Health Infrastructure
Construction Asbestos Management Plan

Mental Health Unit and Emergency Department
Broken Hill Hospital
Broken Hill, NSW

20 October 2023

63879/150759 Rev 1

JBS&G Australia Pty Ltd

www.jbsg.com.au

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Appendix B Proposed Development Plans

1. Introduction

1.1 Background

JBS&G Australia Pty Ltd (JBS&G) was engaged by Health Infrastructure (HI, the client) prepare a construction Asbestos Management Plan (AMP) for the management of asbestos impacted soils for the proposed Broken Hill Hospital Redevelopment (BHHR, the site). The site is formally identified as part Lot 4376 in DP757298 and comprises an area of approximately 11, 000 m^2. The site location and layout are shown on **Figures 1** and **2** (**Appendix A**) respectively, and proposed development plans have been provided as **Appendix B**.

During intrusive investigations as part of the detailed site investigation (DSI, JBS&G 2023a[1] and JBS&G 2023b[2]), soils impacted with non-friable asbestos, as bonded asbestos containing material (ACM), was visually identified within fill at one sample locations (MH-B10) as shown on **Figure 3**.

This construction AMP is required under the *Work Health and Safety Regulations 2017* as a consequence of asbestos being present within a workplace (the WHS) and has been prepared to ensure that when asbestos or ACM impacted soils or materials are being handled at the site, they are appropriately managed to ensure the protection of the health of the site workers (direct workers), future site workers, patients, visitors, hospital facility employees and the neighbouring community. This AMP outlines the requirements for the disposal of, or onsite management of, any asbestos or ACM impacted soil or materials encountered at the site.

1.2 Objectives

The purpose of this AMP is to outline the required procedures for the handling of ACM and asbestos impacted soils or materials during the investigation, remediation and development works to be undertaken at the site; to outline the measures required to protect the health and safety of site workers who may encounter ACM or asbestos impacted soils or materials whilst completing the planned works; and to prevent any adverse health effects on future site workers, patients, visitors, hospital facility employees and the neighbouring community in accordance with relevant National Codes of Practice and Work Health and Safety (WHS) Legislation.

Specifically, the objectives are to:

- Outline legislative requirements for asbestos registers and asbestos management plans;
- Outline, monitor and enforce safe working condition for all site workers;
- Outline, monitor and enforce safe environmental conditions for all persons outside of the site;
- Outline, monitor and enforce procedures to manage works within asbestos contaminated soils identified onsite during works;
- Outline measures for the safe onsite storage and, if required, off-site disposal of asbestos materials in accordance with all relevant legal and statutory requirements; and
- Outline ongoing management requirements of the site to ensure that the risk posed by any potential asbestos impact at the site is properly managed.

[1] *Detailed Site Investigation Mental Health Unit and Emergency Department, Broken Hill Hospital, Broken Hill, NSW,* JBS&G Australia Pty Ltd, 23 March 2023, 63879/150471 Rev B (JBS&G 2023a)

[2] *Combined Preliminary and Detailed Site Investigation Broken Hill Key Worker Accommodation (KWA), Broken Hill Hospital, Broken Hill, NSW,* JBS&G Australia Pty Ltd, 29 March 2023, 63879/150231 Rev 2 (JBS&G 2023b)

2. Summary of Asbestos Conditions

2.1 Asbestos Overview

Friable asbestos is defined by Safe Work NSW in the How to Safely Remove Asbestos - Code of Practice (2022) as being *"…material that is in a powder form or that can be crumbled, pulverised or reduced to a powder by hand pressure when dry, and contains asbestos".* This includes asbestos fibre impacted soils and asbestos fines identified by laboratory analysis.

Non-friable asbestos material is defined by Safe Work NSW (2022) as being *"…material containing asbestos that is not friable asbestos, including material containing asbestos fibres reinforced with a bonding compound."*

ACM can be classified as being present in either a non-friable form or friable form.

Mechanical disturbance of fragments of ACM may result in the release of fibres and therefore, such activities should be managed to prevent any fibres becoming airborne. The health effects of asbestos are detailed in enHealth (2005)[3] *Management of Asbestos in the Non-Occupational Environment*.

Asbestos materials in a bonded form (e.g. contained within cement or resins) do not present an immediate health risk, if they remain undisturbed and in a good condition. It is the inhalation of fibres from friable forms of asbestos or dusts generated by disturbing bonded materials may lead to the risk of asbestos related disease.

The primary issue associated with the presence of asbestos is inhalation of respirable fibres if the materials were to be disturbed and abraded.

2.2 Known Extent of Asbestos in Soil

The known extent of asbestos in soils at the site is summarised as:

- ACM was visually identified within fill at one sample location(MH-B10) .
- The approximate extent of asbestos in soils at the site is shown on **Figure 3**.

Should previously unidentified asbestos be encountered, this will be managed under the Unexpected Finds Protocol (UFP, **Section 9**).

2.3 Asbestos Regulations, Codes of Practice and Guidelines

The removal, assessment and disposal of asbestos is normally managed in accordance with the following:

- *Work Health and Safety Regulation 2017*.
- *How to safely remove asbestos - Code of Practice*, SafeWork NSW, 2022 (SNSW 2022a).
- *How to manage and control asbestos in the workplace - Code of Practice*, SafeWork NSW, 2022 (SNSW 2022b).
- *Waste Classification Guidelines - Part 1: Classifying waste*, NSW EPA, 2014 (EPA 2014).

The hazards that are present from ACM in the soils at the site require the management to be in accordance with the abovementioned code of practice and appropriate guidelines and regulations.

The hazards that are present from asbestos in the soils at the site and from asbestos present in building structures or underground services require the management to be in accordance with the abovementioned code of practice and appropriate guidelines and regulations. Due to the presence

[3] *Management of Asbestos in the non-occupational environment.* enHealth, 2005 (enHealth 2005).

of friable asbestos impacted soils, all works involving removal or disturbance of asbestos on the site must be supervised or performed by a contractor who holds a Class A (friable and/or non-friable) asbestos removal license.

3. Application of AMP Responsibilities

3.1 Application of AMP

This AMP shall apply henceforth throughout the development works until the completion of the development / construction works at the site, inclusive of all intermediary phases of work including data gap investigations and remediation.

3.2 AMP Responsibilities During Proposed Asbestos Related Works

The responsibilities for site management with regards to any asbestos or ACM impacted soils or materials present at the site apply to all works from the commencement of construction works until the completion of the development / construction at the site, except where a more specific asbestos management or works plan is provided by a person conducting business or undertaking (PCBU), for example, a detailed asbestos removal plan, prepared in accordance with relevant Codes of Practice and WHS legislation, provided by a demolition / construction PCBU prior to the removal of asbestos as a part of the demolition process.

3.2.1 Principal Contractor

In accordance with the provision of the *Work Health and Safety Regulation 2017*, a principal contractor (Contractor) shall be appointed for the proposed works.

Responsibilities of the Principal Contractor include, but are not limited to the following:

- Be responsible for the proposed project work at all times until the work is completed;
- Ensure that all persons involved with asbestos removal work have undertaken occupational health and safety training;
- Keep records of induction training for site workers and any site specific training;
- Ensure that any subcontractors provide safe work method statements for the activities for which they are engaged;
- Monitor any subcontractors to ensure that they are complying with the safe work method statements; and
- Maintain a hazardous substances register for all hazardous substances used or present on site.

The Principal Contractor is responsible for co-ordinating health and safety activities for the project. Other responsibilities of the Principal Contractor include:

- Compliance with occupational health and safety and environmental legislation, regulations, standards, codes and the site-specific rules relating to safety contained in this AMP;
- Ensuring that sufficient funds are available to procure the necessary health and safety equipment such as personal protective equipment (PPE);
- Managing accident and emergency procedures;
- Managing workplace injury management and rehabilitation; and

The Principal Contractor has the authority to provide for the auditing of compliance with the provisions of this AMP, suspension or modification of work practices, and administration of disciplinary actions for individuals whose conduct does not meet the requirements set forth herein.

3.2.2 Licensed Asbestos Assessor/Competent Person

A Licensed Asbestos Assessor (LAA) (as defined in the *Work Health and Safety Regulation 2017*) for licensed friable asbestos removal works shall be engaged to assess any suspected asbestos containing materials when required. The LAA shall complete airborne asbestos monitoring for the duration of works of significant intrusive works. A competent person may undertaken these tasks for bonded ACM removal works.

