is being conducted.
6. Items to be demolished will be clearly marked by a competent supervisor and compared to the plans to ensure accuracy.
7. Demolition hazards will be identified during this time for each work area. These hazards include;
    a. Glass removal – To be removed by competent personnel wearing long

sleeved shirts and full length trousers, cut resistant gloves and safety glasses. The glass is to be held, lifted and transported using glass suckers. In the event of glass breakage, it is paramount that broken glass is cleaned up and safely removed from site immediately.

b. Service identification – Power point / sprinklers / water and gas plumbing. These must be marked clearly to help prevent accidental and unnecessary service strikes. The amount and type of service and their locations must be recorded and given to site management to be disconnected and made safe before demolition can be conducted in their immediate vicinity.

8. A team of skilled labourer's with hand tools will systematically demolish and stockpile the internal structures.
9. The waste produced will be separated concurrently by the labour team and placed into designated stockpiles in the already demolished area ready for load out.
10. 4 and 2 wheeled waste bins with sealable lids will be used to transport any waste produced that will be taken into a public area.
11. "Sticky" mats will be placed at the exit from site into any public area that will collect excess dust from the feet of workers and the wheels of bins.
12. A 10m3 hook bin will be located at a designated loading area as close to the demolition works as is practically possible. An exclusion zone of barrier tape and bollards will be erected around the bin.
13. Once all demolition work has been finished a final clean of all rubble and debris will take place and be removed from site in preparation for following trades.

8.2 Demolition of external elements.

Including the following areas;

- Eastern Airlock
- Level 2 Pathology Expansion
- VVMF Kids Research
- CHW Corridor Widening

1. The work area is to be isolated by fencing and hoardings. Demolition warning signage will be erected on the outside of fences.
2. Drainage points will be identified and covered to prevent debris or slurry

entering the stormwater system.

3. Services will be disconnected by others within the vicinity of the demolition works.
4. Major site dust control will be organized by the builder.
5. Dust suppression in the form of water misting will be used where ever excessively dusty work is being conducted.
6. Items to be demolished will be clearly marked by a competent supervisor and compared to the plans to ensure accuracy.
7. A team of skilled labourer's with hand tools will systematically demolish and stockpile the demolition items.
8. The waste produced will be separated concurrently by the labour team and placed into designated stockpiles in the already demolished area ready for load out.
9. Wheeled waste bins and trolleys will be used to transport any waste produced and brick chutes will be utilized where-ever possible.
10. Where brick chutes are utilized, dust suppression in the form of misting hoses will be set up at the bottom of the chute or directly inside the truck which is being loaded.
11. The fixing point of any brick chute must be deemed fit and safe for purpose by a competent and experience person before assembly. Once assembled and ready for use both the demolition supervisor and an independent site manager must check over the fixings and provide sign-off that the chute is well fixed securely and safe to use.
12. Brick chutes will be fitted with a plywood lid to stop unauthorised or accidental use. The lid will always remain in place except when the chute is being utilized under the supervision of the area supervisor.
13. While brick chutes are in operation the following protocol will be followed;
    a. an exclusion zone will be erected around the truck being loaded.
    b. A designated spotter will be posted directly outside the exclusion zone with a full view of the area.
    c. The spotter will be fitted with a 2-way radio and will be in constant contact with the area supervisor (fitted with a 2-way radio) who will be posted at the top of the chute.
    d. Radio confirmation that the area is clear and safe to load will be given by the spotter to the supervisor.

e. The supervisor will remove the lid and will not leave the immediate area while the chute is in use.

f. Should the spotter request loading stop, the supervisor will replace the lid on the chute and will not remove it until they have received radio confirmation that it is safe to do so.

g. When loading has finished the lid will be fixed to the mouth of the chute and the exclusion zone will be maintained around the exit of the chute.

14. "Sticky" mats will be placed at the exit from site into any public area that will collect excess dust from the feet of workers and the wheels of bins.

15. A 10m3 hook bin will be located at a designated loading area as close to the demolition works as is practically possible. An exclusion zone of barrier tape and bollards will be erected around the bin.

16. Once demolition work has been finished a final clean of all rubble and debris will take place and be removed from site in preparation for following trades.

8.3 Structural demolition of concrete foot ramp entrance to Kids Research Facility.

The frame of this structure is constructed from structural steel edge beams fixed to structural steel support columns which support a 140mm thick Bondek slab with Shear Studs.

The Bondek is welded to the structural steel edge beams.

The ramp is approx. 45 metres long and 2.7 metres wide.

The ramp spans a delivery access point approximately 17 metres wide that must remain accessible at most times. There will be points during the demolition works where with negotiation with affected parties, the access may need to be blocked. This will only occur during significant demolition activities such as craning out structural members and be for short durations.

The ramp is situated along Research Rd which must be left accessible to delivery, patient transport and emergency services vehicles at most times. There may be periods of shutting down this road (with negotiation with affected parties) for high risk activities such as crane work.

It is assumed the existing ramp will have at least a 3kPa – 5 kPa capacity. An RFI will be raised to confirm this prior to the works proceeding.

SEQUENCE OF WORKS

1. The work area is to be isolated by fencing and hoardings. Demolition warning signage will be erected on the outside of fences.
2. Drainage points will be identified and covered to prevent debris or slurry entering the stormwater system.
3. Services (Electrical, water) will be disconnected by others within the vicinity of the demolition works. Any live services remaining will be protected using Plywood/carpet, or similar.
4. All plant to be used on-site will have a 2-way radio so that all machines can easily keep good clear communication with the demolition supervisor.
5. All diesel and petrol powered plant to be used on the works will be regularly serviced and of good repair with service and inspection records provided.
6. An engineered Birdcage steel scaffold will be erected to within 200-400mm of the underside of the ramp with a 10KPa capacity, suitable to take the weight of the ramp structure as ramp components are disconnected from the main structure. This scaffold will be erected the full length of the section of the ramp to be demolished and cantilever out over the footpath and roadway below by 1500mm. This will provide a working platform, overhead protection and edge protection whilst the demolition works are underway.

   NOTE – These works by others.
7. Where the scaffold is to span the 17m wide driveway beneath, the Birdcage Scaffold deck will be supported by scaffold towers and ladder beams to provide the maximum opening into the Loading Dock area as possible. Scaffold engineers will consider this when designing the scaffold.
8. Cabra will construct an engineered timber catch deck from the scaffold deck using multiple layers of 19mm CD ply, supported by LVL Bearers & Joists. This deck is to be screwed up using the scaffold U Heads, hard to the underside of the Bondek.
9. Timber protection will also be constructed above the large services beneath the Ramp deck.
10. The structural steel frame that currently supports the services will have a post or prop installed beneath to provide support to the services. The hanging post currently fixed to the underside of the upper level slab, protrudes through the ramp to be demolished and is fixed to the steel frame supporting the services.
11. Once the new post has been installed, the hanging post can be cut away.

12. After the scaffolding and edge protection have been erected; the glass balustrade, balustrade supports and hand rail will be dismantled by hand.
13. The removal of the Bondek slab will proceed starting at the upper northern end of the ramp, working back down the ramp, sequentially removing the concrete deck, leaving the supporting structural steel frame.
14. After the removal of the Bondek slab, the structural steel frame will be dismantled with the use of a crane.
15. Prior to commencing these works a Structural Engineer will be engaged to review all work plans, imposed loads and provide certification.
16. All works will be under the complete and direct control of an experienced, qualified and SafeWork(NSW) registered Demolition Supervisor.
17. An electric road saw will be used (in order to minimise noise) to cut the concrete deck between structural supporting beams into sections of approximately 1000mm long x 350mm wide. Each of these sections will weigh approximately 100- 120kgs (depending on the SWL of the excavator to be used.
18. The extent of deck to be cut at any one point will be determined by the reach of the excavator to be used. It is likely that the deck will be sawcut at approximately 2m long stages. This is to ensure the excavator is always operating on un-sawcut sections of the deck.
19. Concrete anchor bolts and eyelets will be installed in each concrete section to allow it to be safely lifted up.
20. Excavators to be used as a lifting device will be fitted with 'Burst Valves'.
21. A 3-5 Tonne excavator (depending on existing suspended slab capacity), operating from the top of the ramp, using either standard mechanical grabs or lifting chains will then progressively remove 1 section at a time.
22. The excavator will slew around over the catch deck below and place the lifted section on the uncut slab behind the leading demolition edge.
23. A skid steer or similar will transport it safely to the bottom of the ramp to be loaded into a waiting bin.
24. All demolition operators will be ticketed & qualified and have significant experience specifically operating in a demolition environment.
25. Upon completion of the removal of the concrete sections the catch decks will be dismantled and removed. This will leave the structural columns and beams.

26. Prior to any crane work be undertaken a full Lift Study will be undertaken. The sequence, lengths and cut points of each lift will be planned to ensure the stability of the structure is maintained at all times and the demolition SWL (generally twice the standard SWL) is not to be exceeded.
27. The crane operatives, demolition supervisor & project manager, Kane representatives & structural engineer will contribute to the Lift Study.
28. This process which is likely to take two days, will require the temporary closure of Research Road.
29. A 30 - 50 Tonne city crane will be used to remove and lower the remaining steel structure to the ground as per the approved Lift Study.
30. This process will include the crane supporting the steel beams in situ. A team of experienced Boilermakers, operating out of EWPs or off the Birdcage scaffold, will then move into position at the required positions cut through the steel members to free the section.
31. The Lift Study will identify the safe locations of Boilermakers and the sequence of cutting to prevent injuries caused by rotation of steel members when cut.
32. Once the beam is free and supported by the crane the Boilermakers will move away from the beam to a safe location nearby as per the Lift Study.
33. The crane crew will then lower the steel beam to the ground where it can be further processed into smaller manageable pieces.
34. This process will be continued progressively until the entire structure is demolished.
35. A 15m3 hook bin will be located on Research Lane, as close as is practically possible to the work site that does not impede access to deliveries or emergency vehicles.
36. Once the structure is completely demolished, all rubble and debris will then be cleaned up and removed from site & scaffold dismantled.

8.4 Structural demolition of concrete awning to Kids Research facility.

1. The work area is to be isolated by fencing and hoardings. Demolition warning signage will be erected on the outside of fences.
2. Drainage points will be identified and covered to prevent debris or slurry entering the stormwater system.
3. Services (Electrical, water) will be disconnected by others within the vicinity of the demolition works. Any live services remaining will be protected using

Plywood/carpet, or similar.

4. The building façade and windows in the zone of the demolition are to be protected with a plywood frame.
5. All operatives, including the supervisor & demolition workers will have a 2-way radio to maintain good clear communication.
6. To start a steel scaffold with stretcher stair access will be constructed up to the underside of the base of the three vertical concrete angled supporting blades.

   Note only two of the blades are to be removed.
7. The scaffold at this point is as wide as the awning, plus an additional bay. The additional bay will be erected up to the top of the level of the concrete awning, proving access, edge protection and a working deck. (By others).
8. An engineered catch deck will then be constructed from the lower deck to the underside of the concrete awning, capable of taking the load of the concrete awning when it is disconnected from the building and supporting concrete blades.
9. A high frequency electric hand saw or track mounted wall saw will be used to cut the horizontal section of concrete awning into seven sections each measured and quantified to weigh no more than 1 Tonne.
10. Scans to determine the exact location and extent of the reinforcing steel within the concrete awning will be made and marked out on the top of the awning.
11. Each of the sections will then have four lifting lugs of the relevant capacity installed, one at each corner. The distance from the edges and position of the lifting lugs will be determined by the structural engineer after reviewing the 'As-Built' drawings and the marked out reinforcing steel.

    The correct positioning of the lifting lugs will prevent premature buckling or failing of the awning when being lifted out of place and lowered to the ground.
12. A 30-50 Crane will be used to lift down each of the seven sections which then can be removed offsite.
13. After the removal of the top deck of the awning, works will commence on the two blades.
14. The top of each blade will have two core holes (100mm diameter) cut in at a location again determined by the engineer reviewing the surface scans and

As- Builts.

15. The crane will assume the load of the blade.

    Note: The weight of each blade is less than 500Kg.

16. A flush cutting wall saw will then cut the blade vertically from the façade, freeing the blade.
17. The crane will lower each blade to the ground where it will be loaded into trucks for offsite disposal.
18. Upon completion of the removal of the concrete sections the catch decks and scaffolding will be dismantled and removed.
19. Once the structure is completely demolished, all rubble and debris will then be cleaned up and removed from site.

9 Waste Management Plan

As noted above the methods of demolition have been chosen in order to reduce risk to workers on site and to maximise recycling of the materials generated. Waste streams are to be separated at the source point ready for transport and disposal. All vehicles carrying waste from the site must be loaded within the site boundaries and all loads covered prior to leaving site. Cabra Contracting is the intended transport contractor for demolition waste.

Materials to be recycled include:

- Concrete
- Brick
- Ferrous and Non-ferrous metals
- Plasterboard
- Timber
- Carpet and vinyl flooring

9.1 Type and Quantity of Material to be removed from Site

It is anticipated that all demolition waste including salvageable and recyclable materials will be taken off site.

It is estimated that at least 88% by weight of materials generated by the demolition will be recycled.

The table below shows a list of waste materials generated and possible recycling or landfill locations.

Type of material	Est. Vol. (m3)	Est. W_t (tonne)	Destination
Non-Recyclable Mixed demolition waste Plasterboard, Synthetic Insulation, Timber, Carpet, MDF etc	296	257	Bingo Recycling Centres Eastern Creek
Masonry / Brickwork	540	980	Concrete Recyclers – Camellia
Concrete	295	650	Concrete Recyclers – Camellia
Salvageable Timber & Plywood	0	0	Cabra Yard
Ferrous & Non-Ferrous Metals	66	325	World Wide Scrap – Seven Hills

9.2 Method of Waste Disposal

Demolished materials are to be processed and separated into waste streams on site ready for transport and disposal.

This ensures maximum recycling of the demolished materials.

The various separate waste streams are to be loaded into trucks and removed from site to their respective waste handling, recycling or salvage facilities.

10. Materials Handling State ment.

Cabra Contracting will remove and dispose of all materials from the site in accordance with *the "Waste Avoidance and Resource Recovery Act 2001"* and *"Council's Policy for Waste Minimisation in New Developments 2005".*

11. Environmental Controls

Prior to commencement and during the demolition, environmental controls will be implemented to minimise the impact of noise, dust, sedimentation/water pollution and odours to the environment. Controls will be in accordance with the *Protection of the Environmental Operations Act 1997*.

11.1 Noise

In order to minimise noise generated during the demolition the following noise reducing measures will be taken:

- Work within the noise sensitive constraints imposed by the local council
- City of Sydney Code of Practice – Construction Hours.

11.2 Dust

Demolition activities, particularly breaking of concrete, generate dust. In order to minimise the generation and emission of dust the following measures will be taken:

- Monitor weather conditions and cease demolition works if the above controls cannot control the dust especially during windy times.

11.3 Sedimentation/ Water Pollution

Prior to commencement of demolition works, sedimentation controls will be established on site to control sediments and water pollution. Sedimentation controls include:

- Existing stormwater inlets on the site are to be maintained and protected using geo-textile fence.
- The principal contractor, Kane P/L, is responsible for supplying and installing sedimentation controls.

11.4 Odours

Odour emissions from construction sites are difficult to control, because the activities associated with odour generation typically move around site. However, some practices that can be implemented to control odours include;

- Efficient combustion and proper dispersion from trucks and excavators
- Using extraction fans and directing fumes
- Considering wind speed and direction and timing activities accordingly
- Locating odour producing equipment, such as diesel generators, away from sensitive receptors

12. Induction Training for Workers

All demolition workers commencing works on the site will be inducted into the principal contractors site and into the Site Specific Safe Work Method Statement.

The general induction will inform and train workers of the general conditions of the site and works/tasks to be completed. This will include information such as;

- Location of site amenities.
- Site opening hours and parking information.
- General PPE requirements whilst on site.
- First Aid.
- Reporting of accidents and/or near misses.
- Access ways.
- Evacuation and Fire Procedures.
- General behavior whilst on-site.
- Presence of plant and equipment on site.
- Identification of qualified and experienced personnel for each activity.
- Information and training into demolition works near heritage building.

All Demolition workers will be inducted into the Demolition Safe Work Method Statement by the Site Supervisor. The Safe Work Method Statement will brief workers on the hazards and risks associated with the works, and the manner in which the works will be undertaken to control the risks and hazards.

13. Fire Fighting Controls

Any demolition works involving the use of grinders and or oxy acetylene equipment will be carried out by experienced personnel. Flammable materials will be removed from areas of work prior to commence. During all hot works, a "Spotter" will be used to monitor the works. A Foam type extinguisher will be with the "Spotter" should any materials ignite. All hot works will cease at least one-hour prior to all personal leaving site.

14. Access and Egress

Traffic management for in and around the site will be as per the Traffic Management Plan as prepared by Kane P/L.

Generally;

- Trucks will Access and Egress the site via Redbank Rd.
- Traffic controllers will manage traffic in and out of site as per Traffic Management Plan prepared by Kane P/L.
- During the demolition works, waste will be removed using bins and small tip trucks limited to the sizes noted in the Site TMP.
- Prior to vehicles leaving the site, wheels will be inspected and dusted down to prevent any dust and materials leaving the site.
- All trucks leaving the site with demolished materials will have their loads covered to prevent debris falling onto the roadway.

15. Truck Routes

Truck routes and movement will be as per the Traffic Management Plan as prepared by Kane P/L.

16. Personal Protection Clothing and Devices

While on site, every worker and every visitor shall wear a safety helmet complying with AS/NZS 1801. Also, every worker shall wear protective clothing and where appropriate, the following protective equipment.

