

Level 4/38 Oxley St, St Leonards NSW 2065
(02) 8484 5810

Project Reference: HI23123

Date 19/03/2024

Health Infrastructure
c/o TSA Management
1 Reserve Road,
St Leonards NSW, 2065

Attention: Marcus Haines, Project Director, Health Infrastructure

Dear Marcus,

**Re: Ryde Hospital Redevelopment Temporary Works – Review of Environmental Factors
– Contamination**

Introduction and Background

Health Infrastructure is proposing a series of temporary works at Ryde Hospital at 1 Denistone Road, Denistone.

The purpose of the temporary works is to ensure that the ongoing operation of the hospital is not impacted during construction of the Ryde Hospital Redevelopment.

Specifically, the proposed temporary works will comprise:

- Construction of temporary intensive and critical care building (ICU/CCU).
- Provision of a temporary loading dock located off Denistone Road.
- Alterations to the Graythwaite Building rooftop and basement to facilitate new office space, kitchens and storage areas.
- Establishment of two construction zones to accommodate office space, workshops and storage.
- Construction of a pedestrian ramp that connects between Trigg House and the Graythwaite Building.
- Connection and augmentation of in-ground services and utilities, as required.

A Remedial Action Plan (RAP) exists for the site: *JBS&G, 2023 – Ryde Hospital Redevelopment, Denistone Road, Denistone NSW. Remedial Action Plan (#150554) dated 18 April 2023*. This was prepared to inform State Significant Development (SSD) Application SSD-36778089, for Stage 1 of the hospital redevelopment works.

It is understood that the REF is specific to the proposed temporary works, and an assessment of the applicability of the RAP to the temporary works is required.

Letter Objective and Reviewed Documents

The objective of this letter is to assess the proposed REF scope of works in relation to the requirements of the current RAP (JBS&G, 2023) for the proposed temporary works. As part of this assessment the following documents have been reviewed:

- The REF scope of works drawings detailed in the sheet list of RHR-AR-DWG-00-TS-00-001, dated 23/02/2024.
- Temporary Structures – Proposed site Plan (RHR-AR-DWG-10-TS-00-001)

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- JBS&G, 2023 – Ryde Hospital Redevelopment, Denistone Road, Denistone NSW. Remedial Action Plan (#150554) dated 18 April 2023.

A copy of the REF was not provided for review during the preparation of this letter, and the considerations herein relate to the drawings of the temporary works only.

Understanding of Temporary Works and Structures

A brief summary of our understanding of the proposed temporary works, based on review of drawings provided, is included in Table 1 below.

Based on our review, it is understood that some breaking of ground will be required during construction of temporary structures. In brief, this will likely include regrading of the site surface, excavations, and minor piling works. The exact location and scope of the connection and augmentation of in-ground services has not been provided in these drawings.

Final depths of ground breaking activities, as well as volumes of potential spoil, are unknown at this time.

Table 1: Summary of Proposed Temporary Works

Legend ref (DWG RHR-AR-DWG-10-TS-00-001)	Legend Description	Understanding of Works
TS-TB	IPO/Engineer's offices/ bin storage/ executive offices	Construction of a three-storey plywood/ Colorbond clad building on a skid beam base. Regrading of site surface may be required.
TS-TC	ICU/CCU	Extension of existing theaters building and undercroft carpark. Assumed piling required to support structure, however depth is unknown and construction method is unconfirmed. New driveway construction (6.5m wide). Piling and driveway works likely to result in excess spoil.
TS-TD	Linkways/ ramp/ loading dock	Construct new landings, loading dock and link to existing. Likely to include excavation/regrading of site surface and in generation of some excess spoil to align new and existing site levels.
TS-TF	Food services-kitchen (Graythwaite Level 3)	Vertical extension of existing building. No breaking of ground expected.
TS-TF	Stores and linen (Graythwaite Carpark)	New fit out only in existing carpark. No breaking of ground.