The LAA/Competent Person shall:

- Complete static asbestos air monitoring during all intrusive and ground disturbance works associated with the asbestos impacted materials including removing, transport and placement until such time that the final clearance inspection has been completed. All daily results of air monitoring activities are to be displayed or be readily available for the information of site workers. All air monitoring events shall be undertaken in accordance with the *National Occupational Health and Safety Commission's Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)];
- Conduct formal clearance inspections and prepare formal clearance certificates;
- Audit of asbestos controls and management implemented on the site;
- Provide on-site advice, if required, in relation to suspected ACM and the management of asbestos issues associated with the works;
- Collaboration with, and audit of, the Licensed Asbestos Removalist to ensure the AMP is being implemented and best practices with regards to asbestos management are being implemented; and
- Be available, if required, for consultation with regards to the conditions and requirements of this AMP.

Should further asbestos containing material be encountered during the planned works, additional clearance inspections and clearance asbestos air monitoring may be required to confirm the appropriate management of asbestos prior to re-occupation.

3.2.3 Licensed Asbestos Removal Contractor

A Class A (friable and/or non-friable) or Class B (non-friable) licensed asbestos removal contractor shall be engaged to complete the asbestos related and other associated works present in the work areas.

The licensed asbestos removal contractor will be the primary person responsible and in charge for works on-site involving ACM in soil. Their responsibilities include:

- Prepare a site specific Asbestos Removal Control Plan (ARCP) prior to any asbestos works being completed;
- Notification of licensed asbestos removal works to SafeWork NSW;
- Ensuring compliance with relevant legislation and the conditions of this AMP;
- Handling and management of ACM or asbestos contaminated soils at the site in accordance with relevant legislation;
- Ensure appropriate environmental and safety controls outlined in this AMP are maintained for the duration of the works; and
- Assisting all site sub-contractors, where required, in complying with relevant legislation and the procedures outlined in this AMP.

The ARCP must satisfy the requirements of SafeWork NSW Code of Practice – How to Safely Remove Asbestos (2022) with regards to an ARCP checklist. In addition, the ARCP must provide specific methodologies for the following activities:

- Decontamination of trucks/bogies exiting asbestos work zones **OR** creation of clean "loading zones" within asbestos work zones (via application of geo-fabric and/or plastic to ground) to eliminate the requirement to decontaminate trucks/bogies transporting ACM impacted soils within the site.
- Control measures for management of dust during asbestos removal works (such as misting fans, hose sprays), interim stockpile works (wetting of soils, geo-textile/plastic) and long-term stockpile works (dust-bloc/soil binding products, geo-textile/plastic and/or hydromulch/seed products) and potential dust generation from exposed asbestos impacted soils outside of construction hours including nights, weekends and shutdown periods.

4. Health and Safety Management

4.1 Safe Work Method Statements

Safe work method statements (SWMS) must be prepared by the Principal Contractor and their sub-contractors completing works that involve the disturbance, handling, removal and any other activities associated with asbestos hazards at the site prior to those activities commencing.

Safe Work Method Statements must:

- Describe how work is to be carried out;
- Identify the safety risks;
- Describe the control measures that must be applied to the work;
- Describe the equipment used in the work;
- Describe any standards or codes applicable to the work; and
- Training and qualifications required of persons undertaking the work.

Safe work method statements for all workers should be reviewed and approved by the Principal Contractor.

4.2 Site Access Control

The Principal Contractor shall ensure that the area in which works are taking place is designated a construction area and that the construction area is securely fenced and that access is controlled. Entrance to the site will be via a dedicated entry point which will contain the following features in addition to site security measures as required for a construction site as per relevant health and safety provisions:

- Readily identifiable and delineated site access / egress point. Where possible this location shall be visibly identifiable by site fencing / barricading;
- Designated decontamination area for all site personnel to remove PPE and dispose of contaminated articles. The decontamination area will be located in close proximity of the designated site access / egress point;
- Signage including “No Entry Without Required PPE” and a contact number for members of the public to direct any queries / complaints; and
- Emergency contact details.

The overall construction site boundary will be secured by appropriate fencing/barricades. It is anticipated that localised active construction site access points may be delineated within the overall site boundaries. Access to the construction site will be controlled and permitted by the person in charge of the site only after persons entering the site have been advised of the potential contamination hazards. This shall at least include notification of the potential presence of asbestos containing materials and asbestos contaminated soils.

Any authorised person accessing the site should do so in accordance with health and safety requirements as indicated in this AMP. The implementation of the health, safety and environmental requirements should be administered by the Principal Contractor.

Asbestos exclusion zones/removal boundaries shall be determined by the Principal Contractor in consultation with the LAA and the licensed asbestos removal contractor and will vary according to the location and size of the required daily activities. Any asbestos removal boundaries will be designed to allow other site works not involving significant intrusive works to continue without being required to adhere to this AMP. Access to designated asbestos works zones (shown on **Figure 3**) will

not be allowed until the site personnel have been inducted into the requirements of this AMP, have signed in, and have donned the required PPE (**Section 4.6**). Upon exiting the site, personnel must remove and dispose of/clean the PPE in the provided decontamination area.

It may be found that the asbestos removal boundaries require to be assigned to the site boundaries, in which case all site workers must adhere to the requirements of this AMP.

4.3 Training and Certification

The Principal Contractor must not allow any person to carry out project works unless he/she is satisfied that the person has undergone WHS induction training.

The WHS induction training required by the Regulation is as follows:

- General occupational health and safety training for construction work;
- Work activity based health and safety training (job specific training);
- Site-specific health and safety induction training; and
- Asbestos awareness training (formal or site-specific).

For each person carrying out asbestos removal, for a period of three years, the Principal Contractor must keep a record of the following:

- A copy of relevant statements of WHS induction training, or a statement indicating that the Principal Contractor is satisfied that the relevant WHS induction training has been undertaken; and
- A brief description of the site-specific training undertaken by the person.

4.4 Site Safety Induction

It is the responsibility of the Principal Contractor to ensure that all persons carrying out asbestos removal works on-site are given a site-specific induction on relevant work health and safety requirements. The induction shall be undertaken by the Principal Contractor. The induction shall be undertaken as per a standard presentation which will address the following topics as per the requirements of this AMP:

- Identification of any site specific hazards and risk control measures in relation to the asbestos impacted nature of the site;
- Regulatory requirements or codes of practice relevant to identified site specific hazards as restricted to asbestos impact;
- Directions on what to do if suspected asbestos containing materials within built form are encountered;
- Site orientation at least including location of asbestos decontamination areas at site access / egress points; and
- Site specific safety rules in relation to asbestos.

The Principal Contractor is responsible for establishing site specific safety rules. The rules must be displayed in an easily observable location (nominally in the site office) so as to ensure that all site workers, including any sub-contractors, have ready access.

At the completion of the Induction Presentation, each 'inducted person' shall be required to acknowledge that they have understood the requirements for the site works and health, safety and environmental obligations by completion of a Site Induction Form.

4.5 Asbestos Awareness Training

All workers that will conduct work potentially involving asbestos on the site must have completed the site-specific asbestos awareness training that will be provided by the Principal Contractor or an appropriate representative (e.g. the site LAA/Competent Person).

4.6 Personal Protective Equipment

Prior to any ACM or asbestos contaminated soils being disturbed, no additional PPE is required above the standard construction site PPE outlined by the Principal Contractor for the site.

When the ground surface is disturbed in known asbestos impacted areas , the requirements for PPE will apply in all areas within nominated asbestos removal works boundaries and applies for any ground workers within the asbestos work area, as defined by the supervising Competent Person / LAA.

Type/Duration of Work	Asbestos Impacted Soil excavation, handling, disposal
Respirator	Half-face respirator (P2 minimum)
Coveralls	Type 5, category 3 disposable coveralls required
Footwear	Disposable booties/boot covers OR Dedicated steel capped gumboots
Gloves	Disposable latex/nitrile gloves OR Dedicated asbestos zone gloves

Approved respirators shall be worn in asbestos removal works areas at all times to provide respiratory protection. The minimum protection is an approved properly fitting disposable respirator or half faced respirator fitted with a particulate cartridge.

The Principal Contractor shall supply and keep in good order, a sufficient supply of appropriate PPE for all relevant personnel for the duration of the project

Respirators should be issued for personal use only and shall be kept in a clean condition. Alcohol based antiseptic swabs should be made available for the cleaning of respirators.

Any respirator defects should be reported for subsequent repair. They should be maintained in a clean and safe working condition.

Employees must receive instruction in the correct method of using the respirator and on the importance of correct facial fit and maintenance. No person with a beard shall be allowed within the asbestos work area except using an approved positive pressure continuous airflow hood.

A fit check should be completed by the wearer of the RPE each time the respirator is to be used and should comprise the following steps:

- Close off inlet to filter;
- Inhale gently;
- Hold for 10 seconds; and
- Check face piece remains collapsed.

If the face piece does not remain collapsed, there is likely to be a leak in the seal and the RPE would not be providing adequate protection. RPE should be re-adjusted until the fit check is satisfactory. If a satisfactory result in the fit check cannot be achieved, the person will be unable to work within the asbestos works zone and will be required to attain new RPE and complete a new fit test.