1. Eye protectors complying with AS1336 & AS1337
2. Respirators complying with AS/NZS 1715 & AS/NZS1716
3. Hearing protection complying with AS1270
4. Industrial safety gloves complying with AS/NZS2161
5. Safety footwear complying with AS/NZS2210.1 & AS/NZS2210.2
6. Industrial safety belts or harnesses complying with AS/NZS 1891
7. Highly visible clothing.

Appendix 1 – Demolition Licence

NSW GOVERNMENT

CONDITIONAL RESTRICTED DEMOLITION LICENCE

Issued under the *Occupational Health and Safety Regulation 2001(NSW)*. This licence is not transferrable.

Licence:	AD213675
Licence period:	From: 30/06/2021 To: 29/06/2023
Licence holder name:	Cabra Contracting Pty Limited
ABN:	85 639 871 079
ACN:	639 871 079
Address:	2/ 40 Robert Street ROZELLE NSW 2039

Description of the work that can be undertaken under this licence

- Demolition using a tower crane on site
- Demolition of a pre-tensioned or post-tensioned structures
- Demolition using a mobile crane with a rated capacity of more than 100 tonnes
- Demolition involving floor propping
- Demolition above 15 metres in height
- Demolition of Chemical Installations

The licence holder **CANNOT** undertake the following demolition work

- Demolition using explosives

Licence holder obligations

A nominated supervisor must be present at the site at all times when licenced demolition work is carried out.

This licence must be displayed on site at all times.

Demolition of a structure or part of a structure that is loadbearing or otherwise related to the physical integrity of the structure, that is at least six metres in height or demolition involving explosives must be notified to SafeWork NSW at least five days prior to the work commencing.

The licence holder must notify SafeWork NSW in writing of any changes to the licence or supervisor details within 14 days.

Appendix 2 – Public Liability Insurance

Epsilon | Liability

ABN 68 097 402 134 AFSL 245612

CERTIFICATE OF CURRENCY

This document certifies that the Policy referred to above is in force until 4.00p.m. on the Expiry Date shown unless the Policy is cancelled, lapsed, varied or otherwise altered in accordance with relevant Policy Conditions or the provisions of the *'Insurance Contracts Act 1984'*.

Insured:	Cabra Contracting Pty Ltd	
Class Of Business:	Section 1: Public and Products Liability	
Limit of Indemnity:	Section 1: $20,000,000 any one Occurrence in respect of public liability and in the aggregate during the Period of Insurance in respect of products liability.	
Co-Insurer:	**Primary Liability:** Certain Underwriters at Lloyd's – 54.55% Berkley Insurance Company t/a Berkley Re Australia – 45.45%	
Issuer:	Epsilon Insurance Broking Services Pty Ltd t/a Epsilon Underwriting Agencies	
Policy Number:	AWBtbcBU	
Period of Insurance:	From: To:	1st May, 2023 at 4.00p.m. local standard time. 1st May, 2024 at 4.00p.m. local standard time.

Signed: _____ **Date:** 1 May 2023

For and on behalf of Epsilon Insurance Broking Services Pty Ltd trading as Epsilon Underwriting Agencies as agent for the Underwriter as specified above.

EPSILON UNDERWRITING AGENCIES

This Certificate:
- Is issued as a matter of information only and confers no rights upon the holder.
- Does not amend, extend or alter the coverage afforded by the Policy listed.
- Reference must be made to the current Policy wording for full details of the cover provided.

Suite 1503 | Level 15 | 1 Market Street | Sydney NSW 2000 | Ph: 02 9299 3466

Appendix 3 – Workers Compensation Insurance

icare | Workers Insurance

Certificate of currency

000176 008 1801 02
Elias Bolos
CABRA CONTRACTING PTY. LIMITED
PO Box 2386
BURWOOD NORTH NSW 2134

Issue date:
14/02/2023

Statement of coverage

The following policy of insurance covers the full amount of the employer's liability under the *Workers Compensation Act 1987 (NSW)*.

Employer name:	Policy number:	Valid:
CABRA CONTRACTING PTY. LIMITED	201767701	31/03/2023 - 31/03/2024
Business name:	**ABN:**	**ACN:**
	85 639 871 079	639 871 079

Industry classification number (WIC)[3]	Number of workers[1]	Wages/units[2]
421020 Site Preparation Services	10	$513,000.00

1. Number of workers includes contractors/deemed workers
2. Total wages/units estimated for the current period
3. The policy covers all workers employed by the entity named on this certificate in the course of its primary business activity or any other activities ancillary to its primary business activity as required.

Important information

Principals relying on this certificate should ensure it is accompanied by a statement under section 175B of the *Workers Compensation Act 1987 (NSW)*. Principals should also check and satisfy themselves that the information is correct and ensure that the proper workers compensation insurance is in place, i.e. compare the number of employees on site to the average number of employees estimated; ensure that the wages are reasonable to cover the labour component of the work being performed; and confirm that the description of the industry/industries noted is appropriate. A principal contractor may become liable for any outstanding premium of the sub-contractor if the principal has failed to obtain a statement or has accepted a statement where there was reason to believe it was false.

Yours faithfully,

Peter Meighan
Underwriting Operations Manager
icare Workers Insurance

Attachment B: Waste Management Plan – Cabra Contracting Pty Ltd

CABRA CONTRACTING

Childrens Hospital at Westmead
Milestone 7 – Innovation Centre

Waste Management Plan

Prepared by

Cabra Contracting Pty Ltd

Prepared for

Kane Constructions Pty Ltd

February 2023

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2. Cabra Contracting Pty Ltd Details 3
3. Waste Management Plan 4
4. Materials Handling Statement 6

1. Introduction

Cabra Contracting Pty Ltd have been engaged by Kane Constructions to undertake demolition activities involved with the works with the Stage 2 Redevelopment of the Childrens Hospital at Westmead and to prepare a waste management plan for Milestone 7, The Innovation Centre.

2. Cabra Contracting Pty Ltd Details

Cabra Contracting Head Office is located at:

Suite 4, 40 Robert Street, Rozelle NSW 2039

Cabra Contracting mailing address is;

PO Box 6205, Marrickville, NSW, 2204

Cabra Contracting hold the following licence;

- Restricted Demolition Licence No: AD213675. This licence entitles Cabra Contracting to conduct all types of demolition work other than explosive demolition.

Cabra Contracting hold the following insurances;

- Workers Compensation
  - iCare Workers Insurance
  - Policy Number 201767701

Public and Products Liability. This document can be viewed in Appendix 3 – Public Liability Insurance

- Lloyds London via Epsilon Liability.
- Policy Number AWB0590BU

Vehicle and Plant Insurance

- Oamps Insurance Brokers
- Policy Number 06110323

3. Waste Management Plan

The methods of demolition have been chosen in order to reduce risk to workers on site and to maximise recycling of the materials generated. Waste streams are to be separated at the source point ready for transport and disposal. All vehicles carrying waste from the site must be loaded within the site boundaries and all loads covered prior to leaving site. Cabra Contracting is the intended transport contractor for demolition waste.

Innovation Centre Demolition Waste Management

Materials to be recycled include:

- Concrete
- Ferrous and Non-ferrous metals
- Non Recyclable mixed waste including plasterboard and unsalvageable timber
- Salvageable timber and plywood

3.1 Type and Quantity of Material to be removed from Site

It is anticipated that all demolition waste including salvageable and recyclable materials will be taken off site.

It is estimated that at least 97% by weight of materials generated by the demolition will be recycled.

The table below shows a list of waste materials generated and possible recycling or landfill locations.

Type of material	Est. Vol. (m3)	Est. W_t (tonne)	Destination
Non-Recyclable Mixed demolition waste Plasterboard, Synthetic Insulation, Timber, Carpet, MDF etc	30	12	Bingo Recycling Centre Eastern Creek
Masonry / Brickwork	0	0	Concrete Recyclers - Camellia
Concrete	186	372	Concrete Recyclers - Camellia
Salvageable Timber & Plywood	2	4	Cabra Yard
Ferrous & Non-Ferrous Metals	24	30	Sims Metal Recycling - Alexandria

3.2 Method of Waste Disposal

Demolished materials are to be processed and separated into waste streams on site ready for transport and disposal.

This ensures maximum recycling of the demolished materials.

The various separate waste streams are to be loaded into trucks and removed from site to their respective waste handling, recycling or salvage facilities.

4. Materials Handling Statement.

Cabra Contracting will remove and dispose of all materials from the site in accordance with *the "Waste Avoidance and Resource Recovery Act 2001"* and *"Council's Policy for Waste Minimisation in New Developments 2005"*.

Attachment C: Hazardous Materials Survey – JBS&G Australia Pty Ltd

Health Infrastructure NSW

Hazardous Building Materials Survey

Stage 2 Redevelopment,
The Children's Hospital at Westmead,
Hawkesbury Road,
Westmead NSW

22 December 2021

56200/142,833 (Rev 0)

JBS&G Australia Pty Ltd

www.jbsg.com.au

Health Infrastructure NSW

Hazardous Building Materials Survey

Stage 2 Redevelopment,
The Children's Hospital at Westmead,
Hawkesbury Road,
Westmead NSW

22 December 2021

56200/142,833 (Rev 0)

JBS&G Australia Pty Ltd

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Abbreviations

Term	Definition
AC	Asbestos Cement
ACM	Asbestos Containing Material
ACD	Asbestos Containing Dust
ANZECC	Australian and New Zealand Environment Conservation Council
AMP	Asbestos Management Plan
COC	Chain of Custody
EPA NSW	Environmental Protection Authority, New South Wales
FA	Friable Asbestos
HIL	Health Investigation Levels
HSL	Health Screening Levels
JBS&G	JBS&G Australia Pty Ltd
LAA	Licenced Asbestos Assessor
LCD	Lead Containing Dust
LOR	Limit of Reporting
LP	Lead Paint
NATA	National Association of Testing Authorities, Australia
NEPC	National Environmental Protection Council
NEPM	National Environmental Protection Measure
PCB	Polychlorinated Biphenyls
PPE	Personal Protective Equipment
SMF	Synthetic Mineral Fibre
SWA	Safe Work Australia
SWNSW	SafeWork New South Wales
WHS (WH&S)	Workplace Health and Safety

1. Introduction

1.1 Background

JBS&G Australia Pty Ltd (JBS&G) was engaged by Health Infrastructure NSW (HI, the client), care of PricewaterhouseCoopers Australia (PwC) to undertake a hazardous building materials survey (HBMS) of proposed refurbishment areas of the main hospital building associated with the Stage 2 Redevelopment Project at The Children's Hospital at Westmead (CHW), located at Hawkesbury Road, Westmead, NSW (the site).

It is understood that a number of internal areas within the CHW are proposed to be refurbished as part of the broader Stage 2 Redevelopment project. This HBMS was requested to identify the presence of hazardous materials within the nominated refurbishment areas to assist with the site redevelopment works.

The nominated refurbishment areas are detailed further in **Section 3**, and were inspected for the following hazardous materials:

- Asbestos containing materials (ACMs);
- Asbestos containing dust (ACD);
- Lead based paints (LP);
- Lead containing Dust (LCD)
- Synthetic mineral fibres (SMF); and
- Polychlorinated biphenyls (PCB).

This advice presents the outcomes of the inspection undertaken by JBS&G personnel and provides recommendations on requirements for the removal of identified hazardous materials in accordance with regulations and guidance in force at the time of the inspection.

No previous hazardous building materials survey reports or registers were made available to JBS&G prior to the completion of these works.

1.2 Objectives

The objective of the HBMS was to determine the presence, quantity and condition of any hazardous materials within the buildings prior to proposed refurbishment works.

The HBMS and production of this report have been undertaken in accordance with the requirements of:

- *Work Health and Safety Act* (2011);
- *Work Health and Safety Regulation* (2017);
- *How to Safely Remove Asbestos Code of Practice*, SafeWork NSW, (2019) (SWNSW 2019a);
- *How to Manage and Control Asbestos in the Workplace Code of Practice*, SafeWork NSW (2019) (SWNSW 2019b);
- Australian Standard 4361.2 (1998) *Guide to Lead Paint Management - Part 2: Residential and Commercial Buildings* (AS4361.2-1998);
- Australian Standard 4361.2 (2017) *Guide to Hazardous Paint Management - Part 2: Lead Paint in Residential, Public and Commercial Buildings* (AS4361.2-2017);
- National Occupational Health and Safety Commission's *National Standard for Synthetic Mineral Fibres* [NOHSC:1004(1990)];

- National Occupational Health and Safety Commission's *National Code of Practice for the Safe Use of Synthetic Mineral Fibres*, [NOHSC:2006(1990)]; and
- Australian and New Zealand Environment Conservation Council's *Identification of PCB-containing Capacitors: An information booklet for Electricians and Electrical Contractors*, (ANZECC 1997).

1.3 Hazardous Materials Survey Limitations

Whilst all reasonable care has been taken by JBS&G during the completed HBMS, this report is limited due to:

- Only safely accessible areas of the site were surveyed.
- Access restrictions to operational areas such as energised services, gas, air conditioning/heating, pressurised vessels, chemical lines etc.
- Potential materials located in areas in which they could not reasonably be envisaged or anticipated.
- Limited access to internal building components e.g. set floor, walls, ceiling cavities etc., in which case only representative areas were inspected with the hand tools available to the JBS&G consultants for destructive investigation.
- Access restrictions to areas above 3 metres or any area deemed inaccessible without the use of specialised equipment.
- Access to restrictions to areas of structures where the structural integrity for the floor and/or ceiling has been compromised.
- Service pits, confined spaces, voids, cavities within the building structure and internal areas of plant and equipment that could not be safely accessed.

It should be noted that buildings built between the 1930s - 1980s may have general occurrences of ACMs in areas which are not readily accessible with the hand tools available for the survey. These areas and materials include, inter alia:

- Fibre Cement Sheeting (FCS) used as packing to bearers and joists in the underfloor void or as boxing/shuttering to concrete formwork;
- FCS packing between window/door frames and timber studs; and
- Compressed FCS underneath tiled floor areas.

Whilst all care is taken by the consultants to uncover hidden materials, not all areas can be accessed within the allowable timeframe without more industrial (power) tools. As such, only minor destructive sampling techniques were employed to gain access. Consequently, without substantial demolition of the building, it is not possible to guarantee that every source of hazardous material has been detected. JBS&G recommends that areas inaccessible during the survey be inspected as the demolition progresses. If suspected hazardous materials are observed, confirm the presence or absence of hazardous materials through laboratory testing.

In the event suspected hazardous materials are identified during strip out or demolition which are not included in this report, JBS&G recommends that works should cease and an assessment of the materials undertaken by a competent person for further appropriate recommendations.

No one section or part of a section of this report is to be taken as giving an overall idea of this report. Each section is to be read in conjunction with the whole of this report, including the appendices and attachments.

2. Methodology

2.1 Hazardous Materials

2.1.1 Asbestos Containing Materials and Asbestos Containing Dust

Representative samples of suspected ACMs and ACDs were collected where possible and placed into a zip-lock bags. These were subsequently delivered to a NATA accredited laboratory for analysis using polarised light microscopy in conjunction with dispersion staining techniques. Similar materials to those analysed or other materials known to contain asbestos from the consultant's experience (e.g. Electrical backing boards, corrugated asbestos cement roofs and older fibre cement sheeting) or materials not accessible may also be assumed to contain asbestos as per the relevant Code of Practice.

At the time of inspection, the following details were recorded:

- Location;
- Type of material;
- Accessibility;
- Condition;
- Friability; and
- Volume/dimensions.

2.1.2 Lead Based Paint

Australian Standard AS4361.2 (2017) *Guide to Hazardous Paint Management - Part 2: Lead Paint in Residential, Public and Commercial Buildings* defines lead paints as those in which the lead content (calculated as lead metal) is in excess of 0.1 percent by weight of the dry film. This can be determined by field spot tests, laboratory testing or the use of portable X-ray fluorescence (XRF) field tests. Representative samples of suspected lead based paints were collected where possible and delivered to a NATA accredited laboratory for analysis using inductively coupled plasma optical emission spectrometry (ICP-OES).

2.1.3 Lead Containing Dust

Representative samples of accumulated or settled dust were collected and delivered to a NATA accredited laboratory for analysis via ICP-OES. A conservative assessment criteria was adopted for this investigation given the potential for human exposure and the readily disturbed and uncontained nature of accumulated or settled dust.

Concentrations of lead within accumulated or settled dust were compared against the health investigation level (HIL) for residential sites with garden/accessible soil of 300 mg/kg as outlined in National Environment Protection Measure (NEPC 2013) guidelines.

2.1.4 Polychlorinated Biphenyls

Old fluorescent light fittings and other appliances which may contain capacitors containing PCB dielectric oil are identified by inspection and evaluation with the consultant's experience of similar light fittings and appliances. Alternatively, where possible and when it was safe to do so, a representative light fitting was opened to reveal the capacitor and the make and model recorded to be compared against the ANZECC (1997) list of PCB containing capacitors.

2.1.5 Synthetic Mineral Fibres

SMF containing materials were either sampled as per the asbestos methodology or assumed to contain SMF from the consultant's experience of similar materials.

2.2 Inaccessible Areas

As per SWNSW 2019b, any areas not accessible must be recorded as such. Where hazardous materials are suspected to be contained within inaccessible areas, these shall be documented in this report and the associated Hazardous Materials Register (**Appendix A**).

3. Site Description

The survey was completed on 8, 9 and 13 December 2021 by Matt O'Brien, Stuart Lumsden and Michael Le, JBS&G's experienced hazardous materials consultants and SafeWork NSW Licensed Asbestos Assessors (LAA 001093, LAA 001140 and LAA 001533 respectively).

