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Health Infrastructure NSW  
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TSA  
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**L01: Hazardous Building Materials Survey Summary of Works, Ryde Hospital Redevelopment (Concept and Stage 1), Denistone Road, Denistone NSW**

Dear Dimitra,

**1. Introduction & Background**

JBS&G Australia Pty Ltd (JBS&G) was engaged by Health Infrastructure NSW (HI, the client), care of TSA, to undertake a partially destructive hazardous building materials survey (HBMS) of the structures associated with the proposed Ryde Hospital Stage 1 Redevelopment, located at Denistone Road, Denistone, NSW (the site).

The Ryde Hospital site is located at 1 Denistone Road, Denistone and comprises Lots 10-11 DP 1183279 and Lots A-B DP 323458. It has an area of approximately 7.69 Ha and currently accommodates the existing Ryde Hospital Campus.

This report accompanies a State Significant Development Application (SSDA) that seeks approval for the establishment of a maximum building envelope and gross floor area for the future new hospital buildings, and physical Stage 1 Early Works to prepare the site for the future development. For a detailed project description refer to the Environmental Impact Statement prepared by Ethos Urban.

An Asbestos Materials Survey & Asbestos Management Plan was prepared for the hospital by Safe Work & Environments Pty Ltd in 2017 (SWE 2017<sup>a</sup>) and was limited to asbestos materials only and did not include any other hazardous materials.

Based on the review of SWE 2017, the typical types of ACM found within the structures comprised:

- Fibre cement sheeting to ceilings, walls and eaves;
- Electrical backing boards; and
- Insulation lagging.

The information presented in SWE 2017 was used in the preparation of the HBMS report.

A range of sampling and investigation techniques were implemented to gain as much information as possible, whilst not creating or posing a potential risk to site staff, patients and visitors from the HBMS works.

The letter was developed to address Item 4, bullet point 4 in Issue and Assessment Requirements – Stage 1 of the Secretary’s Environmental Assessment Requirements (SEARs) for SSDA (SSD-36778089) for the project. The SEARs requirement is described in **Table 1.1** below.

**Table 1.1: Waste Scope**

Key Issue	Requirement	Relevant Section of Report
4. Waste Management	<b>Bullet point 4:</b> If buildings are proposed to be demolished or altered, provide a hazardous material survey.	Whole report

This cover letter was requested by the client to support the Concept and Early Works SSDA submissions. The letter provides a summary of works completed at the site and advice in relation to the status of the hazardous materials to assist the client with the design phase of the project.

This report should be read in its entirety including all associated attachments, including the Limitations provided as **Attachment 1**.

## 2. Summary of Works

The HBMS was conducted between 3 and 6 June 2019 by Stuart Lumsden, one of JBS&G's experienced hazardous materials surveyors and a SafeWork NSW Licensed Asbestos Assessor (LAA 001140). Stuart was assisted by Rob Sharp, a SafeWork NSW Licensed Asbestos Assessor (LAA 001343) and one of JBS&G's experienced field surveyors. The structures and areas of investigation included as part of this HBMS were identified as follows:

- Building 12;
- Building 16;
- Building 17; and
- Building 18.

The Stage 1 Redevelopment area comprised the south-east portion of the site and is shown on **Figures 2 & 3**.

The structures 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).

A summary of the findings and works completed within each structure is detailed in the following sections.

### 2.1 Building 12

Building 12 comprised a single storey structure in the northern portion of the site with corrugated metal sheet and terracotta tile roof, corrugated metal sheet and exposed brick external walls, concrete floor, plasterboard and fibre cement ceilings, and a combination of plasterboard, fibre cement and cement rendered brick internal walls.

A summary of hazardous building materials are as follows:

- Asbestos containing fibre cement sheeting was identified to the flat ceiling of the external walkway and sloped ceiling of the external corridor.