It is further noted that, as part of the SafeWork NSW permitting process, additional PPE may be required. If this occurs, then the above PPE requirements will be upgraded to reflect SafeWork NSW' requirements.

4.7 Plant

All plant operators must close cabin doors and windows and set air conditioning to re-circulate when operating within the asbestos work area.

Where there is a risk of exposure to respirable fibres (e.g. plant with open cabins), plant operators will be required to wear PPE as per **Section 4.6** above.

4.8 Management of Subcontractors

Contractors and subcontractors working on-site will be required to adopt the provisions of this AMP and will be advised of potential safety and environmental issues on-site during site-specific induction training. This induction will include the occupational health and safety responsibilities, requirements and controls for all subcontractors working on site. All subcontractor activities will be monitored by the Principal Contractor, the licensed asbestos removal contractor and/or the LAA to ensure compliance with the requirements of this AMP.

Contractors and subcontractors whose work will be performed on-site, or who otherwise could be exposed to health and safety hazards, will be advised of known hazards through distribution of site information contained in this AMP.

They shall be solely responsible for the health and safety of their employees and shall comply with all applicable laws and regulations. All contractors and subcontractors are responsible for:

- Providing their own personal protective equipment as required by the Principal Contractor and the conditions set out in this AMP;
- Training their employees in accordance with applicable laws;
- Providing medical surveillance and obtaining medical approvals for their employees, as appropriate;
- Ensuring their employees are advised of and meet the minimum requirements of this AMP and any other additional measures required by their site activities; and
- Designating their own site safety officer.

Subcontractors must sign an acceptance form prior to commencing work on-site. Subcontractors may only modify, and then only to improve, the conditions specified in this AMP with approval from the Principal Contractor, or their nominee.

5. Asbestos Management Procedures

The requirements for management of ACM during implementation of the various management options are discussed in detail in the following sections. All works are to be undertaken in accordance with the Code of Practice (SNSW 2022a).

The following sections detail the requirements for the removal and handling of ACM in the event that remedial works are proposed to occur.

5.1 Proposed Excavation Activities

Asbestos is present in both friable and non-friable form. As determined by the supervising LAA, the following procedures shall be implemented to ensure workers safety and to mitigate any potential off site migration of contamination.

Prior to any work commencing:

- Review of the information available for the site;
- A SafeWork permit for friable asbestos removal works or SafeWork notification for friable and non-friable asbestos removal works shall be sought by the appropriately licensed asbestos removal contractor. The asbestos removal notification must be submitted at least 5 days prior to any asbestos being disturbed/removed with approval from SafeWork NSW required to have been received prior to works commencing;
- Workers and visitors to the asbestos work area will be made aware of the encountered asbestos and only authorised people shall enter the asbestos work area;
- The works area must be isolated from casual entry using temporary barriers (where smaller than the secure site boundary fencing) and only personnel inducted in the requirements of the AMP will be permitted to enter the works area;
- Asbestos removal caution signs shall be placed on the perimeter barrier (or exclusion zone barrier, whichever is furthest from the asbestos removal work area), as per AS1319.
- Sufficient room must be provided within the works area to allow accessing of the stockpile and proposed placement location where required, in accordance with **Section 5.2**; and
- A water supply must be provided to the works area for the purpose of maintaining exposed asbestos impacted fill in the excavations and stockpiles in a moist state.

During movement activities:

- All wastes will be classified, managed and disposed in accordance with the Waste Classification Guidelines: Part 1 Classifying Waste (EPA 2014);
- Personnel within the asbestos work area shall wear a Tyvek suit, respirator (e.g. minimum requirement of half faced P2 respirator), disposable gloves and laceless steel capped rubber soled work shoes or gumboots at all times when within the asbestos work area and until clearance certification is provided by the LAA;
- The excavation and exposed ground surface shall be kept damp by water spraying at all times during excavation to reduce the possibility of dust generation;
- PPE used during the works shall be disposed of as asbestos waste;
- Airborne asbestos monitoring shall be conducted for the duration of the excavation works in accordance with **Section 8.1**; and
- Any stockpiled excavated material shall be kept moist and controlled if left for more than 24 hours in accordance with **Section 5.3**.

5.2 End of Day Works

At the end of each working day and prior to any site shutdowns, all exposed asbestos impacted soils must be managed via sealing with a coloured soil binding product (e.g., green dyed Dust bloc or similar product) or covered with geo-textile or plastic to prevent the potential generation of dust and airborne asbestos overnight, on weekends or during site shutdown periods.

5.3 Stockpile Management

5.3.1 Temporary Stockpiles

Any temporary stockpiles (proposed to be stored for between 24hrs and 1 month) must be kept damp (not flooded) and covered by geo-fabric/plastic or sealed with a soil binding product as soon as practical. The geo-fabric/plastic will extend beyond the perimeter of the stockpiles and shall be secured to prevent being blown away by wind.

5.3.2 Long Term Management

Long term stockpiles (proposed to be stored for longer than 1 month) must be covered with geo-fabric or sealed with a soil binding product (dust-bloc) or sealed with hydro mulch. Large stockpiles should be bunded to prevent asbestos impacted water runoff. Long term stockpiles must be placed in a secured, signed and excluded location onsite.

Regular inspections of long term stockpiles should be undertaken to ensure the controls implemented are in good condition, no dust is being generated from the stockpile and no runoff is occurring.

When the seal is broken on long term stockpiles, such as moving, excavation or tracking over the stockpile, the interim management measures (**Section 5.3.1**) must be implemented until such a time that the long term controls can be re-implemented on the stockpile.

5.4 Decontamination

The Licenced Asbestos Removal Contractor shall ensure that an area is established on the site for people to personally decontaminate themselves and any tools and equipment when they are entering and leaving each asbestos works zone.

The details for decontamination shall be specified in the Licenced Asbestos Removal Contractor's Asbestos Removal Control Plan and SWMSs for asbestos related work and is to comply with the requirements outlined (SNSW 2022a).

5.4.1 Personal Decontamination

Personal decontamination involves the removal of all visible asbestos dust / residue from PPE and respiratory protective equipment (RPE). Personal decontamination must be undertaken each time a worker leaves a designated asbestos work area. Personal decontamination should be done within the decontamination unit/area.

Asbestos-contaminated PPE must not be transported outside the asbestos work area except for disposal purposes. Before work clothes and footwear worn during asbestos removal work are removed from the asbestos removal area for any reason, they should be thoroughly vacuumed with an asbestos vacuum cleaner to remove any asbestos fibres and the footwear should also be wet wiped.

RPE must remain on until all contaminated disposable coveralls and clothing has been cleaned and / or removed and bagged for disposal and personal washing has been completed. Any PPE used while carrying out asbestos removal work must not be taken home by a worker.

Personal hygiene and careful washing are essential. Particular attention should be paid to the hands, fingernails, face and head.

5.4.2 Hand Tools

All hand tools used during asbestos removal work should be fully dismantled (where appropriate), cleaned under controlled conditions and decontaminated using either wet or dry decontamination procedures before they are removed from the asbestos work area. The method chosen will depend on its practicality, the level of contamination and the presence of any electrical hazards.

If tools cannot be decontaminated in the asbestos work area, or are to be reused at another asbestos work area, they should be:

- Tagged to indicate asbestos contamination.
- Double bagged in asbestos labelled bags before removal from the asbestos removal work area.

The bags containing the tools must remain sealed until decontamination or the commencement of the next asbestos related task where equipment can be taken into the removal work area and reused under controlled conditions.

PPE must be worn when opening the bags to clean or reuse the equipment or tools, and decontamination should only be performed in a controlled environment.

In some circumstances it may be better to dispose of contaminated tools and equipment, depending on the level of contamination and ease of replacement.

5.4.3 Vehicle, Plant and Equipment

All equipment, including non-disposable PPE, will be washed or otherwise cleaned to ensure that contaminated soil, water and dust is removed before it leaves the designated asbestos work area.

A plant decontamination area shall be established within designated asbestos work areas comprising a geofabric lined pad to capture washed off sediment. All plant and equipment will have their outer bodies thoroughly cleaned of soil and sediment before being inspected by the LAA. The LAA must provide clearance for any decontamination plant prior to its removal from the designated asbestos work area.

5.5 Loading and Transport

Two primary options are available for loading of asbestos impacted materials into trucks/bogies for movement around/from the site.

Option 1 – "Clean Zone" Load Out Method

Trucks enter the asbestos works zone onto a designated clean/cleared load out bay, which is demarcated by bright orange geo-textile. The excavator carefully loads asbestos impacted materials from a "dirty" zone to the truck in the "clean" zone. An asbestos removalist and/or hygienist must inspect each truck to ensure no impacted material remains on the exterior of the truck or on the geo-textile "clean" zone. If asbestos impacted material is present on the truck it should be brushed or washed off. Should any asbestos impacted material be present on the geo-textile, the fabric should be carefully rolled and disposed to a licensed landfill facility as asbestos waste. A new layer of geo-textile would then be laid to restore the "clean" zone prior to the next truck entering the asbestos works area.