The inspection areas were restricted to the proposed refurbishment areas on Levels 1 to 3 within the main building of the CHW (refer **Figures 1 to 3**)

The type, location, friability, accessibility, and approximate quantities of identified and suspected hazardous materials are provided in the Hazardous Materials Register in **Appendix A**. Photographs taken during the HBMS are presented in **Appendix B**. A summary of the observations made during the HBMS is included in the following sections.

3.1 Level 1 Refurbishment Areas

The Level 1 Refurbishment Areas comprised the Gait Lab, Galleria Entrance and Kitchen, as shown on **Figure 1**.

3.1.1 Gait Lab

The proposed Gait Lab refurbishment area was located on Level 1, in the central portion of the main building. It comprised existing staff toilets, meeting room, catering facilities for the meeting room, and a portion of the existing staff dining room, with cement rendered walls, a combination of fixed plasterboard and suspended ceiling tiles, and concrete floors with either vinyl or carpet floor coverings.

At the time of inspection, the proposed Gait Lab refurbishment area was occupied and operational.

A summary of the significant observations made during the HBMS is as follows:

- Non-asbestos containing blue vinyl flooring (GL-A01) was identified to the staff kitchen area.
- Assumed non-asbestos containing grey and light grey vinyl flooring (refer **Section 3.2.1**, samples ED-A01 & ED-A02) was identified to the staff dining area, pantry and kitchen to meeting room, and toilets.
- Non-lead based grey paint (GL-LP01, 0.02% w/w) was identified to the doors and jambs.
- Non-lead based white paint (GL-LP02, < 0.01% w/w) was identified to the cement rendered walls.
- All remaining paint systems are assumed to comprise non-lead based paint.
- Various assumed SMF insulation materials were identified throughout the area as follows:
    - Internal insulation to instant hot water systems in the staff kitchen and meeting room kitchen;
    - Insulation to ducting throughout the ceiling cavity;
    - Insulation to pipework throughout the ceiling cavity;
    - Packing pillows to penetrations; and
    - Suspended ceiling tiles.

3.1.2 Galleria Entrance

The proposed Galleria Entrance refurbishment area was located on Level 1, in the northern portion of the main building. It comprised the existing foyer to the northern entry into the main hospital building, with cement rendered walls, a fixed plasterboard ceiling, and concrete floors with timber pattern vinyl floor covering.

At the time of inspection, the proposed Galleria Entrance refurbishment area was occupied and operational, and appeared to have been refurbished since it was originally constructed.

Non-lead based yellow/orange paint (GAL-LP01, < 0.01% w/w) was identified to the cement rendered walls. All remaining paint system are assumed to comprise non-lead based paint.

No other hazardous material were identified at the time of inspection.

3.1.3 Kitchen

The proposed Kitchen refurbishment area was located on Level 1, in the central portion of the main building. It comprised the existing hospital kitchen with a combination of plasterboard, cement rendered and ceramic tile walls, suspended ceiling tiles, and concrete floors with either vinyl or ceramic tile floor coverings.

Internally, the Level 1 Kitchen is divided into three main areas:

- North portion – comprised Chefs Office, cool rooms and parts of the kitchen
- Central portion – comprised the main kitchen work area
- South portion – comprised Admin office, storage room areas and parts of the kitchen

A summary of the significant observations made during the HBMS is as follows:

- A number of fire doors were identified throughout the area. These fire doors were identified to have been manufactured in either the 1990's or 2000's. Based on the age of the fire doors they are not suspected to contain asbestos.
- Non-asbestos containing vinyl flooring (KIT-A1) was identified to the Chemical storage room. This material was also identified in the Admin office and Chef room.
- Non-asbestos containing vermiculite (KIT-A2) was identified to the ducting in the ceiling cavity adjacent to the Chef room.
- Lead concentrations within settled dust below the adopted site criteria (KIT-LD1, 130 mg/kg) was identified to the ceiling cavity above the kitchen. This dust was also found not to contain asbestos (KIT-AD1).
- Non-lead based white paint (KIT-LP1, < 0.01% w/w) was identified to the cement rendered walls.
- Non-lead based light green paint (KIT-LP2, 0.03% w/w) was identified to the door and window frames throughout the kitchen.
- All remaining paint systems are assumed to comprise non-lead based paint.
- Cool rooms were identified to the northern portion of the kitchen and are assumed to contain internal SMF insulation within the cool room walls and ceiling.
- Assumed SMF insulation batts were identified in the ceiling cavity.
- Assumed SMF insulation was identified to the ducting in the ceiling cavity.

3.2 Level 2 Refurbishment Areas

The Level 2 Refurbishment Areas comprised the Old Emergency Department, a Linkway & Pathway, Pathology, and External Forecourt, as shown on **Figure 2**.

3.2.1 Old Emergency Department

The proposed Old Emergency Department refurbishment area was located on Level 2, in the southern portion of the main building. It comprised existing treatment rooms, offices, toilet and shower facilities, and store rooms, with cement rendered and plasterboard walls, a combination of

fixed plasterboard and suspended ceiling tiles, and concrete floors with primarily vinyl floor coverings.

At the time of inspection, the proposed Old Emergency Department refurbishment area was occupied and operational, and being utilised by staff as offices, with a portion of the area utilised as the Covid Vaccination Clinic and another portion utilised as the Dental Clinic.

A summary of the significant observations made during the HBMS is as follows:

- A number of different coloured and textured vinyl flooring materials were identified throughout the area. Representative samples of the most common types of vinyl flooring were collected as follows:
    - Non-asbestos containing grey (ED-A01) and light grey (ED-A02) vinyl flooring was identified throughout.
    - Non-asbestos containing grey mottled (ED-A03) or blue mottled (ED-A04) vinyl flooring was identified to the bathrooms, showers and wet areas.
    - Non-asbestos containing cream vinyl (ED-A05) was identified to the walls of the bathrooms, showers and wet areas.
    - Non-asbestos containing white vinyl flooring (ED-A07) was identified to the northern office/clinic rooms.
- Based on the results of the representative samples on vinyl flooring collected, as detailed above, all vinyl flooring throughout the Old Emergency Department is assumed not to contain asbestos.
- Non-asbestos containing grey mastic (ED-A06) was identified to the wall expansion joints within the cement rendered walls throughout.
- Non-asbestos containing fibre cement sheeting (ED-A08) was identified to the soffit lining within the external Smurf Garden.
- Lead concentrations within settled dust below the adopted site criteria (ED-LD01, 23 mg/kg) was identified within the ceiling cavity. This dust was also found not to contain asbestos (ED-AD01).
- Non-lead based white paint (ED-LP01, < 0.01% w/w) was identified to the cement rendered walls.
- Non-lead based cream paint (ED-LP02, < 0.01% w/w) was identified to the doors and door jambs.
- All remaining paint systems are assumed to comprise non-lead based paint.
- Various assumed SMF insulation materials were identified throughout the area as follows:
    - Internal insulation to instant hot water systems in the kitchens;
    - Insulation to ducting throughout the ceiling cavity;
    - Insulation to pipework throughout the ceiling cavity;
    - Packing pillows to penetrations; and
    - Suspended ceiling tiles.

3.2.2 Linkway & Pathway

The proposed Linkway & Pathway refurbishment area was located on Level 2, in the southern portion of the main building. It comprised an internal (northern) area with cement rendered walls,

suspended ceiling tiles and concrete floors with vinyl floor covering, and an external (southern) area with cement rendered walls, glass balustrade, fibre cement ceiling and concrete floors with ceramic tiles.

At the time of inspection, the proposed Linkway & Pathway refurbishment area was occupied and operational being utilised as a thoroughfare.

A summary of the significant observations made during the HBMS is as follows:

- Non-asbestos containing blue vinyl flooring (L2-A01) was identified throughout the internal area.
- Non-asbestos containing grey mastic (L2-A02) was identified to the cement rendered walls within the internal and external areas.
- Non-asbestos containing fibre cement sheeting (L2-A03) was identified to the external area ceiling.
- Non-asbestos containing grey mastic (L2-A04) was identified to the floor expansion joints within the external area.
- Non-asbestos containing black mastic sealant (L2-A05) was identified to the glass balustrade.
- A number of fire doors were identified throughout the area. These fire doors were identified to have been manufactured in the 1990's. Based on the age of the fire doors they are not suspected to contain asbestos.
- Lead concentrations within settled dust below the adopted site criteria (L2-LD01, 110 mg/kg) was identified within the ceiling cavity. This dust was also found not to contain asbestos (LD-AD01).
- Non-lead based blue paint (L2-LP01, < 0.01% w/w) was identified to the fire doors and jambs.
- Non-lead based white paint (L2-LP02, < 0.01% w/w) was identified to the walls, doors and door jambs.
- Non-lead based light blue paint (L2-LP03, < 0.01% w/w) was identified the external cement rendered walls.
- Non-lead based dark blue paint (L2-LP04, < 0.01% w/w) was identified to the external pillars.
- All remaining paint systems are assumed to comprise non-lead based paint.
- Various assumed SMF insulation materials were identified throughout the area as follows:
    - Insulation to ducting throughout the ceiling cavity;
    - Insulation to pipework throughout the ceiling cavity;
    - Packing pillows to penetrations; and
    - Suspended ceiling tiles.

3.2.3 Pathology

The proposed Pathology refurbishment area was located on Level 2, in the western portion of the main building. It comprised an existing external courtyard & exposed roof to Level 1, with glass window walls, concrete pillars, concrete floors with gravel or pebblecrete pavers, and a fibre cement soffit.

At the time of inspection, the proposed Pathology refurbishment area was occupied and operational, and being utilised by staff as a break out area.

A summary of the significant observations made during the HBMS is as follows:

- Non-asbestos containing fibre cement sheeting (PE-A01) was identified to the soffit lining.
- Non-asbestos containing pebblecrete pavers (PE-A02) was identified to the flooring within the northern courtyard portion.
- The waterproofing membrane within the exposed roof portion comprised a combination of plastic and foam layers, with a gravel surface covering. No suspected ACM were observed.
- Non-lead based white paint (PE-LP01, < 0.01% w/w) was identified to the concrete pillars.
- No other hazardous materials were identified at the time of inspection.

3.2.4 External Forecourt

The proposed External Forecourt refurbishment area was located on Level 2. It comprised the external portion of the main entry, paved vehicle driveway (patient drop off/pick up area), grassed and landscaped areas, and former ambulance bay.

A summary of the significant observations made during the HBMS is as follows:

- Non-asbestos containing fibre cement sheeting (FC-A01) was identified to the soffit lining to the Clinical Research Centre (CRC) entry awning.
- Non-asbestos containing compressed fibre cement sheeting (FC-A02) was identified to the CRC façade.
- Non-lead based grey paint (FC-LP01, < 0.01% w/w) was identified to the cement rendered wall under the ambulance awning. This paint system was also identified to the ambulance bay dividing wall, the curved walkway walls, the Smurf Garden dividing walls, and main hospital building façade.
- Non-lead based blue paint (FC-LP02, < 0.01% w/w) was identified to the CRC external walls.
- All remaining accessible paint systems are assumed to comprise non-lead based paints.
- The ambulance and main entry awnings comprised metal and glass. No hazardous material were identified.

3.3 Level 3 Refurbishment Areas

The Level 3 Refurbishment Area comprised a Linkway & Pathway, as shown on **Figure 3**.

3.3.1 Linkway & Pathway

The proposed Linkway & Pathway refurbishment area was located on Level 3, in the southern portion of the main building. It comprised cement rendered and metal sandwich panel walls, suspended ceiling tiles and concrete floors with vinyl floor coverings.

At the time of inspection, the proposed Linkway & Pathway refurbishment area was occupied and operational being utilised as a thoroughfare, with the southern portion observed to have been recently refurbished as part of the new Acute Service Building (ASB) construction.

A summary of the significant observations made during the HBMS is as follows:

- Assumed non-asbestos containing blue vinyl flooring (refer **Section 3.2.2**, sample L2-A01) was identified throughout the internal area.
- Assumed non-asbestos containing grey mastic (refer **Section 3.2.2**, sample L2-A02) was identified to the cement rendered walls.

- A number of fire doors were identified throughout the area. These fire doors were identified to have been manufactured in the 1990's. Based on the age of the fire doors they are not suspected to contain asbestos.
- Lead concentrations within settled dust below the adopted site criteria (L3-LD01, 97 mg/kg) was identified within the ceiling cavity. This dust was also found not to contain asbestos (L3-AD01).
- Assumed non-lead based blue paint (refer **Section 3.2.2**, sample L2-LP01, < 0.01% w/w) was identified to the fire doors and jambs.
- Non-lead based white paint (refer **Section 3.2.2**, sample L2-LP02, < 0.01% w/w) was identified to the walls, doors and door jambs.
- All remaining paint systems are assumed to comprise non-lead based paint.
- Various assumed SMF insulation materials were identified throughout the area as follows:
    - Insulation to ducting throughout the ceiling cavity;
    - Insulation to pipework throughout the ceiling cavity;
    - Packing pillows to penetrations; and
    - Suspended ceiling tiles.

4. Results

4.1 Hazardous Materials

All identified hazardous materials are recorded in the Hazardous Materials Register in **Appendix A** with relevant photographs in **Appendix B**. NATA accredited laboratory analysis reports and chain of custody are provided in **Appendix C**.

4.1.1 Asbestos Containing Materials

ACM were identified by testing at an accredited NATA laboratory and/or visual inspection using the experience of the hazardous materials surveyor. A summary of the results of laboratory testing for asbestos are provided in **Table 4.1** below.

Table 4.1: Asbestos Results Summary Table

Sample ID	Lab ID	Refurbishment Area	Sample Location	Results	Observed Condition
Level 1					
GL-A01	21-De31117	Gait Lab	Staff kitchen – blue vinyl	No Asbestos Detected	N/A
GL-A02	21-De31118	Gait Lab	Wall expansion joints – grey mastic	No Asbestos Detected	N/A
KIT-A1	21-De32758	Kitchen	Chemical storage room – vinyl flooring	No Asbestos Detected	N/A
KIT-A2	21-De32759	Kitchen	Ceiling cavity, ducting – vermiculite	No Asbestos Detected	N/A
Level 2					
ED-A01	21-De31092	Old Emergency Department	Flooring throughout – grey vinyl	No Asbestos Detected	N/A
ED-A02	21-De31093	Old Emergency Department	Flooring throughout – light grey vinyl	No Asbestos Detected	N/A
ED-A03	21-De31094	Old Emergency Department	Bathrooms, showers and wet areas, floor – grey mottled vinyl	No Asbestos Detected	N/A
ED-A04	21-De31095	Old Emergency Department	Bathrooms, showers and wet areas, floor – blue mottled vinyl	No Asbestos Detected	N/A
ED-A05	21-De31096	Old Emergency Department	Bathrooms, showers and wet areas, walls – cream vinyl	No Asbestos Detected	N/A
ED-A06	21-De31097	Old Emergency Department	Cement rendered walls, expansion joints – grey mastic	No Asbestos Detected	N/A
ED-A07	21-De31098	Old Emergency Department	Northern offices/clinics, flooring – white vinyl	No Asbestos Detected	N/A
ED-A08	21-De31099	Old Emergency Department	Smurf Garden, soffit – fibre cement sheeting	No Asbestos Detected	N/A
L2-A01	21-De31104	Linkway & Pathway	Internal portion, flooring – blue vinyl	No Asbestos Detected	N/A
L2-A02	21-De31105	Linkway & Pathway	Cement rendered walls, expansion joint – grey mastic	No Asbestos Detected	N/A
L2-A03	21-De31106	Linkway & Pathway	External portion, ceiling lining – fibre cement sheeting	No Asbestos Detected	N/A
L2-A04	21-De31107	Linkway & Pathway	External portion, floor expansion joints – grey mastic	No Asbestos Detected	N/A
L2-A05	21-De31108	Linkway & Pathway	External portion, glass balustrade – black mastic sealant	No Asbestos Detected	N/A
PE-A01	21-De31121	Pathology	Soffit lining – fibre cement sheeting	No Asbestos Detected	N/A
PE-A02	21-De31122	Pathology	Courtyard – pebblecrete pavers	No Asbestos Detected	N/A
FC-A01	21-De31124	Forecourt	CRC, entry soffit – fibre cement sheeting	No Asbestos Detected	N/A
FC-A02	21-De31125	Forecourt	CRC façade – compressed fibre cement sheeting	No Asbestos Detected	N/A
Level 3					
No material samples were collected at the time of inspection					

4.1.2 Asbestos Containing Dust

Representative dust samples were collected throughout the site. A summary of the results of the laboratory testing for asbestos are provided in **Table 4.2** below:

Table 4.2: Asbestos Dust Results Summary Table

Sample ID	Lab ID	Refurbishment Area	Sample Location	Results	Observed Condition
Level 1					
KIT-AD1	21-De32760	Kitchen	Ceiling cavity – settled dust	No Asbestos Detected	N/A
Level 2					
ED-AD01	21-De31100	Old Emergency Department	Ceiling cavity – settled dust	No Asbestos Detected	N/A
L2-AD01	21-De31109	Linkway & Pathway	Ceiling cavity – settled dust	No Asbestos Detected	N/A
Level 3					
L3-AD01	21-De31115	Linkway & Pathway	Ceiling cavity – settled dust	No Asbestos Detected	N/A

4.1.3 Lead Containing Dust

Representative dust samples were collected throughout the site. A summary of the results of the laboratory testing for lead are provided in **Table 4.3** below:

Table 4.3: Lead Dust Results Summary Table

Sample ID	Lab ID	Refurbishment Area	Sample Location	Results	Observed Condition
Level 1					
KIT-LD1	S21-De32761	Kitchen	Ceiling cavity – settled dust	130 mg/kg	N/A
Level 2					
ED-LD01	S21-De31101	Old Emergency Department	Ceiling cavity – settled dust	23 mg/kg	N/A
L2-LD01	S21-De31110	Linkway & Pathway	Ceiling cavity – settled dust	110 mg/kg	N/A
Level 3					
L3-LD01	S21-De31116	Linkway & Pathway	Ceiling cavity – settled dust	97 mg/kg	N/A