- Asbestos containing fibre cement sheeting was identified to the external ceiling lining beneath the timber clad Physiotherapy portion of the building.
- The two tunnel branches under Food Services had been barricaded and sealed up with asbestos warning signage restricting access. These areas are known to be impacted with asbestos, however, no reports were made available to JBS&G that detailed the type of asbestos hazards present. It is assumed that these areas are impacted with friable asbestos, similar to the friable asbestos hazards (lagging debris and surface soils) identified within the sub-floor of Building 18 (see **Section 2.4**).
- A suspected asbestos containing fibre cement pipe was identified within the sub-floor void. The pipe was observed to be running in an east-west direction from the eastern branch under Building 13 to one of the restricted access branches under Food Services. A sample was unable to be collected without damaging the integrity of the pipe.
- Asbestos containing gaskets were identified to pipework within the sub-floor void.
- Asbestos containing fibre cement debris was identified within the southern portion of the roof void, adjacent the access hatch.
- Asbestos containing fibre cement sheeting and associated debris was identified within the western portion of the roof void. The ACM sheeting was identified as the old ceiling to the trolley store room adjacent to Physiotherapy, which was only accessible from the roof void with a new plasterboard ceiling installed to the underside. This material was also identified in the following locations:
  - Ceilings to the Food Services corridor, including above the non-ACM ceiling adjacent the loading dock;
  - Ceiling of the store room with roller door, above existing plaster ceiling; and
  - Ceilings to the store room and freezer, above existing plasterboard ceilings.
- Elevated levels of lead within accumulated dust above the adopted site criteria was identified within the southern external wall cavity. This material is assumed to be present within all external wall cavities.
- Elevated levels of lead within accumulated dust above the adopted site criteria was identified within the western and southern portion of the roof void.
- Elevated levels of lead within accumulated dust below the adopted site criteria was identified to the internal floor surface of the basement amenities.
- Lead based white paint was identified to the ceilings of the external walkway and corridor and to the internal windows, doors and door frames of the basement amenities and the timber windows of the external walkway and was in poor condition due to significant peeling and flaking of the paint.
- Lead based white paint was identified to the external cement rendered brick walls in the Food Services corridor, to the internal cement rendered brick walls and to the internal timber windows within Physiotherapy and was in fair condition due to minor peeling and flaking of the paint.
- Lead based cream paint was identified to the external timber windows, to the internal walls and ceiling of the basement amenities and to the section of external timber cladding of Physiotherapy and was in poor condition due to significant peeling and flaking of the paint.

- Lead based green paint was identified to the internal walls of the basement store room and was in poor condition due to significant peeling and flaking of the paint.
- Suspected SMF insulation was identified in various forms throughout the building.
- Fluorescent lights were identified throughout the internal and external areas and are suspected to contain PCB capacitors, however, a detailed inspection was not possible due to the supply of live electricity.

## **2.2 Building 16**

Building 16 comprised a warehouse type structure in the southern portion of the site with corrugated metal roof and external walls, concrete floor and a combination of plasterboard, fibre cement sheet and corrugated metal internal walls.

A summary of hazardous building materials are as follows:

- Asbestos containing loose fibrous material was identified attached to the non-asbestos containing beige vinyl flooring throughout the toilets and locker area on the western mezzanine level. The loose fibrous material was not visually observed at the time of inspection and it is unknown as to the source of the contamination. Further investigation is required to determine if the asbestos containing loose fibrous material is associated with the vinyl flooring or whether it is an isolated occurrence and the contamination is from an outside source. Until further investigations are undertaken, all the vinyl flooring on the western mezzanine level must be treated as impacted with friable asbestos.
- Asbestos containing fibre cement sheeting was identified to the showers on the western mezzanine level.
- Lead based green paint was identified to the external timber door and to the external metal door frames and was in poor condition due to significant peeling and flaking of the paint.
- Lead based white paint (16-LP03, 0.62% w/w) was identified to the shelving within the workshop, to the timber doors of the rooms within the eastern portion of the building and and to the steel stairs to the eastern mezzanine level was in fair condition due to minor peeling and flaking of the paint.
- All remaining accessible paint systems were screened via XRF. The presence of lead was detected in all paint systems (i.e. XRF result for lead > 0.0 mg/cm<sup>2</sup>) which exceeds the adopted screening level for this investigation and, therefore, all paint systems are assumed to comprise lead based paints.
- Suspected SMF insulation was identified in various forms throughout the building.
- New LED light fittings were observed throughout the building and are not suspected to contain PCB capacitors.