The benefit of this option is to reduce the generation and thus subsequent management requirements of asbestos impacted water at each asbestos works zone.

Option 2 – Wheel Wash Method

Trucks enter the asbestos works zone and traverse asbestos impacted ground whilst being carefully loaded by an excavator or tipping of material. Prior to exiting the asbestos works zone, the truck must pass through a wheel wash to ensure all asbestos impacted material is removed from the

wheels, undercarriage and exterior of the truck. An asbestos removalist and/or hygienist must inspect each truck to ensure no impacted material remain.

6. Management Strategies

6.1 On-site Containment

Asbestos impacts as both friable and bonded ACM in soils have been identified in limited areas of the site; however there remains the potential that previously unidentified asbestos will be encountered during redevelopment. The proposed management of the identified asbestos impacted soils at the site will comprise on-site containment, which eliminates the inhalation exposure pathway for airborne asbestos fibres.

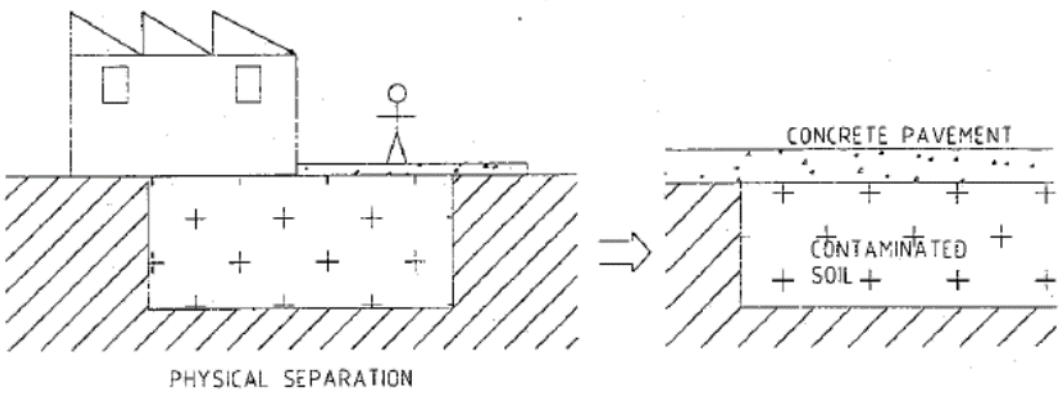
Procedures as documented in the following sections will require to be implemented to ensure all environmental/health objectives are addressed.

6.1.1 Containment Overview

Asbestos impacted materials may remain *insitu* if it has been capped, surveyed and documented on an asbestos register that is regularly updated and maintained by the Far West Local Health District (FWLHD).

Should additional materials be encountered, it is proposed that ongoing management of the impacted fill via a cap and contain remedial strategy may be implemented, which includes the implementation of permanent physical separation that eliminates the exposure pathway for asbestos. A marker layer and capping layer is required to implement the containment management strategy.

A conceptual sketch, sourced from ANZECC 1999[4], is shown following:



6.1.2 Marker Layer Requirements

The marker layer shall consist of a bright orange coloured non-woven polyester continuous filament or PET (such as nonwoven geotextiles) or similar with a minimum density of approximately 150 grams per square metre (or equivalent). The marker layer must:

- Be easily recognisable within soils (i.e., bright orange in colour);
- Be durable as a long term marker layer (i.e., > 150 grams per square metre); and
- Maintain integrity during remedial/civil works such as capping layer installation and construction works.

Additionally, the marker layer must meet geotechnical and civil specifications where required, i.e., underlying roads.

[4] *Guidelines for the Assessment of On-site Containment of Contaminated Soil,* Australian and New Zealand Environment and Conservation Council, September 1999. (ANZECC 1999).

At least 0.5 m depth capping layer in vegetated areas is required for containment of asbestos impacted soils (ANZECC 1999). Deeper capping layers have been specified in mass planting and tree pit zones to accommodate for the increased root depths of native tall grasses, shrubs and trees, and to minimise potential containment failure during future landscaping works in these areas. Furthermore, this enables the proposed finished ground surface levels of the redevelopment to be commensurate with the current ground surface levels of the hospital campus, thus eliminating additional unnecessary disturbance of asbestos impacted materials.

The specific details of the marker layer are required to be included in the Long Term Asbestos Management Plan (LTAMP) document in addition to surveyed plans showing the extent of capped area within the site.

6.1.3 Capping Layer Requirements

Following placement of the marker layer, the following capping procedures, which will form the permanent physical barrier over the asbestos impacted material, will be applied to appropriate scenarios across the site, to manage asbestos impacted materials:

- Beneath permanent ground floor/basement structures – installation of a marker layer over contaminated fill material and permanent concrete slab as the physical barrier.
- Permanent hardstand structures (i.e., concrete slabs, pile caps or asphaltic concrete or similar, but not bricks or pavers) – installation of a marker layer overlying potentially contaminated material followed by sub-grade material validated as environmentally suitable materials for human exposure and then the permanent structure (e.g., exterior concrete footpaths, asphaltic roads, etc.).
- Turfed areas – installation of the marker layer at a minimum depth of 300 mm below final finished site levels, with a capping layer consisting of environmentally suitable materials for potential human and/or ecological exposure.
- Mass planting / shallow landscaping areas – installation of the marker layer at a minimum depth of 500 mm below the final finished site levels, with a capping layer consisting of environmentally suitable materials for potential human and/or ecological exposure.
- New tree pit zones – installation of the marker layer at a minimum depth of 1000 mm below the final finished site levels, with a capping layer consisting of environmentally suitable materials for potential human and/or ecological exposure.
- Existing tree zones – installation of the marker layer consistent with immediately adjacent marker layer depths (e.g., 500 mm in turfed areas and 500 mm in mass planting areas) to the extent practicable, with a capping layer consisting of environmentally suitable materials for potential human and/or ecological exposure.
- Within underground services trenches / services – service infrastructure will require remediation to 150 mm below the depth of services, with a marker layer and capping layer installed consisting of environmentally suitable materials for potential human and/or ecological exposure.
- Within road reserves – the entire width of newly constructed road reserves, in conjunction with service infrastructure will be required to a depth 150 mm below the depth of the services, with a marker layer and capping layer installed consisting of environmentally suitable materials for potential human and/or ecological exposure.

Material above the marker layer extending to the final finished ground level will be required to be environmentally suitable material for human and/or ecological exposure (as appropriate). This may include: virgin excavated natural material (VENM) sourced from on-site, imported VENM, excavated natural material (ENM) or similar material certified in accordance with an exemption issued by the

NSW EPA that also meets site suitability criteria; or imported road making materials comprising fresh quarried material or material covered by a beneficial reuse exemption issued by the NSW EPA.

Additionally, material underlying load bearing structures such as roads, should be geo-technically suitable, in accordance with geo-technical reports prepared for the site.

At the interface of asbestos containment areas and non-asbestos containing material areas, the extent of the marker and capping layer should be extended a minimum of 300 mm laterally outside the extent of the capped material footprint, where practicable. This may include battering of the marker/capping layer to tie-in with existing site levels within the 300 mm outside of the capped material footprint, where practicable.

Validation of the interim and permanent capping arrangements will be required, including inspections by the LAA, a survey plan prepared by a registered surveyor showing the level and lateral extent of the marker layer and capping layer in relation to the site boundaries.

6.2 Off-site Disposal

6.2.1 Disposal Overview

Where on-site containment is not a suitable option, management of ACM or asbestos impacted soils should be completed via excavation and off-site disposal, procedures as documented following will require to be implemented to ensure all environmental/health objectives are addressed.

6.2.2 ACM Sheeting/ ACM Products

Large quantities of ACM sheeting / ACM products encountered that are not bound within the soil matrix are not suitable for on-site containment and should be disposed offsite in accordance with regulatory requirements.

6.2.3 Excavation of Asbestos Impacted Soils

The impacted soils shall be 'chased' under the direction and supervision of the LAA. The procedure for undertaking this excavation activity will be:

- Excavation of impacted soils to lateral and vertical extent until the soils meet the adopted validation criteria;
- Excavated soils shall be stockpiled on a hardstand or plastic liner pending off-site disposal or loaded directly into the back of a truck for disposal; and
- Any unexpected finds will be managed as per **Section 9**.