4.1.4 Lead Based Paints

Representative paint samples were collected throughout the site. A summary of the results of the laboratory testing for lead are provided in **Table 4.4** below:

Table 4.4: Lead Paint Results Summary Table

Sample ID	Lab ID	Refurbishment Area	Sample Location	Results	Observed Condition
Level 1					
GL-LP01	S21-De31119	Gait Lab	Doors and jambs – grey paint	0.02% w/w	N/A
GL-LP02	S21-De31120	Gait Lab	Cement rendered walls – white paint	< 0.01% w/w	N/A
GAL-LP01	S21-De31128	Galleria Entrance	Cement rendered walls – yellow/orange paint	< 0.01% w/w	N/A
KIT-LP1	S21-De32762	Kitchen	Cement rendered walls – white paint	< 0.01% w/w	N/A
KIT-LP2	S21-De32763	Kitchen	Door and window frames – light green paint	0.03% w/w	N/A
Level 2					
ED-LP01	S21-De31102	Old Emergency Department	Cement rendered walls – white paint	< 0.01% w/w	N/A
ED-LP02	S21-De31103	Old Emergency Department	Doors and door jambs – cream paint	< 0.01% w/w	N/A
L2-LP01	S21-De31111	Linkway & Pathway	Internal area, fire doors and jambs – blue paint	< 0.01% w/w	N/A

Sample ID	Lab ID	Refurbishment Area	Sample Location	Results	Observed Condition
L2-LP02	S21-De31112	Linkway & Pathway	Internal area, cement rendered walls, doors and jambs – white paint	< 0.01% w/w	N/A
L2-LP03	S21-De31113	Linkway & Pathway	External area, cement rendered walls – light blue paint	< 0.01% w/w	N/A
L2-LP04	S21-De31114	Linkway & Pathway	External area, pillars – dark blue paint	< 0.01% w/w	N/A
PE-LP01	S21-De31102	Pathology	Concrete pillars – white paint	< 0.01% w/w	N/A
FC-LP01	S21-De31123	Forecourt	Wall under ambulance awning – grey paint	< 0.01% w/w	N/A
FC-LP02	S21-De31126	Forecourt	CRC façade – blue paint	< 0.01% w/w	N/A
Level 3					
No paint samples were collected at the time of inspection					

4.1.5 Polychlorinated Biphenyls

Fluorescent light fittings were of modern age and appearance. Based on the year of building construction (circa 1994) these light fittings are not suspected to contain PCB containing capacitors.

4.1.6 Synthetic Mineral Fibres

Suspected SMF materials were identified in various forms throughout the site. Full details of all identified SMF materials are provided in the Hazardous Materials Register (**Appendix A**). The typical forms of SMF identified are summarised below:

- Internal insulation to hot water systems;
- Insulation lagging to ducting and pipework;
- Insulation batts within ceiling cavities; and
- Suspended ceiling tiles.

4.2 Inaccessible Areas

At the time of inspection, there were no areas of the refurbishment areas deemed to be inaccessible areas in accordance with SWNSW 2019b.

5. Conclusions and Recommendations

Based on the scope of this assessment and with reference to the limitations included in **Section 6**, the following conclusions are made with respect to the Hazardous Materials Survey completed.

5.1 Hazardous Materials

Identified and suspected hazardous materials were observed throughout the building as a result of visual identification and laboratory analysis.

The following recommendations are made for the removal of the identified hazardous materials to potentially mitigate harmful effects as a result of the proposed works program. The person with management or control of the site, must ensure so far as is reasonably practicable that the identified hazardous materials are removed prior to the commencement of demolition works.

The identified and suspected hazardous materials are presented in the Hazardous Materials Register included as **Appendix A**.

5.1.1 Asbestos Containing Materials

No asbestos containing materials were identified at the time of inspection.

5.1.2 Lead Containing Dust

No lead containing dust above the adopted site criteria was identified at the time of inspection.

5.1.3 Lead Based Paints

No lead based paints were identified at the time of inspection.

5.1.4 Synthetic Mineral Fibres

The synthetic mineral fibres encountered during this inspection were generally contained and deemed to be low risk. These SMF materials can be removed with the building and demolition waste with care taken not to generate fibres. Appropriate PPE is recommended including the use of P2 respirator as minimum and appropriate removal methodology as outlined in [NOHSC: 1004(1990)] and [NOHSC: 2006(1990)].

5.1.5 Polychlorinated Biphenyls

No polychlorinated biphenyls were identified at the time of inspection.

5.2 Unexpected Finds

Any materials deemed to be consistent with those detailed in the Hazardous Materials Register that have not been previously identified should be assumed to have the same content and be treated accordingly.

Should any additional suspected hazardous materials be observed during or prior to demolition works, works should cease until a suitably qualified occupational hygienist can assess the suspected hazardous material and provide appropriate recommendations for management and/or removal.

6. Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS&G, and should not be relied upon by other parties, who should make their own enquiries.

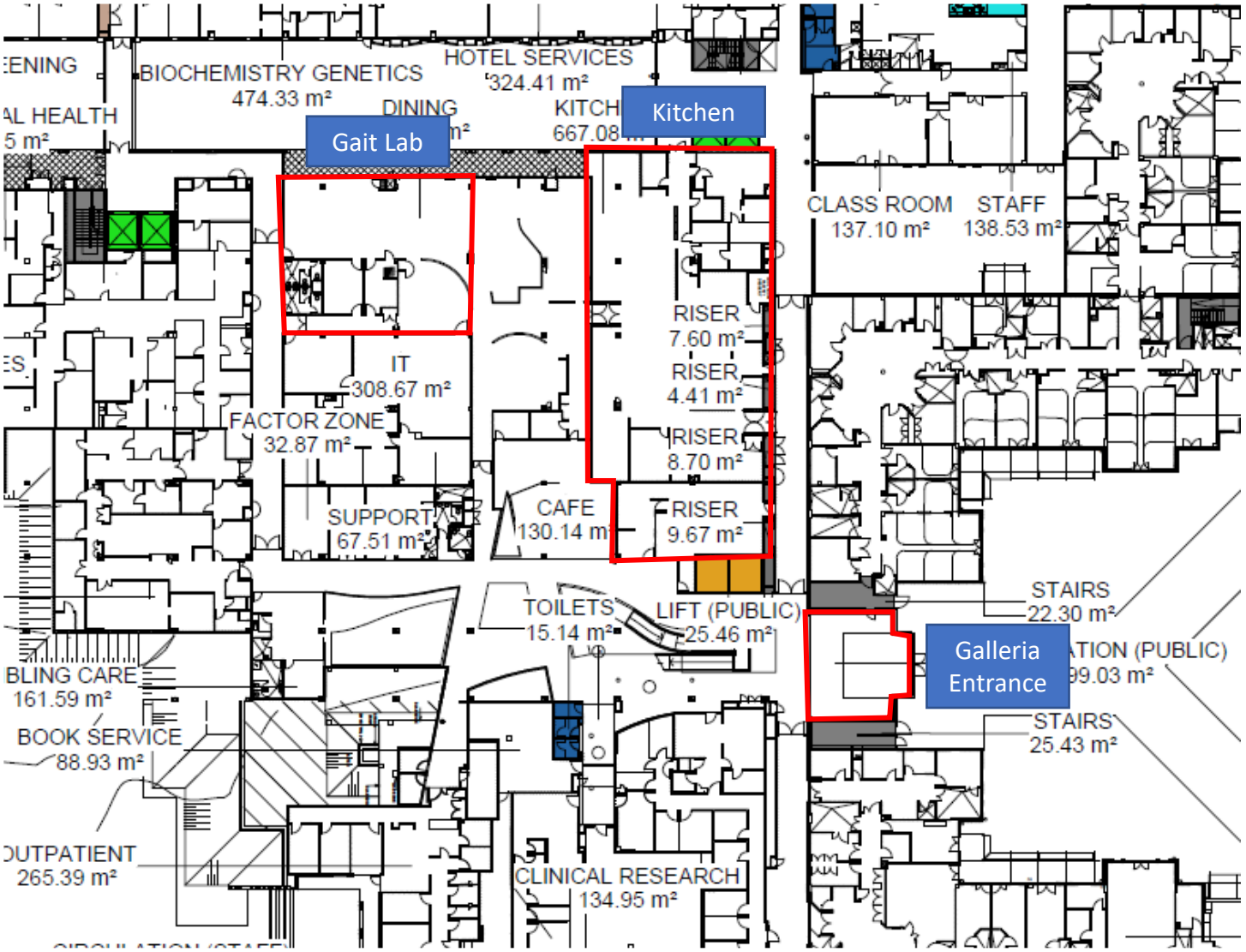
Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the regulatory requirements.

Limited sampling and laboratory analyses were undertaken as part of the investigations undertaken, as described herein. Ground conditions between sampling locations and media may vary, and this should be considered when extrapolating between sampling points. Chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS&G reserves the right to review the report in the context of the additional information.

Figures



Legend:
Approximate Refurbishment Area Boundary

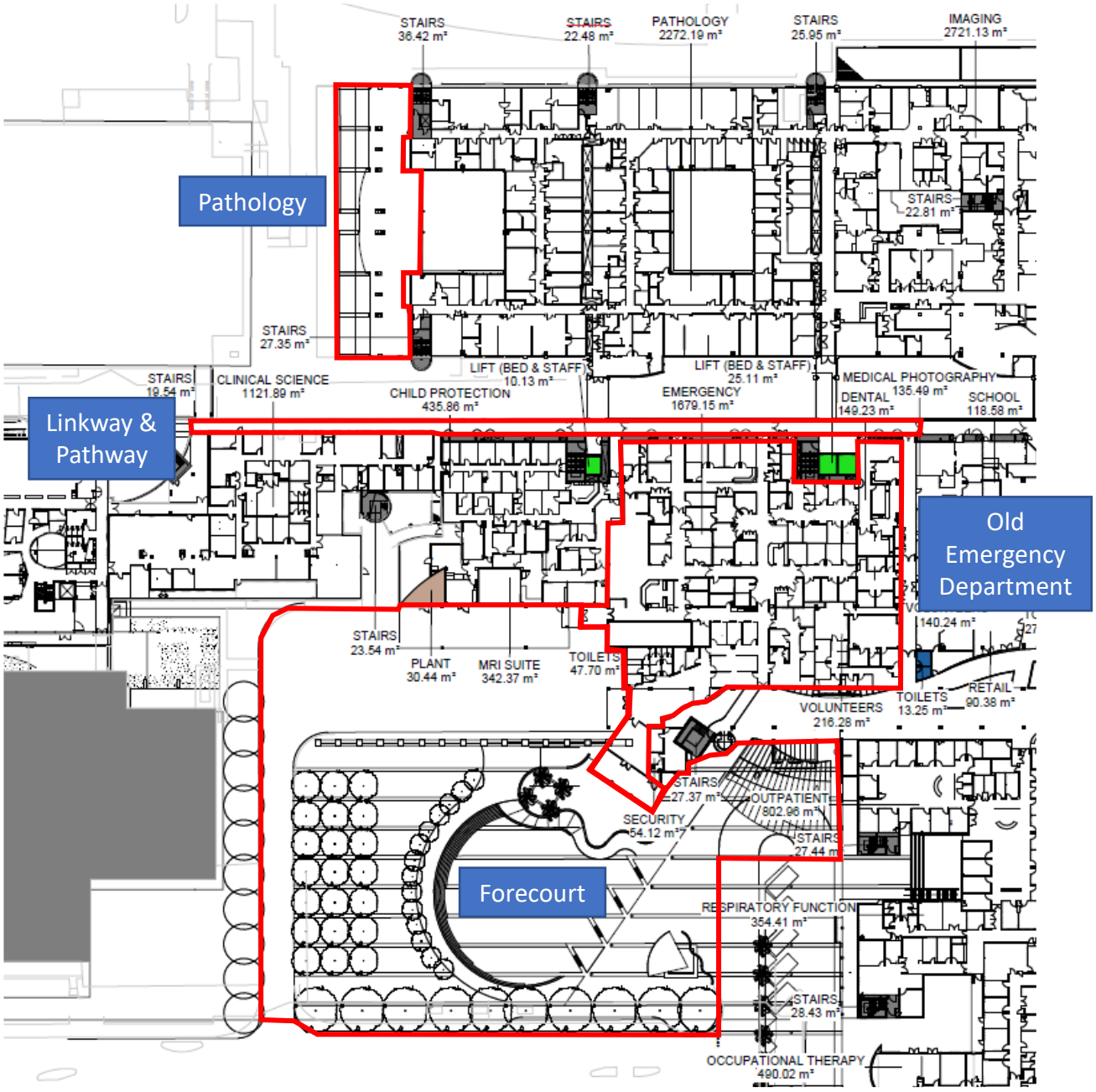
JBS&G

Job No: 56200	
Client: Health Infrastructure NSW	
Version: R12 Rev 0	Date: 20/12/2021
Drawn By: SL	Checked By: SL
Approximate Scale	
Coor. Sys. GDA 1994 MGA Zone 56	

**CHILDREN'S HOSPITAL WESTMEAD,
HAWKESBURY ROAD,
WESTMEAD, NSW**

LEVEL 1 REFURBISHMENT AREAS

FIGURE: 1



Legend:
Approximate Refurbishment Area Boundary

JBS&G

Job No: 56200

Client: Health Infrastructure NSW

Version: R12 Rev 0 | Date: 20/12/2021

Drawn By: SL | Checked By: SL

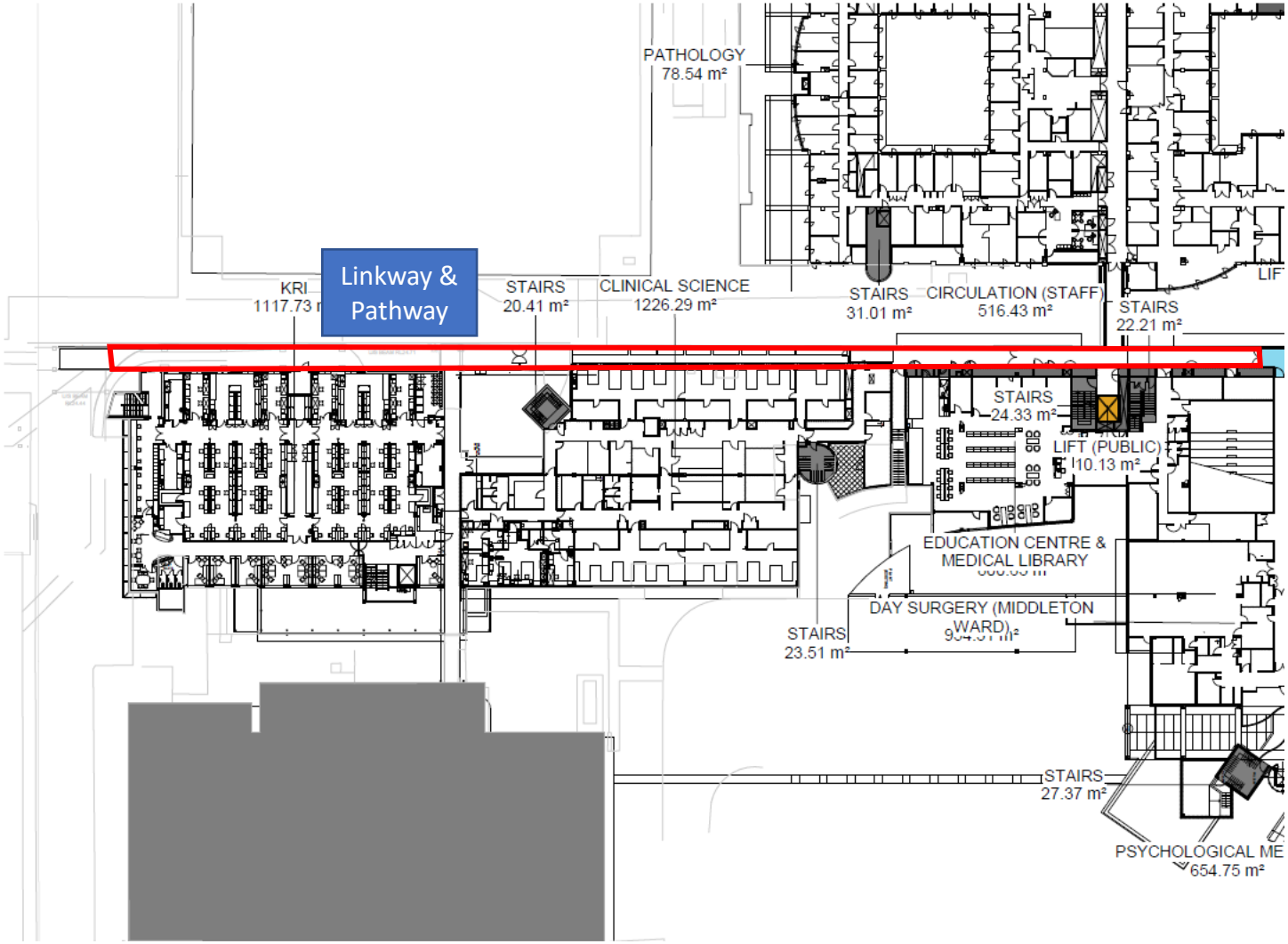
Approximate Scale

Coor. Sys. GDA 1994 MGA Zone 56

CHILDREN'S HOSPITAL WESTMEAD, HAWKESBURY ROAD, WESTMEAD, NSW

LEVEL 2 REFURBISHMENT AREAS

FIGURE: 2



Legend:
Approximate Refurbishment Area Boundary

JBS&G

Job No: 56200

Client: Health Infrastructure NSW

Version: R12 Rev 0 | Date: 20/12/2021

Drawn By: SL | Checked By: SL

Approximate Scale

Coor. Sys. GDA 1994 MGA Zone 56

**CHILDREN'S HOSPITAL WESTMEAD,
HAWKESBURY ROAD,
WESTMEAD, NSW**

LEVEL 3 REFURBISHMENT AREAS

FIGURE: 3

Appendix A Hazardous Materials Registers

Hazardous Materials Register (Rev 0)
Children's Hospital at Westmead
Stage 2 Refurbishment
Level 1 – Refurbishment area – Gait Lab
Date of Production – 22 December 2021