Summary of RAP

The objective of the RAP (JBS&G, 2023) was to "document the procedures and standards to be followed in order to address the contamination impacts at the site, ensuring the protection of human health and the surrounding environment, such that the impact is remediated/managed in a manner as to make the site suitable for the proposed land use" (JBS&G, 2023). The proposed landuse is for an

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ongoing health services facility under state significant development (SSD) application SSD-36778089, Stage 1 of works.

Previous environmental investigations at the site indicated that contamination at the site was related to asbestos in soils and underneath building footprints. Asbestos fragments and fines were identified during a Detailed Site Investigation by JBS&G (2019)¹ in the soils within the southern portion of the site. Asbestos containing fibrous material was also identified within the surface soils in the following building footprints:

- Presumed to be within the sub-floor void tunnels underneath Building 12 (barricaded and sealed up with asbestos warning signage); and
- Friable asbestos containing insulation lagging debris in multiple locations on the unsealed ground surface of the sub-floor void underneath Building 18.
- Data gaps exist beneath buildings 7, 2, 4, 16 and 15 as sampling was not able to be undertaken here, due to inaccessibility. Further sampling was proposed in these areas during redevelopment works.

In addition, polychlorinated biphenyls (PCBs) impacted soils were identified immediately south of Building 5, in the central/northern portion of the site. JBS&G considered that this was likely a result of historical contaminated fill importation and required delineation and localised management.

Across the remaining areas of the site, generally elevated concentrations of heavy metals (such as zinc, nickel and copper) and Benzo(a)Pyrene above the adopted Ecological Investigation Level were reported (JBS&G 2019, 2023).

The preferred remediation strategy was documented as:

- Excavation and off-site disposal of PCB impacted soil to a lawful waste facility;
- Excavation and off-site disposal of asbestos fines and friable asbestos impacted shallow fill beneath existing building footprints (where removal of these soils is required to facilitate development), to a lawful waste facility;
- On-site retention of all remaining asbestos impacted fill material where possible, via implementation of a cap/cover remediation strategy based on physical separation. This would require implementation of on-going management plan
- Excavation and off-site disposal of asbestos impacted fill that cannot be contained to a lawful waste facility (where removal is required to facilitate development).

The RAP (JBS&G, 2023) stated that subject to design of the final development scheme, review of the preferred strategy was required to be completed to confirm the appropriateness of the adopted strategy.

Discussion

The RAP (JBS&G, 2023) has considered previous environmental assessments at the site to define the extent of the area requiring remediation at the site. The areas described as part of the temporary works are outside the remediation extent defined in the RAP (JBS&G, 2023). As such, remediation as discussed in the RAP will not be required during temporary works. However, it is noted that some works are directly adjacent to areas identified as data gaps in the RAP (i.e. Building 2 adjacent to ICU/CCU), and the risk of contamination being present in this area cannot be discounted.

The RAP (JBS&G, 2023) also stipulated that if hazards arise from unexpected sources or unexpected locations these were to be managed under an Unexpected Finds Protocol described therein.

¹ JBS&G – 2019, *Detailed Site Investigation, Ryde Hospital Redevelopment, Denistone Road, Denistone NSW*

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Further to this, the RAP (JBS&G, 2023) provides procedures for sampling and analysis of waste material in line with NSW EPA (2014) *Waste Classification Guidelines*, site won spoil for onsite beneficial reuse and validation of imported materials for suitability to use on site.

Summary and Conclusion

The areas of temporary works have not previously been identified as requiring remediation in the RAP (JBS&G, 2023), however, the RAP does document requirements relevant to the proposed temporary works.

The following RAP items must be considered during temporary works (without limiting other requirements):

- Unexpected contamination encountered in the ground must be managed under the Unexpected Finds Protocol in the RAP. Options for managing contaminated materials include:
 - Onsite encapsulation in line with the RAP requirements
 - Offsite disposal in line with RAP requirements and NSW EPA (2014) *Waste Classification Guidelines*
- Excess spoil that meets the onsite reuse criteria can be beneficially reused onsite
- Record keeping for inclusion in the final site validation report where relevant.