6.2.4 Offsite Disposal of Material

Any material requiring disposal shall be classified in accordance with *Waste Classification Guidelines Part 1: Classifying Waste,* NSW EPA (2014) and relevant waste regulations by the LAA. Disposal of waste to licensed waste facilities in accordance with relevant waste regulations will be undertaken by the Contractor. All waste tracking documentation including disposal dockets must be maintained by the Contractor and must be provided to the Principal and the LAA for inclusion in the validation report. Any asbestos waste exceeding 100 kilograms or more than 10 m^2 of bonded ACM in one load disposed offsite must be tracked using the NSW EPA online system WasteLocate.

6.2.5 Validation

Validation of the asbestos removal works will be conducted by the LAA to demonstrate the objectives of the asbestos management works have been achieved.

6.2.6 Backfilling

Upon confirmation of soil validation or application of the marker layer, excavations (where required) will be reinstated using suitable existing on-site materials and/or validated imported material. Materials proposed to be imported to the site will be assessed and approved prior to importation.

6.3 Site Disestablishment

On completion of the stockpile relocation and capping works, all plant/equipment and safety/environmental controls shall be removed from the site by the Contractor. All equipment used during asbestos works will need to be appropriately decontaminated as per **Section 5.4** or disposed of as asbestos waste by the Contractor, in accordance with the Code of Practice (SNSW 2022a), EPA (2014) and relevant waste regulations.

7. Validation Plan

7.1 Overview

Validation data is required to be collected to verify the effectiveness of the management works and document the asbestos impacted materials have been appropriately managed. Validation activities will be required for the following:

- Documentation of installation of containment measures if chosen as the remedial option (both interim and final);
- Validation of imported fill material to demonstrate its suitability for use as a capping layer or in trenching works;
- Validation of soils underlying current structures on the site;
- Movement/material tracking of all soil and fill material onsite; and
- Waste materials requiring offsite disposal.

7.2 Validation Requirements

Table 7.1 summarises validation requirements for the site.

Table 7.1: Validation Summary

Validation Area	Sampling Frequency	Analytes
Further assessment of differing fill material types that may be encountered during civil earthworks (if segregation and on-site re-use above the marker layer is required)	1 per 25m^3 (historical samples able to be included)	Heavy metals TRH/BTEX PAHs OCPs/PCBs Asbestos (500mL) Minimum of 10L Asbestos Quantification per 25m^3
Excavations formed by removal of localised asbestos impact or validation or natural materials following removal of overlying asbestos impacted fill	Floor: 1 per 25m^2. Wall: 1 sample per 5 linear metre. 1 sample per vertical metre.	Asbestos (500mL) 10L Asbestos Quantification per metre interval of fill (where appropriate)
Residual soils underneath stockpiles where contaminated material has been stored	1 sample per 10 m grid. Visual inspection.	Asbestos (500mL) or relevant contaminants
Excavations formed by Unexpected Finds	Base: 1 sample / 10 m grid, minimum of 2 per base Walls: 1 sample per 10 lineal metres per 1 m depth	Relevant contaminants of concern
Imported Materials of VENM, if required	Minimum of 3 samples per source site. Check samples of material from time to time once delivered/imported to the site.	<u>As a minimum:</u> Heavy metals TPH/BTEX PAHs OCPs/PCBs Asbestos (500mL)
Quarry VENM Materials (e.g. blue metal, sandstone, shale)	Confirmation that the material is quarried rock (VENM) prior to importation, and visual confirmation. Minimum of 3 samples per source site. Check samples of material from time to time once delivered/imported to the site.	<u>As a minimum:</u> Heavy metals TPH/BTEX PAHs OCPs/PCBs Asbestos (500mL)
Imported Materials of ENM, if required	As per ENM exemption 2014	Heavy metals TPH/BTEX

Validation Area	Sampling Frequency	Analytes
	Check samples of material from time to time once delivered/imported to the site.	PAHs OCPs/PCBs pH EC RTA 276 (foreign materials) Asbestos (500mL)
Waste Classification, stockpiles	1 per 25m^3 up to 200 m^3, minimum of 3. Reduced sampling density for volumes >200 m^3. Density to consider heterogeneity of the material.	Heavy metals TPH/BTEX OCPs/PCBs PAHs Phenols Asbestos TCLP Metals and PAHs (if required)
Recycled/Recovered Products	As per relevant exemption (supplier) Minimum of 3 samples per source site. Check samples of material from time to time once delivered/imported to the site.	Heavy metals TPH/BTEX PAHs OCPs/PCBs Plus Asbestos (500mL)
All imported materials	Visual inspection upon arrival at site and regular visual inspections during importation. Check samples of material from time to time once delivered/imported to the site.	Visual inspection only. As relevant to potential COPCs.

7.3 Validation Methodology

7.3.1 Validation of On-site Containment

Marker Layer

Visual inspection will be undertaken by the LAA to verify the installation of the marker layer across required areas. Photographic records and a survey prepared by a Registered Surveyor of the marker layer installation, including vertical and lateral extents by the Contractor will be retained for inclusion in the clearance/validation report.

Capping Layer

Material to be used as a capping layer must be validated by the LAA to be environmentally suitable, consisting of VENM, ENM, suitable on-site materials or material considered suitable for beneficial reuse via a resource recovery exemption issued by NSW EPA. Additionally, contaminant concentrations in any capping layer material must not exceed the adopted site validation criteria for soils.

The capping layer must be placed at the thicknesses specified for each capping scenario outlined in **Section 6.1.3**. Photographic records and a survey of the capping layer installation, which details the final thicknesses of the capping layer, including the vertical and lateral extents prepared by the Contractor will be retained for inclusion in the validation report.

Surveys

The remedial contractor must provide a survey of the marker layer and capping layer that demonstrates the lateral and vertical extents each layer. The capping layer survey must demonstrate that the minimum capping thicknesses have been achieved.

7.3.2 Ground Surface Validation (Aesthetics)

Prior to the completion of the asbestos management works, the ground surface of the site shall be thoroughly inspected by the LAA to confirm the absence of visual ACM. Should any observable ACM be identified, the area shall be remediated prior to re-inspection by the LAA.

7.3.3 Imported Materials

Fill materials imported onto the site are required to be either VENM, ENM or any other suitable material. Imported materials will require validation prior to being imported to site.

Imported material source sites will be visited by the LAA. Supporting documentation must be provided by the Contractor for imported materials to be assessed against the validation plan, relevant guidelines/exemptions and adopted site criteria. The LAA will collect additional samples and prepare appropriate documentation for imported materials in lieu of adequate information provided by the Contractor to ensure all material imported to site is validated.

Validation sampling will be undertaken in accordance with **Table 7.1**.

7.4 Laboratory Analysis

NATA accredited laboratories shall be used for all analysis of samples. Appropriate methods and limits of reporting (LORs) are required for comparison to relevant criteria.

7.5 Soil Validation Criteria

Considering the WHS nature of the management works, it proposed that successful validation of the site will require:

- High visibility marker layer to have been installed across required areas; and
- Validated capping material installed over the capping layer at the appropriate thickness for each capping scenario outlined in **section 6.1.3.**

7.6 Waste Disposal Offsite

All wastes requiring off-site disposal must be classified in accordance with *Waste Classification Guidelines* (EPA 2014). The Contractor is responsible for the lawful disposal of the classified waste to a licensed waste disposal facility lawfully able to accept the waste.

Disposal dockets for each individual offsite waste disposal load must be provided to the Principal and to the LAA by the Contractor to demonstrate appropriate offsite disposal of waste occurred for site validation purposes.

7.7 Material Tracking Plan

The movement of all earth/aggregate based materials on the site, to the site and from the site is required to be subject to a Material Tracking Plan (MTP). The MTP shall be administered by the LAA with the provision of all required information by the Contractor.

Material tracking shall be required for all materials that are moved / excavated from a location on the site and not wholly replaced in the same locations within 12 hours of material movement (i.e., soils excavated for test pitting / assessment do not require material tracking, however all other material will require tracking).

7.8 Material Tracking Data

To this extent, all excavation and filling works as undertaken for the purposes of site remediation require the following information to be recorded by the Contractor on Material Tracking Forms (MTFs) and in an electronic Material Tracking Spreadsheet (MTS) and verified by the Consultant, with respect to material placement activities:

- Date (yyyy/mm/dd);

- Site figure showing source (cut) and placement (fill);
- Estimated volume (cubic metres);
- Type of material (asbestos, VENM etc);
- Depth of source (RL);
- Depth of placement (RL);
- Source (from) information in terms of MGA56 co-ordinates as established by site GPS and/or survey;
- Placement (to) information in terms of MGA56 co-ordinates as established by site GPS and/or survey;
- Source (from) information in terms of site feature (e.g. Building X);
- Placement (to) information in terms of site feature (e.g. Remedial Zone);
- Source (from) information from off-site source site (e.g., Quarry A);
- Placement (to) information for off-site disposal (e.g., tip, EPA tracking number, docket reference);
- Reference document (where necessary, i.e. virgin excavated natural material / excavated natural material classification);
- Purpose of placement (i.e. containment, surplus to site requirements etc); and
- Comments (when required).