## **2.3 Building 17**

Building 17 comprised a single storey structure in the western portion of the site with corrugated metal roof and external walls, plasterboard internal walls and suspended ceiling tiles, and timber floors with various floor coverings. Building 17 was constructed in 2006 and at the time of inspection was occupied by Community Aged-care and Rehabilitation Service (CAREs).

A summary of hazardous building materials are as follows:

- Based on the age of the building, no ACMs, PCBs, or lead paints/dusts are suspected to be present.

- Suspected SMF insulation was identified in various forms throughout the building.
- No other hazardous materials were identified at the time of inspection.

## 2.4 Building 18

Building 18 comprised a two storey structure in the western portion of the site with terracotta tile roof, exposed brick external walls, cement rendered brick internal walls, plaster ceilings and timber floors.

A summary of hazardous building materials are as follows:

- Two hot water tanks were identified within the central portion roof void. Asbestos containing insulation lagging was identified to the top section of the eastern hot water tank. No asbestos insulation lagging was identified to the western tank.
- Asbestos containing fibre cement sheeting and associated debris was identified in a number of locations within the roof void. The ACM sheeting was identified as the old ceilings to the first floor toilets and showers, and western fire stair entry (adjacent Room 42), which was only accessible from the roof void with new plasterboard ceilings installed to the underside. This material was also identified in the following locations:
  - Ceiling of Rooms 42 and 43;
  - Ceiling of first floor Sub-Board No4H1; and
  - Ceiling of small cupboard adjacent to Room 30.
- Asbestos containing gaskets were identified to the pipework throughout the roof void.
- The sub-floor void was accessed from the western end of the building. A trench was observed running east-west from the western end towards a large pit within the central portion of the sub-floor void. There was no access to the eastern portion of the sub-floor void due to the narrowing of the cavity and restricted access. Hazardous materials identified within the accessible western portion of the sub-floor void (see following points) are also assumed to be present within the eastern portion.
- Asbestos containing insulation lagging debris was identified to the ground surface of the sub-floor void, adjacent a footing within the western portion. Additional ACM lagging debris was identified in two locations to the ground surface within the trench running east-west.
- Asbestos containing residual lagging was identified to a pipe running east-west above the trench (identified above) within the sub-floor void. This pipe is assumed to extend the length of the building.
- Asbestos containing cable sheath to redundant electrical wiring within the sub-floor void was previously sampled and identified as ACM in SWE 2017 (refer sample S106402.12/A02). This material was observed during the JBS&G inspection, in addition to sections of wiring used as cable ties and wiring debris to the ground surface throughout the sub-floor void. A representative sample of the wiring debris on the ground surface was collected during this HBMS and was found not to contain asbestos. Based on the observations made during this HBMS, there was no significant visual difference between the ACM wiring and non-ACM wiring. Therefore, all redundant electrical wiring within the sub-floor void should be assumed to contain asbestos.
- Asbestos containing gaskets were identified to pipework throughout the sub-floor void.
- Four representative surface soil samples were collected from accessible areas within the sub-floor void, one adjacent the western entry (18-SS01) and three within the trench

(18 - SS02 to 18-SS04). All four samples were found to contain asbestos in the form of asbestos fines (AF), with fibrous asbestos (FA) also detected within two samples.