Closure

Should you have any queries please contact the undersigned on 049 3560 547 or Josquin.mills@edp-au.com.

Yours sincerely,





Jos Mills

Environmental Consultant

EDP Consultants Pty Ltd

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Revision No.:	Revision Date:	Reason for Issue:	Authorised:	
			Name and Position:	Signature:
VI	13/03/2024	First issue to client	Alice Plioplis Principal Environmental Consultant	
V	19/03/2024	Client Comments	Alice Plioplis Principal Environmental Consultant	

Statement of Limitations

This document has been prepared in response to specific instructions from the client to whom the report has been addressed. The work has been undertaken with the usual care and thoroughness of the consulting profession. The work is based on generally accepted standards, practices of the time the work was undertaken. No other warranty, expressed or implied, is made as to the professional advice included in this report. The report has been prepared for the use by the client and the use of this report by other parties may lead to misinterpretation of the issues contained in this report. To avoid misuse of this report, EDP advise that the report should only be relied upon by the client and those parties expressly referred to in the introduction of the report. The report should not be separated or reproduced in part and EDP should be retained to assist other professionals who may be affected by the issues addressed in this report to ensure the report is not misused in any way.

EDP is not a professional quantity surveyor (QS) organisation. Any areas, volumes, tonnages or any other quantities noted in this report are indicative estimates only. The services of a professional QS organisation should be engaged if quantities are to be relied upon.

Sampling Risks

EDP acknowledges that any scientifically designed sampling program cannot guarantee all subsurface contamination will be detected. Sampling programs are designed based on known or suspected site conditions and the extent and nature of the sampling and analytical programs will be designed to achieve a level of confidence in the detection of known or suspected subsurface contamination. The sampling and analytical programs adopted will be those that maximises the probability of identifying contaminants. The client must therefore accept a level of risk associated with the possible failure to detect certain subsurface contamination where the sampling and analytical program misses such contamination. EDP will detail the nature and extent of the sampling and analytical program used in the investigation in the investigation report provided. Environmental site assessments identify actual subsurface conditions only at those points where samples are taken and when they are taken. Soil contamination can be expected to be non-homogeneous across the stratified soils where present on site, and the concentrations of contaminants may vary significantly within areas where contamination has occurred. In addition, the migration of contaminants through groundwater and soils may follow preferential pathways, such as areas of higher permeability, which may not be intersected by sampling events. Subsurface conditions including contaminant concentrations can also change over time. For this reason, the results should be regarded as representative only.

The client recognises that sampling of subsurface conditions may result in some cross contamination. All care will be taken and the industry standards used to minimise the risk of such cross contamination occurring, however, the client recognises this risk and waives any claims against EDP and agrees to defend, indemnify and hold EDP harmless from any claims or liability for injury or loss which may arise as a result of alleged cross contamination caused by sampling.

Reliance on Information Provided by Others

EDP notes that where information has been provided by other parties in order for the works to be undertaken, EDP cannot guarantee the accuracy or completeness of this information the client therefore waives any claim against the company and agrees to indemnify EDP for any loss, claim or liability arising from inaccuracies or omissions in information provided to EDP by third parties. No indications were found during our investigations that information contained in this report, as provided to EDP, is false.

Recommendations for Further Study

The industry recognised methods used in undertaking the works may dictate a staged approach to specific

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investigations. The findings therefore of this report may represent preliminary findings in accordance with these industry recognised methodologies. In accordance with these methodologies, recommendations contained in this report may include a need for further investigation or analytical analysis. The decision to accept these recommendations and incur additional costs in doing so will be at the sole discretion of the client and EDP recognises that that the client will consider their specific needs and the business risks involved. EDP does not accept any liability for losses incurred as a result of the client not accepting the recommendations made within this report.