For material which has been removed for asbestos containing material relocation activities, and is proposed to be moved again subsequent to the completion / validation of environmental remediation works, MTFs for the replacement of the material shall make reference to the initial MTFs generated by the excavation of the original materials. As part of the validation of the material tracking forms, mass / material balances shall be assessed at each stage where additional material tracking forms are generated for particular site material.

It is the responsibility of the Contractor to ensure the MTF(s) are completed and submitted to the LAA at the end of weeks work. The LAA has ownership of the MTFs on receipt of all the necessary information from the Contractor.

The LAA is required to review the submitted MTFs and to investigate/resolve any discrepancies. Following this review, a copy of the MTFs will be forwarded to the Principal. Ideally this would occur within two days of the LAA verifying the MTFs from the Contractor.

The MTP is considered an active process and revisions of the MTP will be undertaken to improve the MTFs and MTS to ensure comprehensive and efficient material tracking.

7.9 Reporting

7.9.1 Clearance Certificate

At the completion of management works, a clearance certificate must be prepared that documents the site is suitable for re-occupation by workers with no further management for normal site activities. If capping has been implemented as a management strategy, the clearance certificate must document that any works below the marker layer will require implementation of the following management plan.

7.9.2 Long Term Asbestos Management Plan

Should the management activities result in on-site containment of asbestos impacted fill materials, a LTAMP will be required. The LTAMP will document provisions for the long-term management of the marker and capping layers integrity and detail the required controls for future works below the marker layer.

8. Monitoring Program

To ensure that the control measures being implemented at the site are effective, the following monitoring procedures will be implemented during the proposed relocation of asbestos impacted materials at the site.

8.1 Daily Static Airborne Asbestos Fibre Monitoring

During all excavation (including investigation works), transport and placement works on site, airborne asbestos fibre monitoring will be undertaken by the LAA using calibrated portable air sampling pumps. The number of monitoring locations shall be determined by the LAA in consultation with the Contractor and will depend on the extent and nature of asbestos removal works occurring and climatic conditions. It is anticipated that monitoring locations will be required at (but not limited to):

- Each specific asbestos removal works area;
- the broader project sites boundaries;
- targeted to sensitive stakeholders nearby;
- decontamination units;
- sensitive onsite areas (such as lunch sheds/offices).

At the end of each monitoring period the pump and attached filter will be collected and analysed at a NATA-accredited laboratory.

Monitoring works shall be conducted in accordance with *NOHSC Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition* (NOHSC:3003 [2005]).

Daily air monitoring reports shall be displayed in a common area outside of the asbestos work area (e.g. site office or lunch shed) or be able to be produced upon request.

The following action levels will be applied upon receipt of daily results, as outlined in the Code of Practice (SNSW 2022a):

- Reading of less than 0.01 fibres/mL – control measures in place are working effectively, site works to continue;
- Reading between 0.01 and 0.02 fibres/mL – a review of control measures shall be completed in the work area; and
- Reading greater than 0.02 fibres/mL – works shall cease until the cause of contamination is identified and rectified.

It is noted that these action levels adopted are more conservative than the exposure standard for airborne asbestos (0.1 fibres/mL (TWA)) as outlined in Safe Work Australia's *Workplace Exposure Standards to Airborne Contaminants* (SWA 2022) for an 8 hour shift.

8.2 Contingency for Monitoring Exceedance

Any exceedance of the NOHSC airborne asbestos fibre monitoring level of 0.02 fibres/ml specified in **Section 8.1** will result in a stop work direction to the Principal Contractor until such time as a field assessment by an experienced consultant is undertaken to identify the potential source of fibres within the works zone and establish appropriate additional management procedures to appropriately manage the risk of worker exposure and/or asbestos fibre migration to other areas of the site.

9. Unexpected Finds Protocol

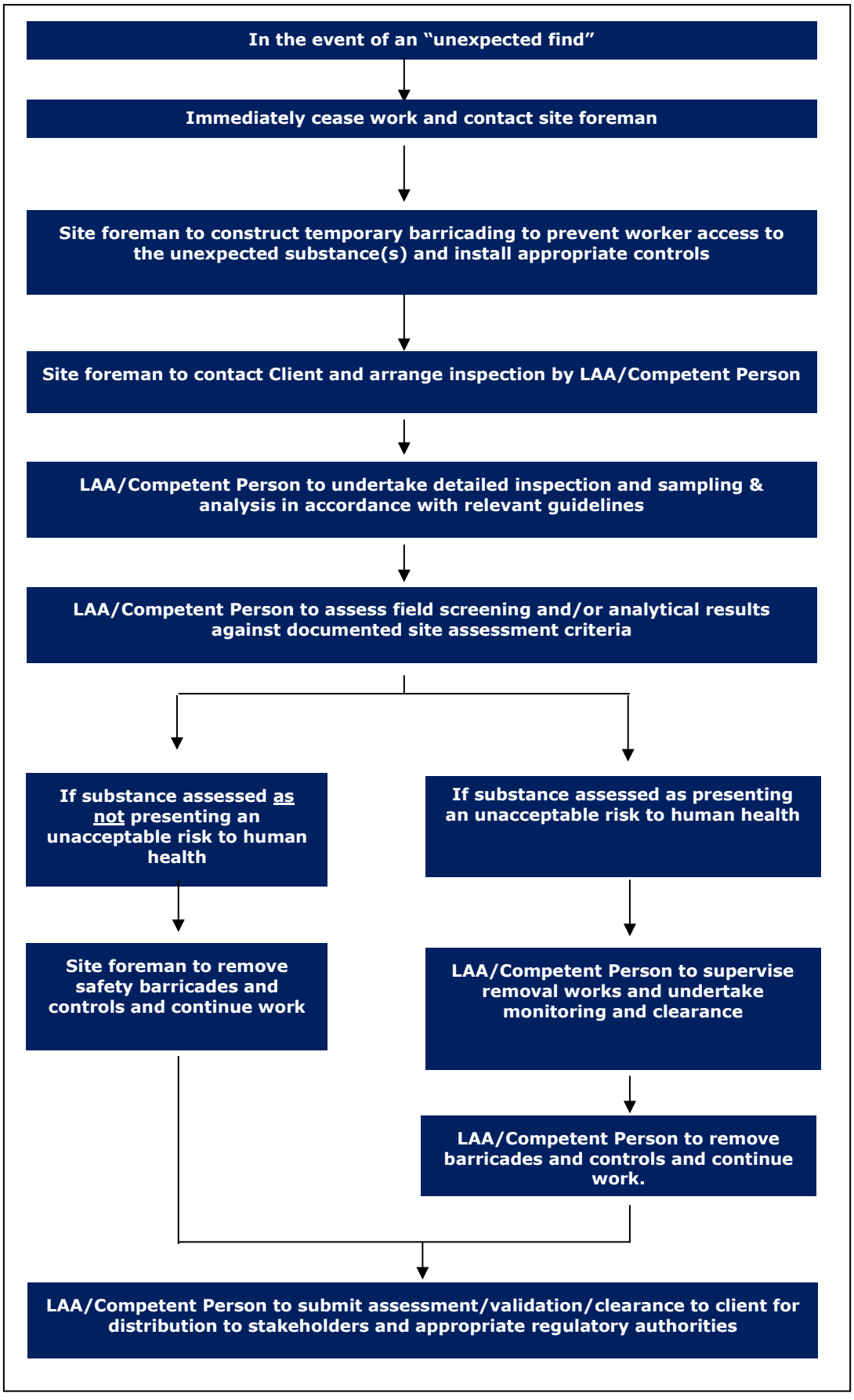
It is acknowledged that previous investigations of the site have been undertaken to assess the identified contaminants of potential concern in selected parts of the site. However, ground conditions between sampling points may vary, and further hazards may arise from unexpected sources and/or in unexpected locations during redevelopment works. The nature of any residual hazards which may be present at the site are generally detectable through visual or olfactory means, for example:

- >10 m^2 of ACM encountered in one location (visible).
- Friable ACM such as lagging (visible).
- Ash and/or slag contaminated soils / fill materials (visible).
- Bottles / containers of chemicals (visible).
- Petroleum contaminated soils (staining / discoloration visible) beyond the identified impact, or at levels that prevent offsite disposal without treatment.
- volatile organic compound contaminated soils (odorous).

As a precautionary measure to ensure the protection of the workforce and surrounding community, should any of the abovementioned substances be identified (or any other unexpected potentially hazardous substance), the procedure summarised in **Flowchart 9.1** is to be followed.