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Asbestos Containing Materials (ACM)											
No Asbestos Containing Materials were identified at the time of inspection									-	8-9/12/2021 JBS&G SL & MB	-
No Asbestos Detected (NAD)											
GL-A01	Staff kitchen area, top of floor – blue vinyl flooring	Blue vinyl flooring	2	Yes	-	No Asbestos Detected	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
As per ED-A01 & ED-A02	Staff dining area, pantry, kitchen to meeting room and toilets	Grey and light grey vinyl flooring	-	Yes	-	No Asbestos Detected	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
Lead Containing Dust											
No significant amounts of dust were identified at the time of inspection									-	8-9/12/2021 JBS&G SL & MB	-
Lead Based Paints											
No Lead Based Paints were identified at the time of inspection									-	8-9/12/2021 JBS&G SL & MB	-
Non-Lead Paints											
GL-LP01	Doors and jambs throughout – grey paint	Grey paint	-	Yes	-	0.02% w/w	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
GL-LP02	Cement rendered walls – white paint	White paint	-	Yes	-	<0.01% w/w	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
Polychlorinated Biphenyls (PCBs)											
No Polychlorinated Biphenyls were identified at the time of inspection									-	8-9/12/2021 JBS&G SL & MB	-
Synthetic Mineral Fibres (SMF)											

Hazardous Materials Register (Rev 0)
Children's Hospital at Westmead
Stage 2 Refurbishment
Level 1 – Refurbishment area – Gait Lab
Date of Production – 22 December 2021

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
-	Staff kitchen and meeting room – hot water unit	Internal insulation	3	Yes	Non-friable	**Assumed SMF**	Good	2 units	Remove in accordance with NOHSC:2006 (1990)	8-9/12/2021 JBS&G SL & MB	Prior to refurbishment
-	Ceiling cavity – air conditioning ducting	Insulation	-	Yes	Non-friable	**Assumed SMF**	Good	30 m^2	Remove in accordance with NOHSC:2006 (1990)	8-9/12/2021 JBS&G SL & MB	Prior to refurbishment
-	Ceiling cavity – pipework insulation	Insulation	-	Yes	Non-friable	**Assumed SMF**	Good	10 m^2	Remove in accordance with NOHSC:2006 (1990)	8-9/12/2021 JBS&G SL & MB	Prior to refurbishment
-	Cable penetrations – packing pillows	Packing pillows	-	Yes	Non-friable	**Assumed SMF**	Good	1 m^2	Remove in accordance with NOHSC:2006 (1990)	8-9/12/2021 JBS&G SL & MB	Prior to refurbishment
-	False ceilings throughout – false ceiling tiles	False ceiling tiles	4	Yes	Non-friable	**Assumed SMF**	Good	500 m^2	Remove in accordance with NOHSC:2006 (1990)	8-9/12/2021 JBS&G SL & MB	Prior to refurbishment

Hazardous Materials Register (Rev 0)
Children's Hospital at Westmead
Stage 2 Refurbishment
Level 1 – Refurbishment area – Galleria Entrance
Date of Production – 22 December 2021

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Asbestos Containing Materials (ACM)											
No Asbestos Containing Materials were identified at the time of inspection									-	8-9/12/2021 JBS&G SL & MB	-
Lead Containing Dust											
No significant amounts of dust were identified at the time of inspection									-	8-9/12/2021 JBS&G SL & MB	-
Lead Based Paints											
No Lead Based Paints were identified at the time of inspection									-	8-9/12/2021 JBS&G SL & MB	-
Non-Lead Paints											
GAL-LP01	Cement rendered walls – yellow/orange paint	Yellow/orange paint	6	Yes	-	<0.01% w/w	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
Polychlorinated Biphenyls (PCBs)											
No Polychlorinated Biphenyls were identified at the time of inspection									-	8-9/12/2021 JBS&G SL & MB	-
Synthetic Mineral Fibres (SMF)											
No synthetic mineral fibre materials were identified at the time of inspection									-	8-9/12/2021 JBS&G SL & MB	-

Hazardous Materials Register (Rev 0)
Children's Hospital at Westmead
Stage 2 Refurbishment
Level 1 – Refurbishment area – Kitchen
Date of Production – 22 December 2021

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Asbestos Containing Materials (ACM)											
No Asbestos Containing Materials were identified at the time of inspection									-	13/12/2021 JBS&G ML	-
No Asbestos Detected (NAD)											
KIT-A1	Chemical storage room, top of floor – grey vinyl flooring	Grey vinyl flooring	8	Yes	-	No Asbestos Detected	-	-	No further action required	13/12/2021 JBS&G ML	-
As per KIT-A1	Admin office and Chef room, top of floor – grey vinyl flooring	Grey vinyl flooring	-	Yes	-	No Asbestos Detected	-	-	No further action required	13/12/2021 JBS&G ML	-
KIT-A2	Ceiling space, adjacent Chefs Room, vent – vermiculate	Vermiculate	9	Yes	-	No Asbestos Detected	-	-	No further action required	13/12/2021 JBS&G ML	-
KIT-AD1	Ceiling space – settled dust	Settled dust	9	Yes	-	No Asbestos Detected	-	-	No further action required.	13/12/2021 JBS&G ML	-
-	North and southern entry – fire doors	Fire doors	10	Yes	-	Assumed non-asbestos fire doors	-	-	The doors were identified to be manufactured 1990's or 2000's and are not suspected to contain asbestos	13/12/2021 JBS&G ML	-
Lead Containing Dust											
KIT-LD1	Ceiling space – settled dust	Settled dust	9	Yes	-	130 mg/kg	-	-	No further action required.	13/12/2021 JBS&G ML	-
Lead Based Paints											
No Lead Based Paints were identified at the time of inspection									-	13/12/2021 JBS&G ML	-
Non-Lead Paints											
KIT-LP1	Cement rendered walls – white paint	White paint	11	Yes	-	<0.01% w/w	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
KIT-LP2	Door and door frames – Light green paint	Light green paint	10	Yes	-	0.03% w/w	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-

Hazardous Materials Register (Rev 0)
Children's Hospital at Westmead
Stage 2 Refurbishment
Level 1 – Refurbishment area – Kitchen
Date of Production – 22 December 2021

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Polychlorinated Biphenyls (PCBs)											
No Polychlorinated Biphenyls were identified at the time of inspection									-	13/12/2021 JBS&G ML	-
Synthetic Mineral Fibres (SMF)											
-	North area of kitchen – cool rooms	Internal insulation	12	Yes	Non-friable	**Assumed SMF**	Good	5 units	Remove in accordance with NOHSC:2006 (1990)	13/12/2021 JBS&G ML	Prior to refurbishment
-	Ceiling space – insulation batts	Insulation batts	-	Yes	Non-friable	**Assumed SMF**	Good	5 m^2	Remove in accordance with NOHSC:2006 (1990)	13/12/2021 JBS&G ML	Prior to refurbishment
-	Ceiling cavity – ducting	Ducting	13	Yes	Non-friable	**Assumed SMF**	Good	20m^2	Remove in accordance with NOHSC:2006 (1990)	13/12/2021 JBS&G ML	Prior to refurbishment

Hazardous Materials Register (Rev 0)
Children's Hospital at Westmead
Stage 2 Refurbishment
Level 2 – Refurbishment area – Old Emergency Department
Date of Production – 22 December 2021

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Asbestos Containing Materials (ACM)											
No Asbestos Containing Materials were identified at the time of inspection									-	8-9/12/2021 JBS&G SL & MB	-
No Asbestos Detected (NAD)											
ED-A01	Throughout emergency department, flooring – grey vinyl flooring	Grey vinyl flooring	15	Yes	-	No Asbestos Detected	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
ED-A02	Throughout emergency department, flooring – Light grey vinyl flooring	Light grey vinyl flooring	15	Yes	-	No Asbestos Detected	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
ED-A03	Throughout bathroom, showers and wet areas, flooring – grey mottled vinyl flooring	Grey mottled vinyl flooring	-	Yes	-	No Asbestos Detected	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
ED-A04	Throughout bathroom, showers and wet areas, flooring – blue mottled vinyl flooring	Blue mottled vinyl flooring	-	Yes	-	No Asbestos Detected	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
ED-A05	Throughout bathroom, showers and wet areas, walls– cream vinyl sheeting	Cream vinyl sheeting	-	Yes	-	No Asbestos Detected	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
ED-A06	Cement rendered walls, between walls – expansion joint	Grey mastic	16	Yes	-	No Asbestos Detected	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
ED-A07	Northern office/clinic room, flooring – White vinyl sheeting	White vinyl sheeting	-	Yes	-	No Asbestos Detected	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
ED-A08	External, smurf garden, soffit lining – fibre cement	Fibre cement	17	Yes	-	No Asbestos Detected	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
ED-AD1	Ceiling cavity – settled dust	Settled dust	18	Yes	-	No Asbestos Detected	-	-	No further action required.	8-9/12/2021 JBS&G SL & MB	-
Lead Containing Dust											
ED-LD1	Ceiling cavity – settled dust	Settled dust	18	Yes	-	23 mg/kg	-	-	No further action required.	8-9/12/2021 JBS&G SL & MB	-

Hazardous Materials Register (Rev 0)
Children's Hospital at Westmead
Stage 2 Refurbishment
Level 2 – Refurbishment area – Old Emergency Department
Date of Production – 22 December 2021

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Lead Based Paints											
No Lead Based Paints were identified at the time of inspection									-	13/12/2021 JBS&G ML	-
Non-Lead Paints											
ED-LP01	Cement rendered walls – white paint	White paint	-	Yes	-	<0.01% w/w	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
ED-LP02	Door and door jambs – cream paint	Cream paint	-	Yes	-	<0.01% w/w	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
Polychlorinated Biphenyls (PCBs)											
No Polychlorinated Biphenyls were identified at the time of inspection									-	8-9/12/2021 JBS&G SL & MB	-
Synthetic Mineral Fibres (SMF)											
-	Kitchens – hot water unit	Internal insulation	-	Yes	Bonded	**Assumed SMF**	Good	3 units	Remove in accordance with NOHSC:2006 (1990)	8-9/12/2021 JBS&G SL & MB	Prior to refurbishment
-	Ceiling cavity, pipework – insulation	Insulation	19	Yes	Bonded	**Assumed SMF**	Good	5 m^2	Remove in accordance with NOHSC:2006 (1990)	8-9/12/2021 JBS&G SL & MB	Prior to refurbishment
-	Ceiling cavity, ducting – insulation	Insulation	18	Yes	Bonded	**Assumed SMF**	Good	15 m^2	Remove in accordance with NOHSC:2006 (1990)	8-9/12/2021 JBS&G SL & MB	Prior to refurbishment
-	Cable penetrations – insulation pillows	Insulation pillows	-	Yes	Bonded	**Assumed SMF**	Good	2 m^2	Remove in accordance with NOHSC:2006 (1990)	8-9/12/2021 JBS&G SL & MB	Prior to refurbishment
-	False ceilings throughout – suspended ceiling tiles	Ceiling tiles	-	Yes	Bonded	**Assumed SMF**	Good	500 m^2	Remove in accordance with NOHSC:2006 (1990)	13/12/2021 JBS&G ML	Prior to refurbishment

Hazardous Materials Register (Rev 0)
Children's Hospital at Westmead
Stage 2 Refurbishment
Level 2 – Refurbishment area – Linkway & Pathway
Date of Production – 22 December 2021

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Asbestos Containing Materials (ACM)											
No Asbestos Containing Materials were identified at the time of inspection									-	8-9/12/2021 JBS&G SL & MB	-
No Asbestos Detected (NAD)											
L2-A01	Internal area throughout – blue vinyl flooring	Blue vinyl flooring	-	Yes	-	No Asbestos Detected	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
L2-A02	Cement rendered walls, internal and external areas, between walls – Expansion joints	Grey mastic	-	Yes	-	No Asbestos Detected	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
L2-A03	External areas, ceiling – Fibre cement	Fibre cement	21	Yes	-	No Asbestos Detected	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
L2-A04	External areas, flooring – Black mastic sealant	Black mastic sealant	22	Yes	-	No Asbestos Detected	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
L2-A05	Glass balustrade – Black mastic sealant	Black mastic sealant	22	Yes	-	No Asbestos Detected	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
-	Fire doors throughout	Fire doors	23	Yes	-	Assumed non-asbestos fire doors	-	-	The doors were identified to be manufactured 1990's and are not suspected to contain asbestos	8-9/12/2021 JBS&G SL & MB	-
L2-AD01	Ceiling cavity – settled dust	Settled dust	-	Yes	-	No Asbestos Detected	-	-	No further action required.	8-9/12/2021 JBS&G SL & MB	-
Lead Containing Dust											
L2-LD01	Ceiling cavity – settled dust	Settled dust	-	Yes	-	110 mg/kg	-	-	No further action required.	8-9/12/2021 JBS&G SL & MB	-
Lead Based Paints											
No Lead Based Paints were identified at the time of inspection									-	13/12/2021 JBS&G ML	-
Non-Lead Paints											

Hazardous Materials Register (Rev 0)
Children's Hospital at Westmead
Stage 2 Refurbishment
Level 2 – Refurbishment area – Linkway & Pathway
Date of Production – 22 December 2021

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
L2-LP01	Fire doors and door jambs – Blue paint	Blue paint	23	Yes	-	<0.01% w/w	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
L2-LP02	Walls, door and door jambs – White paint	White paint	-	Yes	-	<0.01% w/w	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
L2-LP03	External cement rendered walls – Light blue paint	Light blue paint	21	Yes	-	<0.01% w/w	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
L2-LP04	External pillars – Dark blue paint	Dark blue paint	21	Yes	-	<0.01% w/w	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
Polychlorinated Biphenyls (PCBs)											
No Polychlorinated Biphenyls were identified at the time of inspection									-	8-9/12/2021 JBS&G SL & MB	-
Synthetic Mineral Fibres (SMF)											
-	Ceiling cavity, pipework – insulation	Insulation	-	Yes	Bonded	**Assumed SMF**	Good	5 m^2	Remove in accordance with NOHSC:2006 (1990)	8-9/12/2021 JBS&G SL & MB	Prior to refurbishment
-	Ceiling cavity, ducting – insulation	Insulation	-	Yes	Bonded	**Assumed SMF**	Good	15 m^2	Remove in accordance with NOHSC:2006 (1990)	8-9/12/2021 JBS&G SL & MB	Prior to refurbishment
-	Cable penetrations – insulation pillows	Insulation pillows	24	Yes	Bonded	**Assumed SMF**	Good	2 m^2	Remove in accordance with NOHSC:2006 (1990)	8-9/12/2021 JBS&G SL & MB	Prior to refurbishment
-	False ceilings throughout – suspended ceiling tiles	Ceiling tiles	-	Yes	Bonded	**Assumed SMF**	Good	500 m^2	Remove in accordance with NOHSC:2006 (1990)	13/12/2021 JBS&G ML	Prior to refurbishment

Hazardous Materials Register (Rev 0)
Children's Hospital at Westmead
Stage 2 Refurbishment
Level 2 – Refurbishment area – Pathology
Date of Production – 22 December 2021

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Asbestos Containing Materials (ACM)											
No Asbestos Containing Materials were identified at the time of inspection									-	8-9/12/2021 JBS&G SL & MB	-
No Asbestos Detected (NAD)											
PE-A01	External area, soffit lining – fibre cement	Fibre cement	26	Yes	-	No Asbestos Detected	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
PE-A02	Northern courtyard portion, flooring – pebblecrete pavers	Fibre cement	27	Yes	-	No Asbestos Detected	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
-	Exposed roof portion, gravel surface covering – waterproof membrane	Waterproof membrane	27	Yes	-	Non-asbestos material observed	-	-	Observed layer of plastic and foam layers. No further action required	8-9/12/2021 JBS&G SL & MB	-
Lead Containing Dust											
No significant amounts of settled dust were identified at the time of inspection									-	13/12/2021 JBS&G ML	-
Lead Based Paints											
No Lead Based Paints were identified at the time of inspection									-	13/12/2021 JBS&G ML	-
Non-Lead Paints											
PE-LP01	Concrete pillars – white paint	White paint	26	Yes	-	<0.01% w/w	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
Polychlorinated Biphenyls (PCBs)											
No Polychlorinated Biphenyls were identified at the time of inspection									-	8-9/12/2021 JBS&G SL & MB	-
Synthetic Mineral Fibres (SMF)											

Hazardous Materials Register (Rev 0)
Children's Hospital at Westmead
Stage 2 Refurbishment
Level 2 – Refurbishment area – Pathology
Date of Production – 22 December 2021

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
No Synthetic Mineral Fibre materials were identified at the time of inspection									-	8-9/12/2021 JBS&G SL & MB	-

Hazardous Materials Register (Rev 0)
Children's Hospital at Westmead
Stage 2 Refurbishment
Level 2 – Refurbishment area – External Forecourt
Date of Production – 22 December 2021