- Asbestos containing fibre cement eaves were previously identified in SWE 2017, with reference made to a previous report (NAA 2003) that was not made available to JBS&G. A representative sample of the fibre cement eaves was collected during the HBMS and was found not to contain asbestos. Based on observations made during this HBMS, the eaves and associated gutters and drain pipes were of a modern appearance and are suspected to have been removed and replaced since NAA 2003. Further investigation into the composition of the eaves is required.
- Elevated levels of lead within accumulated dust above the adopted site criteria was identified within the roof void.
- Elevated levels of lead within accumulated dust above the adopted site criteria was identified within the western external wall cavity. This material is assumed to be present within all external wall cavities.
- Lead based white paint was identified to the internal ground floor windows, architraves and skirting boards, to the ground floor ceilings, to the internal first floor windows, architraves and skirting boards, to the external timber windows and to the first floor ceilings and was in fair condition due to minor peeling and flaking of the paint.
- Lead based off-white paint (18-LP02, 16% w/w) was identified to the ground floor internal walls and to the first floor internal walls and was in fair condition due to minor peeling and flaking of the paint.
- Lead based cream paint (18-LP08, 1.4% w/w) was identified to the external timber fascia and was in poor condition due to significant peeling and flaking of the paint.
- All remaining accessible paint systems were screened via XRF. The presence of lead was detected in all paint systems (i.e. XRF result for lead > 0.0 mg/cm<sup>2</sup>) which exceeds the adopted screening level for this investigation and, therefore, all paint system are assumed to comprise lead based paints.
- Suspected SMF insulation was identified in various forms throughout the building.
- Fluorescent lights were identified throughout the internal and external areas and are suspected to contain PCB capacitors, however, a detailed inspection was not possible due to the supply of live electricity.

### **3. Conclusions and Future Works**

Identified and suspected hazardous building materials were observed throughout the site as a result of visual identification and laboratory analysis. A number of the identified hazardous building materials present a significant exposure risk to future site occupants and demolition workers if they are not appropriately managed/removed. Whilst a partially destructive HBMS provided substantially more information than a non-destructive (visual) HBMS, it is recommended that a fully destructive pre-demolition HBMS should be undertaken, preferably when the buildings are vacant/non-operational, such that appropriate hazardous building material identification and volume estimates can be provided to the client.

It was recommended that hazardous materials management plan be prepared for the site detailing the procedures for the management and removal of the identified hazardous materials to be implemented prior to and for the duration of the proposed demolition and refurbishment works.

Where estimated areas/volumes are provided, suitability qualified and experienced hazardous removal contractors should undertake additional inspections to confirm quantities prior to tender. Likewise, if the removal contractor identifies or suspects any additional hazardous materials, these materials should be identified, the client notified and included within the tender submission.

Broad recommendations were made in the HBMS for the removal of the identified hazardous materials to potentially mitigate harmful effects as a result of the proposed works program. Further detail on the appropriate removal and management methods for identified and suspected hazardous building materials shall be included in the site hazardous materials management plan. 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 the Stage 1 demolition and refurbishment works.

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Should you require clarification, please contact Mitchell Hodgins on 02 8245 0300 or by email [mhodgins@jbsg.com.au](mailto:mhodgins@jbsg.com.au).

Yours sincerely:



Mitchell Hodgins  
Associate  
**JBS&G Australia Pty Ltd**

Attachments:  
(1) Limitations

## **Attachment 1 – 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. JBS&G accepts no liability for incomplete or inaccurate information provided to JBS&G by the client or 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 the type of assessment works being reviewed, and should not be used for any other purpose beyond which it was intended.

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 in part or 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 except at their sole risk after making their own enquiries.

Conclusions arising from the review and assessment of data are based on the scope of work considered appropriate based on the regulatory requirements and relevant codes of practice. Within the limitations of the scope of services, the work reported herein has been performed in a professional manner in accordance with generally accepted industry standards and using a degree of skill and care ordinarily exercised by members of its profession.

No sampling or laboratory analyses were undertaken as part of the investigations undertaken, as described herein, which was limited to inspection of visible and accessible ground surfaces only in the designated area.

Changes to the surface conditions may occur subsequent to the investigations described herein, through natural processes such as rain, surface water runoff and wind, through the intentional or accidental disturbance of ground surfaces such as vehicle and pedestrian movement, excavation or failure of sediment and erosion controls, and/or through addition of materials/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 status of the site, and it is limited to the scope defined herein. Should additional information become available regarding conditions at the site, JBS&G reserves the right to review the report in the context of the additional information. This may require JBS&G undertaking further inspection, and possible sampling, analysis and reporting to verify additional information. Such additional works will only be completed following mutual written agreement between JBS&G and the client.