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Asbestos Containing Materials (ACM)											
No Asbestos Containing Materials were identified at the time of inspection									-	8-9/12/2021 JBS&G SL & MB	-
No Asbestos Detected (NAD)											
FC-A01	Clinical Research Centre (CRC), soffit lining – fibre cement	Fibre cement	29	Yes	-	No Asbestos Detected	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
FC-A02	Clinical Research Centre (CRC) façade – compressed fibre cement	Fibre cement	30	Yes	-	No Asbestos Detected	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
Lead Based Paints											
No Lead Based Paints were identified at the time of inspection									-	13/12/2021 JBS&G ML	-
Non-Lead Paints											
FC-LP01	Cement rendered wall under ambulance awning – Grey paint	Grey paint	-	Yes	-	<0.01% w/w	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
As per FC-LP01	Ambulance bay, dividing wall, curved walkway walls, smurf garden dividing walls and main hospital building façade – Grey paint	Grey paint	31	Yes	-	<0.01% w/w	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
FC-LP02	Clinical Research Centre (CRC), external walls – blue paint	Blue paint	30	Yes	-	<0.01% w/w	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
Polychlorinated Biphenyls (PCBs)											
No Polychlorinated Biphenyls were identified at the time of inspection									-	8-9/12/2021 JBS&G SL & MB	-
Synthetic Mineral Fibres (SMF)											

Hazardous Materials Register (Rev 0)
Children's Hospital at Westmead
Stage 2 Refurbishment
Level 2 – Refurbishment area – External Forecourt
Date of Production – 22 December 2021

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
No Synthetic Mineral Fibre materials were identified at the time of inspection									-	8-9/12/2021 JBS&G SL & MB	-

Hazardous Materials Register (Rev 0)
Children's Hospital at Westmead
Stage 2 Refurbishment
Level 3 – Refurbishment area – Linkway & Pathway
Date of Production – 22 December 2021

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Asbestos Containing Materials (ACM)											
No Asbestos Containing Materials were identified at the time of inspection									-	8-9/12/2021 JBS&G SL & MB	-
No Asbestos Detected (NAD)											
As per L2-A01	Internal area throughout – blue vinyl flooring	Blue vinyl flooring	33	Yes	-	Assumed non-asbestos	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
As per L2-A02	Cement rendered walls, internal and external areas, between walls – Expansion joints	Grey mastic	-	Yes	-	Assumed non-asbestos	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
-	Fire doors throughout	Fire doors	-	Yes	-	Assumed non-asbestos fire doors	-	-	The doors were identified to be manufactured 1990's and are not suspected to contain asbestos	8-9/12/2021 JBS&G SL & MB	-
L3-AD01	Ceiling cavity – settled dust	Settled dust	-	Yes	-	No Asbestos Detected	-	-	No further action required.	8-9/12/2021 JBS&G SL & MB	-
Lead Containing Dust											
L3-LD01	Ceiling cavity – settled dust	Settled dust	-	Yes	-	97 mg/kg	-	-	No further action required.	8-9/12/2021 JBS&G SL & MB	-
Lead Based Paints											
No Lead Based Paints were identified at the time of inspection									-	13/12/2021 JBS&G ML	-
Non-Lead Paints											
As per L2-LP01	Fire doors and door jambs – Blue paint	Blue paint	-	Yes	-	<0.01% w/w	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
As per L2-LP02	Walls, door and door jambs – White paint	White paint	33	Yes	-	<0.01% w/w	-	-	No further action required	8-9/12/2021 JBS&G SL & MB	-
Polychlorinated Biphenyls (PCBs)											

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
No Polychlorinated Biphenyls were identified at the time of inspection									-	8-9/12/2021 JBS&G SL & MB	-
Synthetic Mineral Fibres (SMF)											
-	Ceiling cavity, pipework – insulation	Insulation	-	Yes	Bonded	**Assumed SMF**	Good	5 m^2	Remove in accordance with NOHSC:2006 (1990)	8-9/12/2021 JBS&G SL & MB	Prior to refurbishment
-	Ceiling cavity, ducting – insulation	Insulation	-	Yes	Bonded	**Assumed SMF**	Good	15 m^2	Remove in accordance with NOHSC:2006 (1990)	8-9/12/2021 JBS&G SL & MB	Prior to refurbishment
-	Cable penetrations – insulation pillows	Insulation pillows	-	Yes	Bonded	**Assumed SMF**	Good	2 m^2	Remove in accordance with NOHSC:2006 (1990)	8-9/12/2021 JBS&G SL & MB	Prior to refurbishment
-	False ceilings throughout – suspended ceiling tiles	Ceiling tiles	-	Yes	Bonded	**Assumed SMF**	Good	200 m^2	Remove in accordance with NOHSC:2006 (1990)	13/12/2021 JBS&G ML	Prior to refurbishment

Appendix B Photographs

Photo 1: Overview of the Level 1 – Gait Lab

Photo 2: Level 1 Gait lab, staff kitchen area, top of floor – Non-asbestos blue vinyl flooring

Photo 3: Level 1 Gait lab, staff kitchen and meeting room – hot water unit assumed to contain internal SMF insulation

Photo 4: Level 1 Gait lab, kitchen, false ceilings throughout – false ceiling tiles assumed to contain SMF

Photo 5: Overview of the Level 1 Galleria Entrance

Photo 6: Level 1 Galleria entrance, cement rendered walls – non-lead based yellow paint

Source:

Rev	Description	Drn.	Date
0	Original Issue -	SL	22/12/2021

JBS&G

Appendix B: Photographs

Client: Health Infrastructure

Project: Refurbishment Areas – CHW Stage 2 HBMS

Job No: 56200 File Name: R12 App B - Photo Log

Photo 7: Overview of Level 1 kitchen area

Photo 8: Level 1 Kitchen, chemical storage room, top of floor – non-asbestos grey vinyl flooring

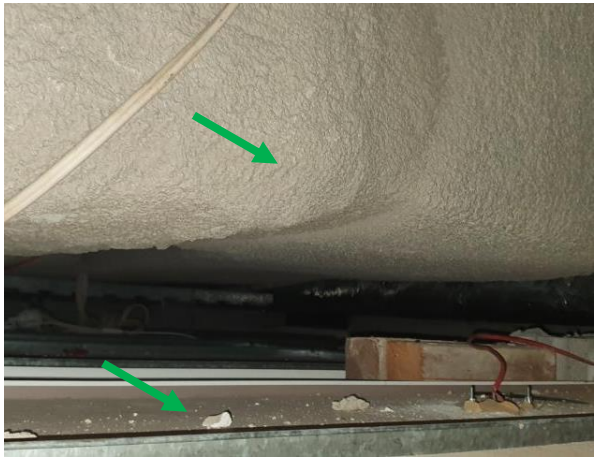


Photo 9: Level 1 Kitchen, ceiling space, adjacent Chefs Room, vent – non-asbestos vermiculate. Lead concentration in settled dust was below the adopted criteria and settled dust does not contain asbestos

Photo 10: Level 1 Kitchen, north entry fire doors – assumed non-asbestos fire doors as doors were identified to be manufactured in 1990's or 2000's. Non-lead based light green paint on door frames

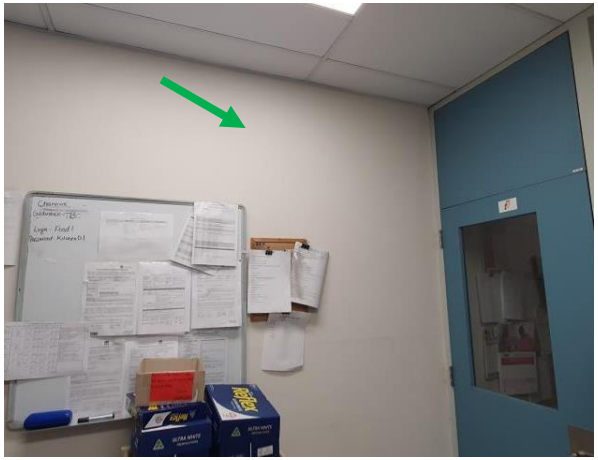


Photo 11: Level 1 Kitchen, cement rendered walls – non-lead based white paint

Photo 12: Level 1 Kitchen, north area of kitchen – cool rooms assumed to contain internal SMF insulation

Source:			
0	Original Issue -	SL	22/12/2021
Rev	Description	Drn.	Date

JBS&G

Appendix B: Photographs

Client: Health Infrastructure

Project: Refurbishment Areas – CHW Stage 2 HBMS

Job No: 56200 File Name: R12 App B - Photo Log

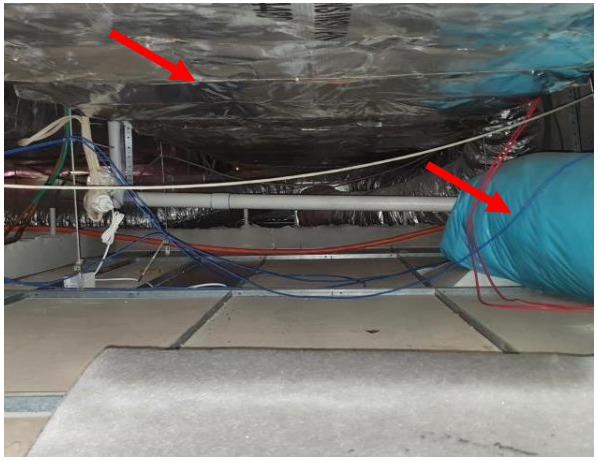


Photo 13: Level 1 Kitchen, ceiling space – ducting assumed to contain SMF

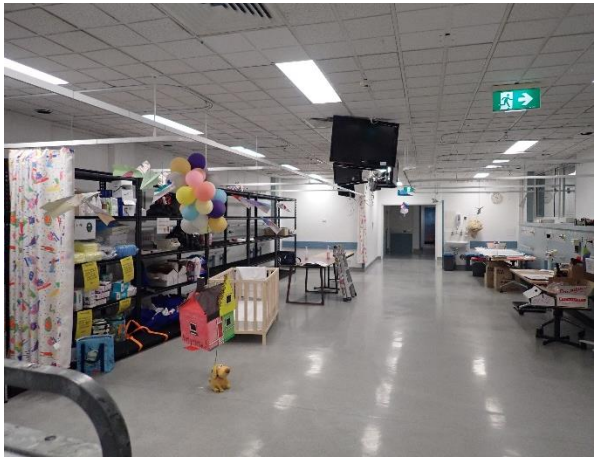


Photo 14: Level 2 Overview of Old Emergency Department

Photo 15: Level 2 Old Emergency Department, throughout emergency department, flooring – grey and light grey non-asbestos vinyl flooring

Photo 16: Level 2 Old Emergency Department - cement rendered walls, between walls – non-asbestos expansion joint

Photo 17: Level 2 Old Emergency Department- external smurf garden, soffit lining – non-asbestos fibre cement

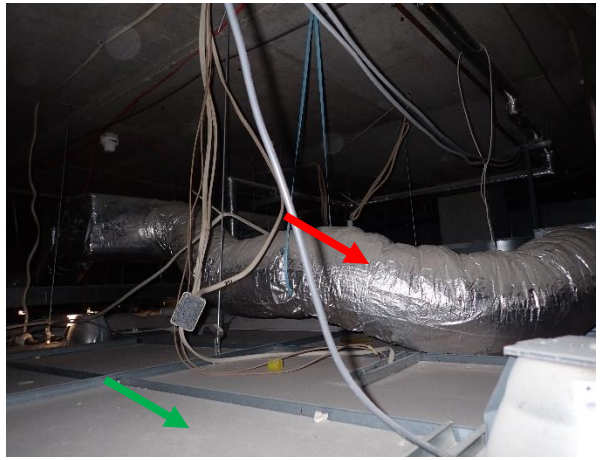


Photo 18: Level 2 Old Emergency Department, ceiling cavity – settled dust was below the adopted site criteria and settled dust does not contain asbestos. Ducting assumed to contain SMF.

Source:

Rev	Description	Drn.	Date
0	Original Issue -	SL	22/12/2021

JBS&G

Appendix B: Photographs

Client: Health Infrastructure

Project: Refurbishment Areas – CHW Stage 2 HBMS

Job No: 56200 File Name: R12 App B - Photo Log

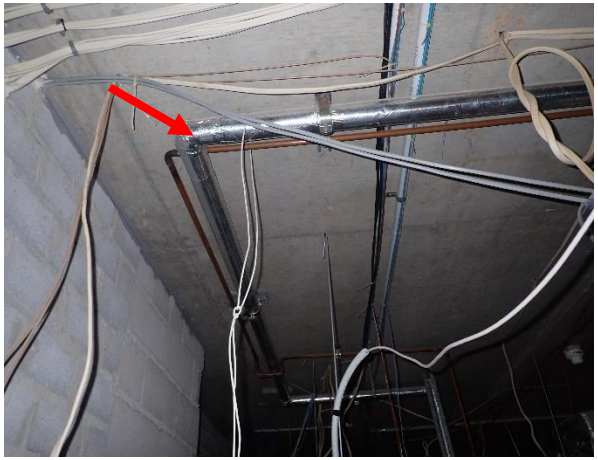


Photo 19: Level 2 Old Emergency Department, ceiling cavity – pipework, insulation assumed to contain SMF

Photo 20: Overview of Level 2 Linkway and Pathway

Photo 21: Level 2 Linkway and Pathway, external area, ceiling– non-asbestos fibre cement. Non-lead based light blue paint on cement rendered walls and non-lead based dark blue paint on pillars

Photo 22: Level 2 Linkway and Pathway, external area, glass balustrade and between tile flooring – non-asbestos black mastic sealant.

Photo 23: Level 2 Linkway and Pathway, fire doors and door jambs – Non-lead based blue paint. Fire doors observed to be manufactured in 1990s and is assumed to not contain asbestos

Photo 24: Level 2, Linkway and Pathway, electrical cupboard, cable penetrations – insulation pillows assumed to contain SMF

Source:

Rev	Description	Drn.	Date
0	Original Issue -	SL	22/12/2021

JBS&G

Appendix B: Photographs

Client: Health Infrastructure

Project: Refurbishment Areas – CHW Stage 2 HBMS

Job No: 56200 File Name: R12 App B - Photo Log

Photo 25: Overview of Level 2 Pathology expansion area

Photo 26: Level 2 Pathology Expansion area, external area, soffit lining – non-asbestos fibre cement. Non-lead based white paint on concrete pillars

Photo 27: Level 2 Pathology Expansion Area, northern courtyard portion, flooring – non-asbestos fibre cement. Non-asbestos water proofing material observed

Photo 28: Overview of Level 2 External Forecourt

Photo 29: Level 2 Clinical Research Centre (CRC), soffit lining – non-asbestos fibre cement

Photo 30: Level 2, Clinical Research Centre (CRC) façade– non-asbestos compressed fibre cement. Walls, non-lead based blue paint

Source:

Rev	Description	Drn.	Date
0	Original Issue -	SL	22/12/2021

Appendix B: Photographs

Client: Health Infrastructure

Project: Refurbishment Areas – CHW Stage 2 HBMS

Job No: 56200 File Name: R12 App B - Photo Log

Photo 31: Level 2 external forecourt, curved walkway walls– non-lead based grey paint

Photo 32: Overview of Level 3 Linkway and pathway

Photo 33: Level 3 Linkway and pathway, internal area throughout, flooring – assumed non-asbestos blue vinyl flooring. Walls and door jambs – non-lead based white paint

Source:

Rev	Description	Drn.	Date
0	Original Issue -	SL	22/12/2021

JBS&G

Appendix B: Photographs

Client: Health Infrastructure

Project: Refurbishment Areas – CHW Stage 2 HBMS

Job No: 56200 File Name: R12 App B - Photo Log

Appendix C Laboratory Analysis Reports and Chain of Custody Documentation

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: **56200**	LABORATORY BATCH NO.:
PROJECT NAME: **CHW – STAGE 2**	SAMPLERS: **Stuart Lumsden**
DATE NEEDED BY: **2 DAY TAT**	QC LEVEL: NEPM (2013)

PHONE: Sydney: 02 8245 0300 | Perth: 08 9488 0100 | Brisbane: 07 3112 2688

SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) slumsden@jbsg.com.au; (3) .....@jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	Ph	ASBESTOS	LEAD	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
ED-A01	MATERIAL	9/12/21		1 x bag		X				
ED-A02	MATERIAL	9/12/21		1 x bag		X				
ED-A03	MATERIAL	9/12/21		1 x bag		X				
ED-A04	MATERIAL	9/12/21		1 x bag		X				
ED-A05	MATERIAL	9/12/21		1 x bag		X				
ED-A06	MATERIAL	9/12/21		1 x bag		X				
ED-A07	MATERIAL	9/12/21		1 x bag		X				
ED-A08	MATERIAL	9/12/21		1 x bag		X				
ED-AD01	DUST	9/12/21		1 x bag		X				
ED-LD01	DUST	9/12/21		1 x bag			X			
ED-LP01	PAINT	9/12/21		1 x bag			X			
ED-LP02	PAINT	9/12/21		1 x bag			X			
L2-A01	MATERIAL	9/12/21		1 x bag		X				
L2-A02	MATERIAL	9/12/21		1 x bag		X				
L2-A03	MATERIAL	9/12/21		1 x bag		X				
L2-A04	MATERIAL	9/12/21		1 x bag		X				
L2-A05	MATERIAL	9/12/21		1 x bag		X				
L2-AD01	DUST	9/12/21		1 x bag		X				
L2-LD01	DUST	9/12/21		1 x bag			X			

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: S.Lumsden DATE: 13/12/21 OF: JBS&G	CONSIGNMENT NOTE NO. TRANSPORT CO.	NAME: DATE: OF:	COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... COOLER TEMP ..... deg C N/A
NAME: DATE: OF:	CONSIGNMENT NOTE NO. TRANSPORT CO	NAME: Sheena DATE: 13/12/21 OF:	COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... COOLER TEMP ..... deg C Rec# 849815

Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other

IMSO FormsO13 – Chain of Custody – Generic

4:55PM

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: **56200**
PROJECT NAME: **CHW – STAGE 2**
DATE NEEDED BY: **2 DAY TAT**
LABORATORY BATCH NO.:
SAMPLERS: **Stuart Lumsden**
QC LEVEL: NEPM (2013)
PHONE: Sydney: 02 8245 0300 | Perth: 08 9488 0100 | Brisbane: 07 3112 2688
SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) slumsden@jbsg.com.au; (3) .....@jbsg.com.au
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	Ph	ASBESTOS	LEAD	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
L2-LP01	PAINT	9/12/21		1 x bag			X			
L2-LP02	PAINT	9/12/21		1 x bag			X			
L2-LP03	PAINT	9/12/21		1 x bag			X			
L2-LP04	PAINT	9/12/21		1 x bag			X			
L3-AD01	DUST	9/12/21		1 x bag		X				
L3-LD01	DUST	9/12/21		1 x bag			X			
GL-A01	MATERIAL	9/12/21		1 x bag		X				
GL-A02	MATERIAL	9/12/21		1 x bag		X				
GL-LP01	PAINT	9/12/21		1 x bag			X			
GL-LP02	PAINT	9/12/21		1 x bag			X			
PE-A01	MATERIAL	9/12/21		1 x bag		X				
PE-A02	MATERIAL	9/12/21		1 x bag		X				
PE-LP01	PAINT	9/12/21		1 x bag			X			
FC-A01	MATERIAL	9/12/21		1 x bag		X				
FC-A02	MATERIAL	9/12/21		1 x bag		X				
FC-LP01	PAINT	9/12/21		1 x bag			X			
FC-LP02	PAINT	9/12/21		1 x bag			X			
GAL-LP01	PAINT	9/12/21		1 x bag			X			

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: S.Lumsden DATE: 13/12/21 OF: JBS&G	CONSIGNMENT NOTE NO. TRANSPORT CO.	NAME: DATE: OF:	COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... COOLER TEMP ..... deg C
NAME: DATE: OF:	CONSIGNMENT NOTE NO. TRANSPORT CO	NAME: DATE: OF:	COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... COOLER TEMP ..... deg C

Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other

IMSO FormsO13 – Chain of Custody – Generic

849815

Chain of Custody

JBS&G

PROJECT NO.: 56200
PROJECT NAME: Westmead Childrens Hospital - Kitchen
DATE NEEDED BY: 16/12/21

LABORATORY BATCH NO.:
SAMPLERS: Michael Le
QC LEVEL: NEPM (2013)

PHONE: Sydney 02 8245 0300 | Perth 08 9488 0100 | Brisbane 07 3112 2688 | Melbourne 03 9642 0599 | Adelaide 08 8431 7113

SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) MLE@jbsg.com.au; (3) SLumsden@jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	Asbestos	Lead	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
~~EB~~ KIT - A1	Material	14/12/21		P						
A2	↓									
AD1	Dust					↓				
LP1	Paint						↓			
LP2	↓									
↓ LD1	Dust	↓		↓						

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: Michael Le DATE: 14/12/21 OF: JBS&G	CONSIGNMENT NOTE NO. TRANSPORT CO.	NAME: DATE: OF: 14/12	COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... COOLER TEMP ..... deg C
NAME: DATE: OF:	CONSIGNMENT NOTE NO. TRANSPORT CO	NAME: DATE: OF:	COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... COOLER TEMP ..... deg C

Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other.

850022

Certificate of Analysis

Environment Testing

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025–Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

JBS & G Australia (NSW) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000

Attention:	Stuart Lumsden
Report	849815-AID
Project Name	CHW-STAGE 2
Project ID	56200
Received Date	Dec 13, 2021
Date Reported	Dec 15, 2021

Methodology:

Asbestos Fibre Identification	Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. *NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.*
Unknown Mineral Fibres	Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity. *NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.*
Subsampling Soil Samples	The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed. *NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.*
Bonded asbestos-containing material (ACM)	The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination.The resultant material is then further examined in accordance with AS 4964 - 2004. *NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.*
Limit of Reporting	The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w). The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk). *NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos".This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.*

Project Name CHW-STAGE 2
Project ID 56200
Date Sampled Dec 09, 2021
Report 849815-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
ED-A01	21-De31092	Dec 09, 2021	Approximate Sample 14g / 85x40x2mm Sample consisted of: Grey vinyl tile with beige rubbery adhesive	No asbestos detected. No trace asbestos detected.
ED-A02	21-De31093	Dec 09, 2021	Approximate Sample 14g / 85x40x2mm Sample consisted of: Grey vinyl tile with beige rubbery adhesive	No asbestos detected. No trace asbestos detected.
ED-A03	21-De31094	Dec 09, 2021	Approximate Sample 15g / 103x42x3mm Sample consisted of: Grey vinyl tile with grey rubbery adhesive	No asbestos detected. Organic fibre detected. No trace asbestos detected.
ED-A04	21-De31095	Dec 09, 2021	Approximate Sample 14g / 105x35x2mm Sample consisted of: Blue vinyl tile with grey rubbery adhesive	No asbestos detected. Organic fibre detected. No trace asbestos detected.
ED-A05	21-De31096	Dec 09, 2021	Approximate Sample 11g / 100x40x2mm Sample consisted of: White vinyl tile with yellow rubbery adhesive and white paint	No asbestos detected. Organic fibre detected. No trace asbestos detected.
ED-A06	21-De31097	Dec 09, 2021	Approximate Sample 3g / 35x15x10mm Sample consisted of: Grey sealant with white paint	No asbestos detected. No trace asbestos detected.
ED-A07	21-De31098	Dec 09, 2021	Approximate Sample 11g / 65x55x2mm Sample consisted of: Grey vinyl tile with yellow adhesive	No asbestos detected. No trace asbestos detected.
ED-A08	21-De31099	Dec 09, 2021	Approximate Sample 3g / 25x25x4mm Sample consisted of: Grey layered fibre cement	No asbestos detected. Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
ED-AD01	21-De31100	Dec 09, 2021	Approximate Sample 2g / 35x20x<1mm Sample consisted of: Grey dust with plaster and cement material	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
L2-A01	21-De31104	Dec 09, 2021	Approximate Sample 12g / 80x40x2mm Sample consisted of: Blue vinyl tile with brown rubbery adhesive	No asbestos detected. Organic fibre detected. No trace asbestos detected.
L2-A02	21-De31105	Dec 09, 2021	Approximate Sample 3g / 25x20x5mm Sample consisted of: Grey vinyl underlay	No asbestos detected. No trace asbestos detected.
L2-A03	21-De31106	Dec 09, 2021	Approximate Sample 3g / 40x22x3mm Sample consisted of: Grey plaster cement material	No asbestos detected. Organic fibre detected. No trace asbestos detected.
L2-A04	21-De31107	Dec 09, 2021	Approximate Sample 2g / 25x10x5mm Sample consisted of: Grey vinyl underlay	No asbestos detected. Organic fibre detected. No trace asbestos detected.
L2-A05	21-De31108	Dec 09, 2021	Approximate Sample 3g / 20x15x8mm Sample consisted of: Black vinyl underlay	No asbestos detected. No trace asbestos detected.
L2-AD01	21-De31109	Dec 09, 2021	Approximate Sample 2g / 60x55x1mm Sample consisted of: Grey dust with white plaster cement material	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
L3-AD01	21-De31115	Dec 09, 2021	Approximate Sample 2g / 30x20x1mm Sample consisted of: Grey dust with white plaster cement material	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
GL-A01	21-De31117	Dec 09, 2021	Approximate Sample 11g / 85x40x2mm Sample consisted of: Grey vinyl tile	No asbestos detected. Organic fibre detected. No trace asbestos detected.
GL-A02	21-De31118	Dec 09, 2021	Approximate Sample 3g / 30x12x10mm Sample consisted of: Grey sealant with white paint	No asbestos detected. No trace asbestos detected.
PE-A01	21-De31121	Dec 09, 2021	Approximate Sample 2g / 30x15x2mm Sample consisted of: Grey plaster cement material	No asbestos detected. Organic fibre detected. No trace asbestos detected.
PE-A02	21-De31122	Dec 09, 2021	Approximate Sample 23g / 35x30x20mm Sample consisted of: Grey concrete material	No asbestos detected. No trace asbestos detected.
FC-A01	21-De31124	Dec 09, 2021	Approximate Sample 3g / 40x20x2mm Sample consisted of: Grey plaster cement material	No asbestos detected. Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
FC-A02	21-De31125	Dec 09, 2021	Approximate Sample 3g / 35x15x4mm Sample consisted of: Grey fibre cement material with white paint	No asbestos detected. Organic fibre detected. No trace asbestos detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Dec 15, 2021	Indefinite
Asbestos - LTM-ASB-8020	Sydney	Dec 15, 2021	Indefinite

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261 Site # 1254

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 6253 4444
NATA # 2377 Site # 2370

Eurofins Environment Testing NZ Limited
NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: CHW-STAGE 2
Project ID: 56200

Order No.:
Report #: 849815
Phone: 02 8245 0300
Fax:

Received: Dec 13, 2021 4:55 PM
Due: Dec 15, 2021
Priority: 2 Day
Contact Name: Stuart Lumsden

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	Lead	Lead (% w/w)
Melbourne Laboratory - NATA # 1261 Site # 1254									
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794									
Mayfield Laboratory - NATA # 1261 Site # 25079									
Perth Laboratory - NATA # 2377 Site # 2370									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	ED-A01	Dec 09, 2021		Building Materials	S21-De31092		X		
2	ED-A02	Dec 09, 2021		Building Materials	S21-De31093		X		
3	ED-A03	Dec 09, 2021		Building Materials	S21-De31094		X		
4	ED-A04	Dec 09, 2021		Building Materials	S21-De31095		X		
5	ED-A05	Dec 09, 2021		Building Materials	S21-De31096		X		
6	ED-A06	Dec 09, 2021		Building	S21-De31097		X		

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

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ABN: 50 005 085 521

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261 Site # 1254

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

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4/52 Industrial Drive
Mayfield East NSW 2304
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NATA # 1261 Site # 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 6253 4444
NATA # 2377 Site # 2370

Eurofins Environment Testing NZ Limited
NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794									
Mayfield Laboratory - NATA # 1261 Site # 25079									
Perth Laboratory - NATA # 2377 Site # 2370									
External Laboratory									
				Materials					
7	ED-A07	Dec 09, 2021		Building Materials	S21-De31098		X		
8	ED-A08	Dec 09, 2021		Building Materials	S21-De31099		X		
9	ED-AD01	Dec 09, 2021		Dust	S21-De31100	X			
10	ED-LD02	Dec 09, 2021		Dust	S21-De31101			X	
11	ED-LP01	Dec 09, 2021		Paint	S21-De31102				X
12	ED-LP02	Dec 09, 2021		Paint	S21-De31103				X
13	L2-A01	Dec 09, 2021		Building Materials	S21-De31104		X		
14	L2-A02	Dec 09, 2021		Building	S21-De31105		X		

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

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ABN: 50 005 085 521

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261 Site # 1254

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 6253 4444
NATA # 2377 Site # 2370

Eurofins Environment Testing NZ Limited
NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	Lead	Lead (% w/w)
Melbourne Laboratory - NATA # 1261 Site # 1254									
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794									
Mayfield Laboratory - NATA # 1261 Site # 25079									
Perth Laboratory - NATA # 2377 Site # 2370									
External Laboratory									
14	L2-A02	Dec 09, 2021		Building Materials	S21-De31105				
15	L2-A03	Dec 09, 2021		Building Materials	S21-De31106		X		
16	L2-A04	Dec 09, 2021		Building Materials	S21-De31107		X		
17	L2-A05	Dec 09, 2021		Building Materials	S21-De31108		X		
18	L2-AD01	Dec 09, 2021		Dust	S21-De31109	X			
19	L2-LD01	Dec 09, 2021		Dust	S21-De31110			X	
20	L2-LP01	Dec 09, 2021		Paint	S21-De31111				X
21	L2-LP02	Dec 09, 2021		Paint	S21-De31112				X

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261 Site # 1254

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 6253 4444
NATA # 2377 Site # 2370

Eurofins Environment Testing NZ Limited
NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: CHW-STAGE 2
Project ID: 56200

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Phone: 02 8245 0300
Fax:

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Due: Dec 15, 2021
Priority: 2 Day
Contact Name: Stuart Lumsden

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	Lead	Lead (% w/w)
Melbourne Laboratory - NATA # 1261 Site # 1254									
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794									
Mayfield Laboratory - NATA # 1261 Site # 25079									
Perth Laboratory - NATA # 2377 Site # 2370									
External Laboratory									
22	L2-LP03	Dec 09, 2021		Paint	S21-De31113				X
23	L2-LP04	Dec 09, 2021		Paint	S21-De31114				X
24	L3-AD01	Dec 09, 2021		Dust	S21-De31115	X			
25	L3-LD01	Dec 09, 2021		Dust	S21-De31116			X	
26	GL-A01	Dec 09, 2021		Building Materials	S21-De31117		X		
27	GL-A02	Dec 09, 2021		Building Materials	S21-De31118		X		
28	GL-LP01	Dec 09, 2021		Paint	S21-De31119				X
29	GL-LP02	Dec 09, 2021		Paint	S21-De31120				X
30	PE-A01	Dec 09, 2021		Building Materials	S21-De31121		X		

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

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ABN: 50 005 085 521

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261 Site # 1254

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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1/21 Smallwood Place
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Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 6253 4444
NATA # 2377 Site # 2370

Eurofins Environment Testing NZ Limited
NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: CHW-STAGE 2
Project ID: 56200

Order No.:
Report #: 849815
Phone: 02 8245 0300
Fax:

Received: Dec 13, 2021 4:55 PM
Due: Dec 15, 2021
Priority: 2 Day
Contact Name: Stuart Lumsden

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	Lead	Lead (% w/w)
Melbourne Laboratory - NATA # 1261 Site # 1254									
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794									
Mayfield Laboratory - NATA # 1261 Site # 25079									
Perth Laboratory - NATA # 2377 Site # 2370									
External Laboratory									
31	PE-A02	Dec 09, 2021		Building Materials	S21-De31122		X		
32	PE-LP01	Dec 09, 2021		Paint	S21-De31123				X
33	FC-A01	Dec 09, 2021		Building Materials	S21-De31124		X		
34	FC-A02	Dec 09, 2021		Building Materials	S21-De31125		X		
35	FC-LP01	Dec 09, 2021		Paint	S21-De31126				X
36	FC-LP02	Dec 09, 2021		Paint	S21-De31127				X
37	GAL-LP01	Dec 09, 2021		Paint	S21-De31128				X
Test Counts						3	19	3	12

Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025–Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

JBS & G Australia (NSW) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000

Attention:	Stuart Lumsden
Report	850022-AID
Project Name	WESTMEAD CHILDRENS HOSPITAL - KITCHEN
Project ID	56200
Received Date	Dec 14, 2021
Date Reported	Dec 16, 2021

Methodology:

Asbestos Fibre Identification	Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. *NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.*
Unknown Mineral Fibres	Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity. *NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.*
Subsampling Soil Samples	The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed. *NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.*
Bonded asbestos-containing material (ACM)	The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination.The resultant material is then further examined in accordance with AS 4964 - 2004. *NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.*
Limit of Reporting	The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w). The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk). *NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos".This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.*

Project Name WESTMEAD CHILDRENS HOSPITAL - KITCHEN
Project ID 56200
Date Sampled Dec 14, 2021
Report 850022-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
KIT-A1	21-De32758	Dec 14, 2021	Approximate Sample 18g / 65x55x4mm Sample consisted of: Grey vinyl sheet with beige rubbery adhesive	No asbestos detected. Organic fibre detected. No trace asbestos detected.
KIT-A2	21-De32759	Dec 14, 2021	Approximate Sample 4g / 40x25x8mm Sample consisted of: Grey plaster-cement-vermiculite material	No asbestos detected. No trace asbestos detected.
KIT-AD1	21-De32760	Dec 14, 2021	Approximate Sample 2g / 70x40x<1mm Sample consisted of: Blue dusty organic material with plaster	No asbestos detected. Organic fibre detected. No trace asbestos detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Dec 14, 2021	Indefinite
Asbestos - LTM-ASB-8020	Sydney	Dec 14, 2021	Indefinite

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
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NSW 2000

Project Name: WESTMEAD CHILDRENS HOSPITAL - KITCHEN
Project ID: 56200

Order No.:
Report #: 850022
Phone: 02 8245 0300
Fax:

Received: Dec 14, 2021 1:18 PM
Due: Dec 16, 2021
Priority: 2 Day
Contact Name: Stuart Lumsden

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	Lead	Lead (% w/w)
Melbourne Laboratory - NATA # 1261 Site # 1254									
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794									
Mayfield Laboratory - NATA # 1261 Site # 25079									
Perth Laboratory - NATA # 2377 Site # 2370									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	KIT-A1	Dec 14, 2021		Building Materials	S21-De32758		X		
2	KIT-A2	Dec 14, 2021		Building Materials	S21-De32759		X		
3	KIT-AD1	Dec 14, 2021		Dust	S21-De32760	X			
4	KIT-LP1	Dec 14, 2021		Paint	S21-De32761				X
5	KIT-LP2	Dec 14, 2021		Paint	S21-De32762				X
6	KIT-LD1	Dec 14, 2021		Dust	S21-De32763			X	
Test Counts						1	2	1	2

Internal Quality Control Review and Glossary General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with the colour **blue** indicates data provided by customer that may have an impact on the results.
5. Information identified on this report with the colour **orange** indicates sections of the report not covered by the laboratory's scope of NATA accreditation.
6. This report replaces any interim results previously issued.

Holding Times

Please refer to the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001).
If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported. Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

% w/w:	Percentage weight-for-weight basis, e.g. of asbestos in asbestos-containing finds in soil samples (**% w/w**)
F/fld	Airborne fibre filter loading as Fibres (**N**) per Fields counted (**n**)
F/mL	Airborne fibre reported concentration as Fibres per millilitre of air drawn over the sampler membrane (**C**)
g, kg	Mass, e.g. of whole sample (**M**) or asbestos-containing find within the sample (**m**)
g/kg	Concentration in grams per kilogram
L, mL	Volume, e.g. of air as measured in AFM (**V** = **r** x **t**)
L/min	Airborne fibre sampling Flowrate as litres per minute of air drawn over the sampler membrane (**r**)
min	Time (**t**), e.g. of air sample collection period

Calculations

Airborne Fibre Concentration: $C = \frac{}{a} \times \frac{}{n} \times \frac{}{r} \times \frac{}{t} = K \times \frac{}{n} \times \frac{}{V}$

Asbestos Content (as asbestos): $\%\ w/w = \frac{(m \times PA)}{M}$

Weighted Average (of asbestos): $\%_W = \Sigma \frac{(m \times P_A)_X}{X}$

Terms

%asbestos	Estimated percentage of asbestos in a given matrix. May be derived from knowledge or experience of the material, informed by HSG264 *Appendix 2*, else assumed to be 15% in accordance with WA DOH *Appendix 2* (**P_A**).
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded (non-friable) condition. For the purposes of the NEPM and WA DOH, ACM corresponds to material larger than 7 mm x 7 mm.
AF	Asbestos Fines. Asbestos contamination within a soil sample, as defined by WA DOH. Includes loose fibre bundles and small pieces of friable and non-friable material such as asbestos cement fragments mixed with soil. Considered under the NEPM as equivalent to "non-bonded / friable".
AFM	Airborne Fibre Monitoring, e.g. by the MFM.
Amosite	Amosite Asbestos Detected. Amosite may also refer to Fibrous Grunerite or Brown Asbestos. Identified in accordance with AS 4964-2004.
AS	Australian Standard.
Asbestos Content (as asbestos)	Total % w/w asbestos content in asbestos-containing finds in a soil sample (**% w/w**).
Chrysotile	Chrysotile Asbestos Detected. Chrysotile may also refer to Fibrous Serpentine or White Asbestos. Identified in accordance with AS 4964-2004.
COC	Chain of Custody.
Compliant	Indicates the item has been assessed against the relevant criteria, e.g. NATA SAC_07.
Crocidolite	Crocidolite Asbestos Detected. Crocidolite may also refer to Fibrous Riebeckite or Blue Asbestos. Identified in accordance with AS 4964-2004.
Dry	Sample is dried by heating prior to analysis.
DS	Dispersion Staining. Technique required for Unequivocal Identification of asbestos fibres by PLM.
FA	Fibrous Asbestos. Asbestos containing material that is wholly or in part friable, including materials with higher asbestos content with a propensity to become friable with handling, and any material that was previously non-friable and in a severely degraded condition. For the purposes of the NEPM and WA DOH, FA generally corresponds to material larger than 7 mm x 7 mm, although FA may be more difficult to visibly distinguish and may be assessed as AF.
Fibre Count	Total of all fibres (whether asbestos or not) meeting the counting criteria set out in the NOHSC:3003
Fibre ID	Fibre Identification. Unequivocal identification of asbestos fibres according to AS 4964-2004. Includes Chrysotile, Amosite (Grunerite) or Crocidolite asbestos.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory's remit to assess degree of friability.
HSG248	UK HSE HSG248, *Asbestos: The Analysts Guide*, 2nd Edition (2021).
HSG264	UK HSE HSG264, *Asbestos: The Survey Guide* (2012).
ISO (also ISO/IEC)	International Organization for Standardization / International Electrotechnical Commission.
K Factor	Microscope constant (**K**) as derived from the effective filter area of the given AFM membrane used for collecting the sample (**A**) and the projected eyepiece graticule area of the specific microscope used for the analysis (**a**).
LOR	Limit of Reporting.
MFM (also NOHSC:3003)	Membrane Filter Method. As described by the Australian Government National Occupational Health and Safety Commission, *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres*, 2nd Edition [NOHSC:3003(2005)].
N/A	Not Applicable. Indicates a result or assessment is not required or applicable to that item.
NATA	National Association of Testing Authorities, Australia.
NEPM (also ASC NEPM)	National Environment Protection (Assessment of Site Contamination) Measure, (2013, as amended).
Organic	Organic Fibres Detected. Organic may refer to Natural or Man-Made Polymeric Fibres. Identified in accordance with AS 4964-2004.
PCM	Phase Contrast Microscopy. As used for Fibre Counting according to the MFM.
PLM	Polarised Light Microscopy. As used for Fibre Identification and Trace Analysis according to AS 4964-2004.
SAC_07	Specific Accreditation Criteria: ISO/IEC 17025 Application Document, Life Sciences – Annex, Asbestos sampling and testing.
SMF	Synthetic Mineral Fibre Detected. SMF may also refer to Man Made Vitreous Fibres. Identified in accordance with AS 4964-2004.
SRA	Sample Receipt Advice.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres (particularly asbestos) in a given sample matrix.
UK HSE HSG	United Kingdom, Health and Safety Executive, Health and Safety Guidance, publication.
UMF	Unidentified Mineral Fibre Detected. Fibrous minerals that are detected but have not been unequivocally identified by PLM with DS according the AS 4964-2004. May include (but not limited to) Actinolite, Anthophyllite or Tremolite asbestos.
WA DOH	Reference document for the NEPM. Government of Western Australia, *Guidelines for the Assessment, Remediation and Management of Asbestos- Contaminated Sites in Western Australia* (updated 2021), including Appendix Four: *Laboratory analysis*
Weighted Average	Combined average % w/w asbestos content of all asbestos-containing finds in the given aliquot or total soil sample (**$\%_{WA}$**).

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Asbestos Counter/Identifier:

Bennel Jiri	Senior Analyst-Asbestos (NSW)

Authorised by:

Sayeed Abu	Senior Analyst-Asbestos (NSW)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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L/min	Airborne fibre sampling Flowrate as litres per minute of air drawn over the sampler membrane (**r**)
min	Time (**t**), e.g. of air sample collection period

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Asbestos Counter/Identifier:

Bennel Jiri	Senior Analyst-Asbestos (NSW)

Authorised by:

Laxman Dias	Senior Analyst-Asbestos (NSW)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

JBS & G Australia (NSW) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Stuart Lumsden**

Report **849815-S**
Project name CHW-STAGE 2
Project ID 56200
Received Date Dec 13, 2021

Client Sample ID			**ED-LD02**	**ED-LP01**	**ED-LP02**	**L2-LD01**
Sample Matrix			**Dust**	**Paint**	**Paint**	**Dust**
Eurofins Sample No.			**S21-De31101**	**S21-De31102**	**S21-De31103**	**S21-De31110**
Date Sampled			**Dec 09, 2021**	**Dec 09, 2021**	**Dec 09, 2021**	**Dec 09, 2021**
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	5	mg/kg	23	-	-	110
Lead (% w/w)	0.01	%	-	< 0.01	< 0.01	-

Client Sample ID			**L2-LP01**	**L2-LP02**	**L2-LP03**	**L2-LP04**
Sample Matrix			**Paint**	**Paint**	**Paint**	**Paint**
Eurofins Sample No.			**S21-De31111**	**S21-De31112**	**S21-De31113**	**S21-De31114**
Date Sampled			**Dec 09, 2021**	**Dec 09, 2021**	**Dec 09, 2021**	**Dec 09, 2021**
Test/Reference	LOR	Unit				
Lead (% w/w)	0.01	%	< 0.01	< 0.01	< 0.01	< 0.01

Client Sample ID			**L3-LD01**	**GL-LP01**	**GL-LP02**	**PE-LP01**
Sample Matrix			**Dust**	**Paint**	**Paint**	**Paint**
Eurofins Sample No.			**S21-De31116**	**S21-De31119**	**S21-De31120**	**S21-De31123**
Date Sampled			**Dec 09, 2021**	**Dec 09, 2021**	**Dec 09, 2021**	**Dec 09, 2021**
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	5	mg/kg	97	-	-	-
Lead (% w/w)	0.01	%	-	0.02	< 0.01	< 0.01

Client Sample ID			FC-LP01	FC-LP02	GAL-LP01
Sample Matrix			Paint	Paint	Paint
Eurofins Sample No.			S21-De31126	S21-De31127	S21-De31128
Date Sampled			Dec 09, 2021	Dec 09, 2021	Dec 09, 2021
Test/Reference	LOR	Unit			
Lead (% w/w)	0.01	%	< 0.01	< 0.01	< 0.01

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Heavy Metals	Sydney	Dec 15, 2021	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Lead (% w/w)	Sydney	Dec 15, 2021	6 Months
- Method: LTM-MET-3040 Metals in Waters Soils & Sediments by ICP-MS			

eurofins | Environment Testing

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261 Site # 1254

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
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Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 6253 4444
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NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
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Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: CHW-STAGE 2
Project ID: 56200

Order No.:
Report #: 849815
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Received: Dec 13, 2021 4:55 PM
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Contact Name: Stuart Lumsden

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos Absence /Presence	Lead	Lead (% w/w)
Melbourne Laboratory - NATA # 1261 Site # 1254								
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794								
Mayfield Laboratory - NATA # 1261 Site # 25079								
Perth Laboratory - NATA # 2377 Site # 2370								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	ED-A01	Dec 09, 2021		Building Materials	S21-De31092	X		
2	ED-A02	Dec 09, 2021		Building Materials	S21-De31093	X		
3	ED-A03	Dec 09, 2021		Building Materials	S21-De31094	X		
4	ED-A04	Dec 09, 2021		Building Materials	S21-De31095	X		
5	ED-A05	Dec 09, 2021		Building Materials	S21-De31096	X		
6	ED-A06	Dec 09, 2021		Building	S21-De31097	X		

eurofins | Environment Testing

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Perth Laboratory - NATA # 2377 Site # 2370								
External Laboratory								
				Materials				
7	ED-A07	Dec 09, 2021		Building Materials	S21-De31098	X		
8	ED-A08	Dec 09, 2021		Building Materials	S21-De31099	X		
9	ED-AD01	Dec 09, 2021		Dust	S21-De31100	X		
10	ED-LD02	Dec 09, 2021		Dust	S21-De31101		X	
11	ED-LP01	Dec 09, 2021		Paint	S21-De31102			X
12	ED-LP02	Dec 09, 2021		Paint	S21-De31103			X
13	L2-A01	Dec 09, 2021		Building Materials	S21-De31104	X		
14	L2-A02	Dec 09, 2021		Building	S21-De31105	X		

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14	L2-A02	Dec 09, 2021		Building Materials	S21-De31105			
15	L2-A03	Dec 09, 2021		Building Materials	S21-De31106	X		
16	L2-A04	Dec 09, 2021		Building Materials	S21-De31107	X		
17	L2-A05	Dec 09, 2021		Building Materials	S21-De31108	X		
18	L2-AD01	Dec 09, 2021		Dust	S21-De31109	X		
19	L2-LD01	Dec 09, 2021		Dust	S21-De31110		X	
20	L2-LP01	Dec 09, 2021		Paint	S21-De31111			X
21	L2-LP02	Dec 09, 2021		Paint	S21-De31112			X

eurofins | Environment Testing

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261 Site # 1254

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
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Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 6253 4444
NATA # 2377 Site # 2370

Eurofins Environment Testing NZ Limited
NZBN: 9429046024954

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: CHW-STAGE 2
Project ID: 56200

Order No.:
Report #: 849815
Phone: 02 8245 0300
Fax:

Received: Dec 13, 2021 4:55 PM
Due: Dec 15, 2021
Priority: 2 Day
Contact Name: Stuart Lumsden

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos Absence /Presence	Lead	Lead (% w/w)
Melbourne Laboratory - NATA # 1261 Site # 1254								
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794								
Mayfield Laboratory - NATA # 1261 Site # 25079								
Perth Laboratory - NATA # 2377 Site # 2370								
External Laboratory								
22	L2-LP03	Dec 09, 2021		Paint	S21-De31113			X
23	L2-LP04	Dec 09, 2021		Paint	S21-De31114			X
24	L3-AD01	Dec 09, 2021		Dust	S21-De31115	X		
25	L3-LD01	Dec 09, 2021		Dust	S21-De31116		X	
26	GL-A01	Dec 09, 2021		Building Materials	S21-De31117	X		
27	GL-A02	Dec 09, 2021		Building Materials	S21-De31118	X		
28	GL-LP01	Dec 09, 2021		Paint	S21-De31119			X
29	GL-LP02	Dec 09, 2021		Paint	S21-De31120			X
30	PE-A01	Dec 09, 2021		Building Materials	S21-De31121	X		

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Received: Dec 13, 2021 4:55 PM
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Priority: 2 Day
Contact Name: Stuart Lumsden

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos Absence /Presence	Lead	Lead (% w/w)
Melbourne Laboratory - NATA # 1261 Site # 1254								
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794								
Mayfield Laboratory - NATA # 1261 Site # 25079								
Perth Laboratory - NATA # 2377 Site # 2370								
External Laboratory								
31	PE-A02	Dec 09, 2021		Building Materials	S21-De31122	X		
32	PE-LP01	Dec 09, 2021		Paint	S21-De31123			X
33	FC-A01	Dec 09, 2021		Building Materials	S21-De31124	X		
34	FC-A02	Dec 09, 2021		Building Materials	S21-De31125	X		
35	FC-LP01	Dec 09, 2021		Paint	S21-De31126			X
36	FC-LP02	Dec 09, 2021		Paint	S21-De31127			X
37	GAL-LP01	Dec 09, 2021		Paint	S21-De31128			X
Test Counts						22	3	12

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
ug/L: micrograms per litre
ppm: Parts per million
ppb: Parts per billion
%: Percentage
org/100mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs..

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM where no positive PFAS results have been reported have been reviewed and no data was affected.

.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Heavy Metals									
Lead			mg/kg	< 5			5	Pass	
LCS - % Recovery									
Heavy Metals									
Lead			%	97			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	S21-De34621	NCP	%	84			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	S21-De17191	NCP	mg/kg	12	7.0	54	30%	Fail	Q15

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised by:

Emma Beesley	Analytical Services Manager
John Nguyen	Senior Analyst-Metal (NSW)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

JBS & G Australia (NSW) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **Stuart Lumsden**

Report **850022-S**
Project name WESTMEAD CHILDRENS HOSPITAL - KITCHEN
Project ID 56200
Received Date Dec 14, 2021

Client Sample ID			**KIT-LP1**	**KIT-LP2**	**KIT-LD1**
Sample Matrix			**Paint**	**Paint**	**Dust**
Eurofins Sample No.			**S21-De32761**	**S21-De32762**	**S21-De32763**
Date Sampled			**Dec 14, 2021**	**Dec 14, 2021**	**Dec 14, 2021**
Test/Reference	LOR	Unit			
Lead (% w/w)	0.01	%	< 0.01	0.03	-
Heavy Metals					
Lead	5	mg/kg	-	-	130

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Lead (% w/w)	Sydney	Dec 16, 2021	6 Months
- Method: LTM-MET-3040 Metals in Waters Soils & Sediments by ICP-MS			
Heavy Metals	Sydney	Dec 16, 2021	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
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Unit F3, Building F
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46-48 Banksia Road
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Auckland
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Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: WESTMEAD CHILDRENS HOSPITAL - KITCHEN
Project ID: 56200

Order No.:
Report #: 850022
Phone: 02 8245 0300
Fax:

Received: Dec 14, 2021 1:18 PM
Due: Dec 16, 2021
Priority: 2 Day
Contact Name: Stuart Lumsden

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	Lead	Lead (% w/w)
Melbourne Laboratory - NATA # 1261 Site # 1254									
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794									
Mayfield Laboratory - NATA # 1261 Site # 25079									
Perth Laboratory - NATA # 2377 Site # 2370									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	KIT-A1	Dec 14, 2021		Building Materials	S21-De32758		X		
2	KIT-A2	Dec 14, 2021		Building Materials	S21-De32759		X		
3	KIT-AD1	Dec 14, 2021		Dust	S21-De32760	X			
4	KIT-LP1	Dec 14, 2021		Paint	S21-De32761				X
5	KIT-LP2	Dec 14, 2021		Paint	S21-De32762				X
6	KIT-LD1	Dec 14, 2021		Dust	S21-De32763			X	
Test Counts						1	2	1	2

Internal Quality Control Review and Glossary

General

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2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
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7. Samples were analysed on an 'as received' basis.
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Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
ug/L: micrograms per litre
ppm: Parts per million
ppb: Parts per billion
%: Percentage
org/100mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

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CP	Client Parent - QC was performed on samples pertaining to this report
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TEQ	Toxic Equivalency Quotient
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

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Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

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PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM where no positive PFAS results have been reported have been reviewed and no data was affected.

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QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
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3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
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Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Heavy Metals									
Lead			mg/kg	< 5			5	Pass	
LCS - % Recovery									
Heavy Metals									
Lead			%	102			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	S21-De37629	NCP	%	85			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	S21-De37723	NCP	mg/kg	35	41	16	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised by:

Ursula Long	Analytical Services Manager
John Nguyen	Senior Analyst-Metal (NSW)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Document Distribution

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Document Status

Rev No.	Author	Reviewer	Approved for Issue		
		Name	Name	Signature	Date
0	Stuart Lumsden	Michael Samuel	Michael Samuel		22/12/2021

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