An enlarged version of the unexpected finds protocol, suitable for use on-site, should be posted in the Site Office and referred to during the Site Specific Induction by the Principal Contractor.

Flowchart 9.1 – Unexpected Finds Protocol



10. Asbestos Management Records

Asbestos records should be stored and updated as required. The record system should contain but is not limited to:

- Records of training and inductions.
- Records of worker and others involvement in site works.
- Records of inspection and test plans.
- Records of corrective actions.
- Records of notifications/certifications/approvals by statutory authorities.
- Records of inspections, maintenance and test results.
- Records of audits.
- Records of complaints.

11. 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.

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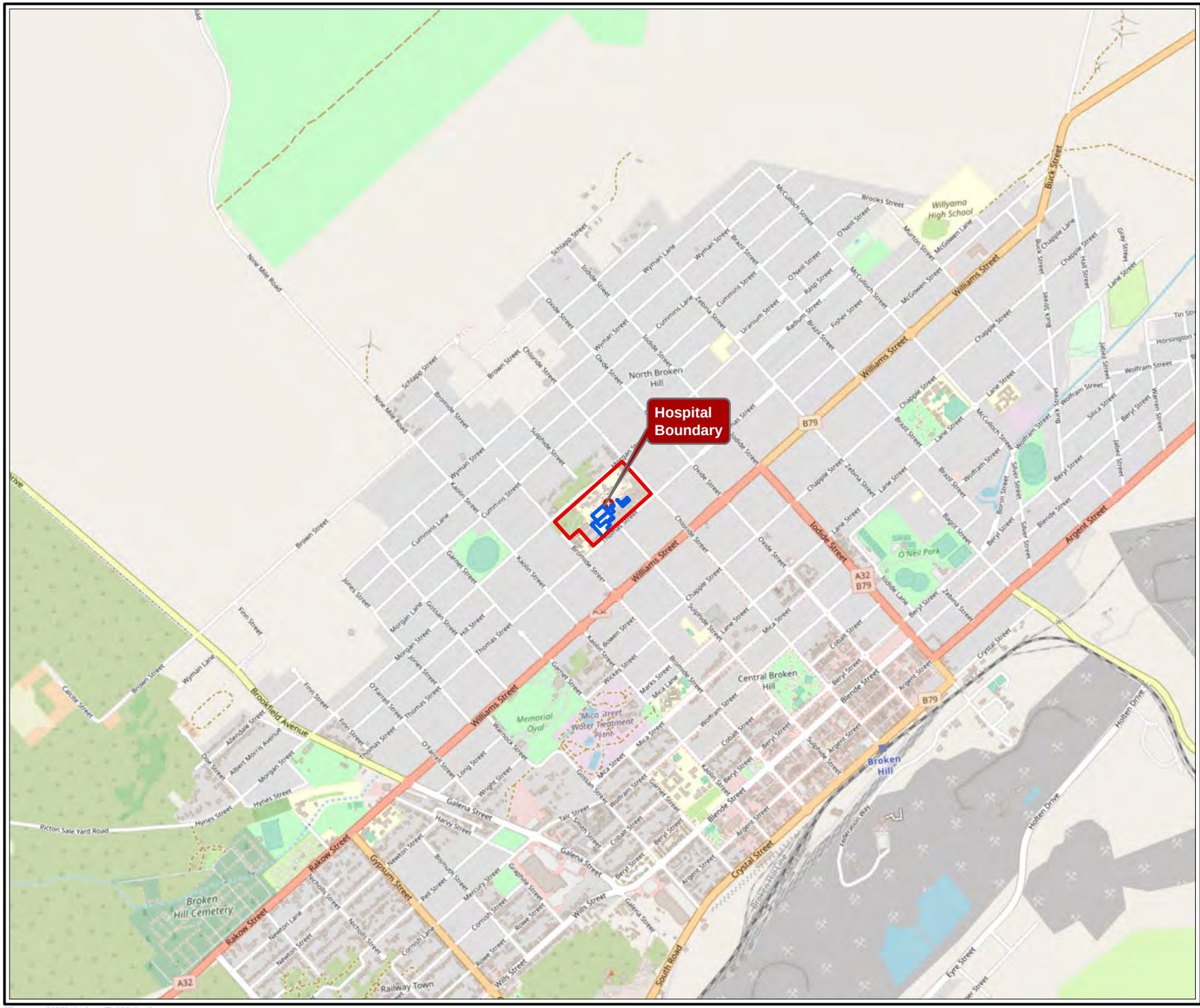
Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the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

Appendix A Figures



Legend:
- Broken Hill Hospital Boundary
- Broken Hill Hospital Redevelopment (the site)

JBS&G

Job No: 63879

Client: Health Infrastructure

Version: R05 Rev 0	Date 6/10/2023
Drawn By: LJ	Checked By: MH

Scale 1:25,000

N

0 250 500
metres

Coord. Sys. GDA 1994 MGA Zone 56

170-320 Thomas Street
Broken Hill, NSW

SITE LOCATION

FIGURE 1

File Name: 63879_BrokenHill_R05_Rev0

Legend:

- Broken Hill LHD
- NSW Cadastre
- Kincumber House
- ED Refurbishment and Expansion
- MHU Expansion Opportunities
- New Areas Added Post Assessment, Data Gaps, Require Further Assessment

JBS&G

Job No: 63879

Client: Health Infrastructure

Version: R05 Rev 0	Date 6/10/2023
Drawn By: LJ	Checked By: MH

Scale 1:1,500

0 10 20
metres

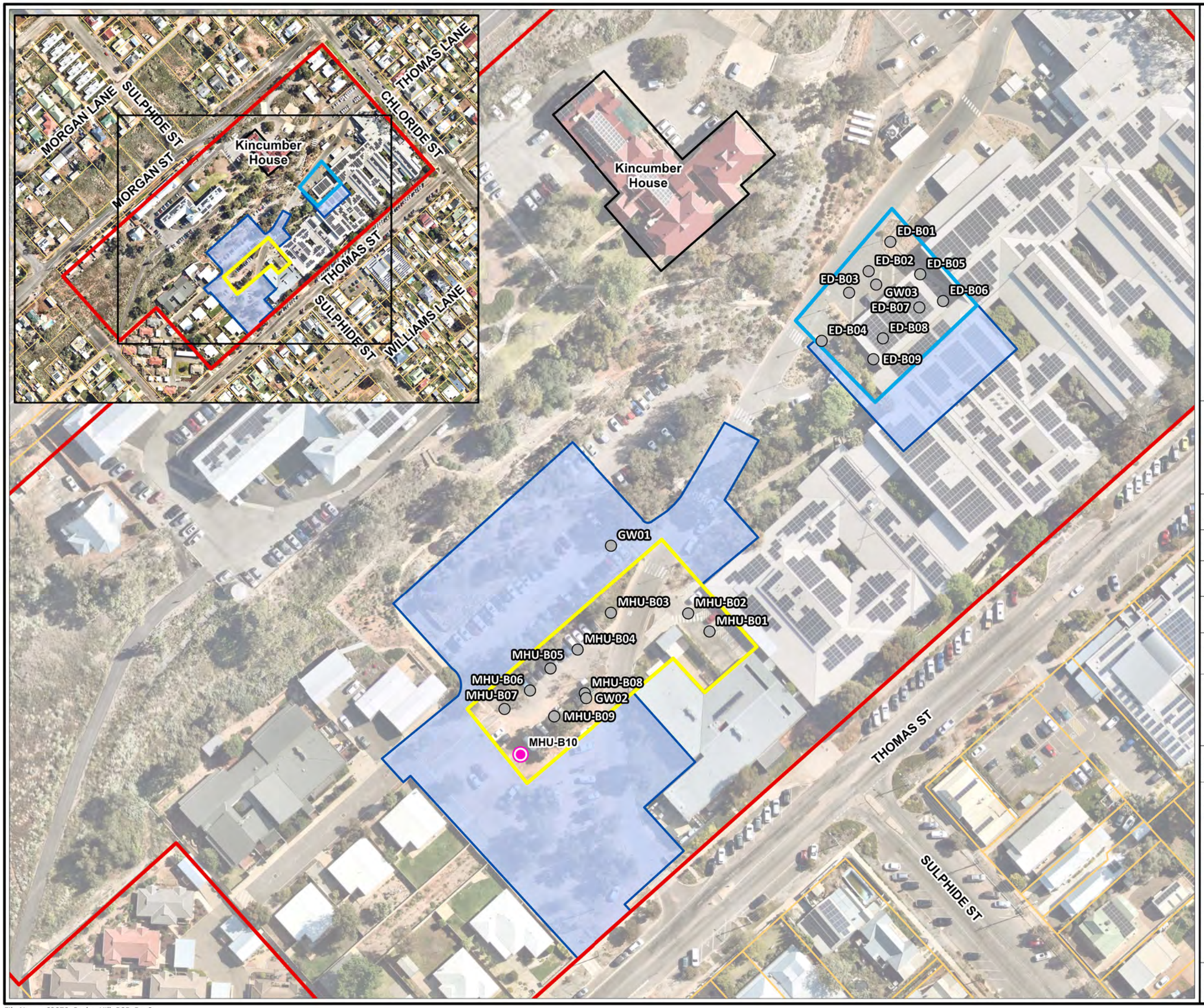
Coord. Sys. GDA 1994 MGA Zone 56

170-320 Thomas Street
Broken Hill, NSW

SITE LAYOUT

FIGURE 2

File Name: 63879_BrokenHill_R05_Rev0
Reference: Nearmap www.nearmap.com 20221017



Legend:

- Broken Hill LHD
- NSW Cadastre
- Kincumber House
- ED Refurbishment and Expansion
- MHU Expansion Opportunities
- New Areas Added Post Assessment, Data Gaps, Require Further Assessment

Sample Locations

- Asbestos present within fill
- Asbestos not detected

JBS&G

Job No: 63879

Client: Health Infrastructure

Version: R05 Rev 0	Date 6/10/2023
Drawn By: LJ	Checked By: MH

Scale 1:1,500

0 10 20

metres

Coord. Sys. GDA 1994 MGA Zone 56

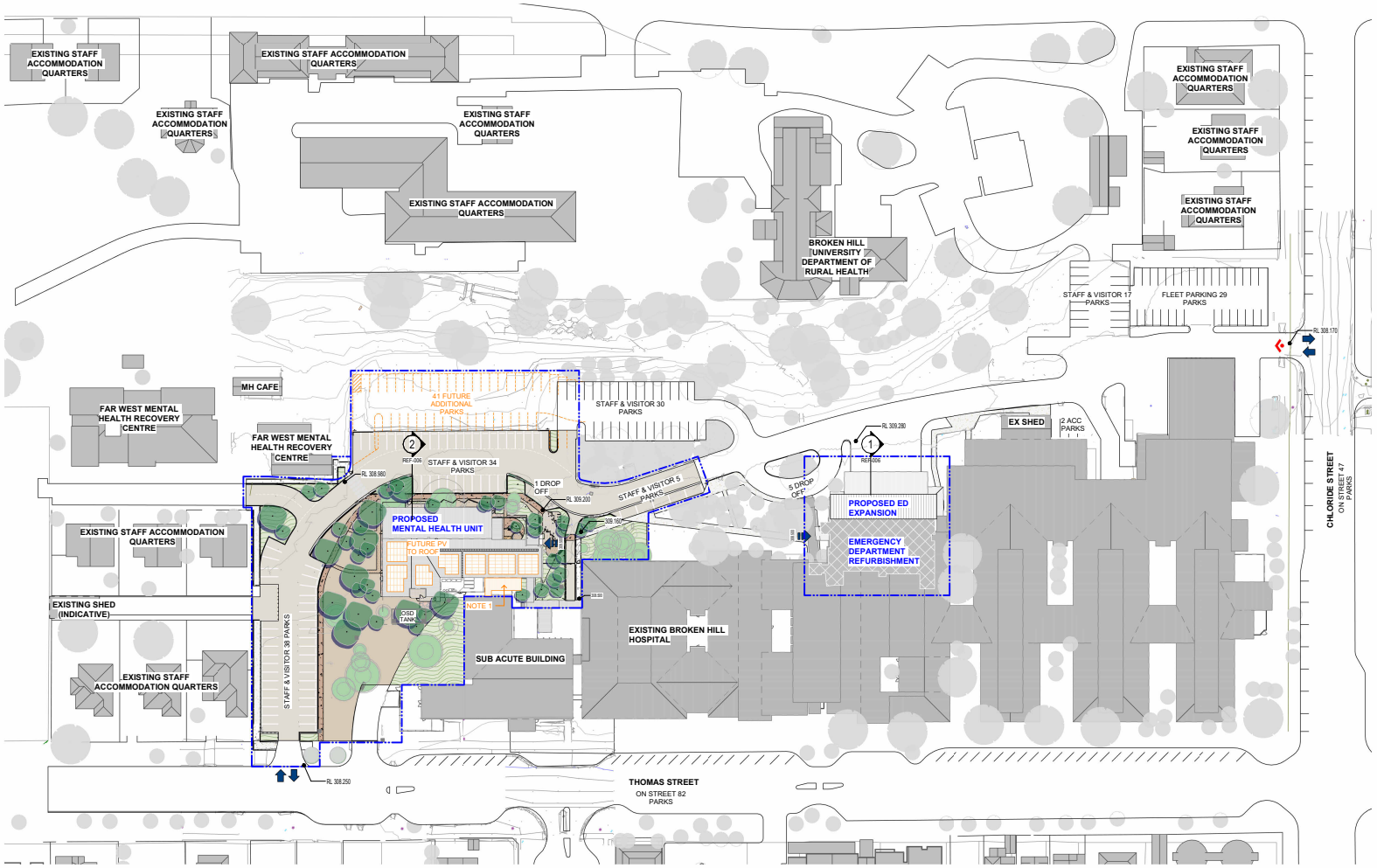
170-320 Thomas Street
Broken Hill, NSW

EXTENT OF KNOWN ASBESTOS IMPACTS

FIGURE 3

File Name: 63879_BrokenHill_R05_Rev0
Reference: Nearmap www.nearmap.com 20221017

Appendix B Proposed Development Plans



KEY PLAN

REV	DESCRIPTION	DRN	DATE
1	RFI 7 SUBMISSION	MT	19/08/23

LEGEND

- EXTENT OF WORKS
- EXISTING TO REMAIN
- PROPOSED/MODIFIED LANDSCAPING REFER TO LANDSCAPE & CIVIL DOCUMENTS FOR DETAILS
- PEDESTRIAN ENTRANCE
- VEHICLE SITE ACCESS
- AMBULANCE ENTRANCE
- NOTE 1 FUTURE ENCLOSED LINK TO EXISTING SUB ACUTE BUILDING

TOTAL ON-SITE LONG TERM PARKING (LOWER CAMPUS):

EXISTING CAR SPACES:	155
PROPOSED TOTAL CAR SPACES:	155
TOTAL FUTURE CAR SPACE (STAGE 2):	196

LANDSCAPING:

PROPOSED TREES (STAGE 1):	48
FUTURE PROPOSED TREES (STAGE 2):	36
RATIO OF TOTAL PROPOSED TO REMOVED TREES IS APPROXIMATELY:	1.16 : 1

DIMENSIONS

USE FIGURED DIMENSIONS, DO NOT SCALE. CONTRACTORS MUST VERIFY ALL DIMENSIONS ON THE SITE BEFORE COMMENCING ANY WORK OR MAKING ANY SHOP DRAWING WHICH MUST BE SUBMITTED AND REVIEWED BEFORE MANUFACTURE

FIXTURES, FITTINGS & EQUIPMENT SPECIFICATIONS

SUBSTITUTE FF&E EQUIPMENT SPECIFICATIONS
THE FIT-OUT DESIGN AND DOCUMENTATION HAS BEEN COMPLETED ON THE BASIS OF THE FF&E EQUIPMENT SPECIFICATIONS SET OUT IN THE TABLES BINDING THE DESIGN THE DESIGN PROVISIONS FOR FF&E AND EQUIPMENT INCORPORATES SPATIAL ALLOCATIONS, SERVICING, LOADING AND ACCESS CLEARANCES AND WHERE APPROPRIATE SERVICES REQUIREMENTS, HAVING DUE REGARD FOR SURROUNDING FIXTURES AND FITTINGS. IT SHOULD BE NOTED THAT SUBSTITUTE FF&E OR EQUIPMENT WITH ALTERNATE SPECIFICATIONS SHOULD NOT BE PROCURED PRIOR TO VALIDATING THE SUBSTITUTE ITEMS AGAINST THE ORIGINAL DESIGN PROVISIONS AND SERVICES PROVISIONS IN THE MODEL. THIS OFFICE ACCEPTS NO RESPONSIBILITY FOR THE PROCUREMENT OF SUBSTITUTE FF&E AND EQUIPMENT WHICH HAS NOT BEEN REVIEWED AND VALIDATED AGAINST THE ORIGINAL DESIGN PROVISIONS.

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ISSUED FOR INFORMATION

ARCHITECTS

STH

ABN: 31 154 470 065
PELACO COMPLEX, BUILDING 3, LEVEL 2
21-31 GODDARD ST, RICHMOND VIC 3121, AUSTRALIA
PH: (03) 9885 3333

CLIENT

NSW GOVERNMENT Health Infrastructure

PROJECT

BROKEN HILL ACUTE ADULT MENTAL HEALTH UNIT AND EMERGENCY DPT

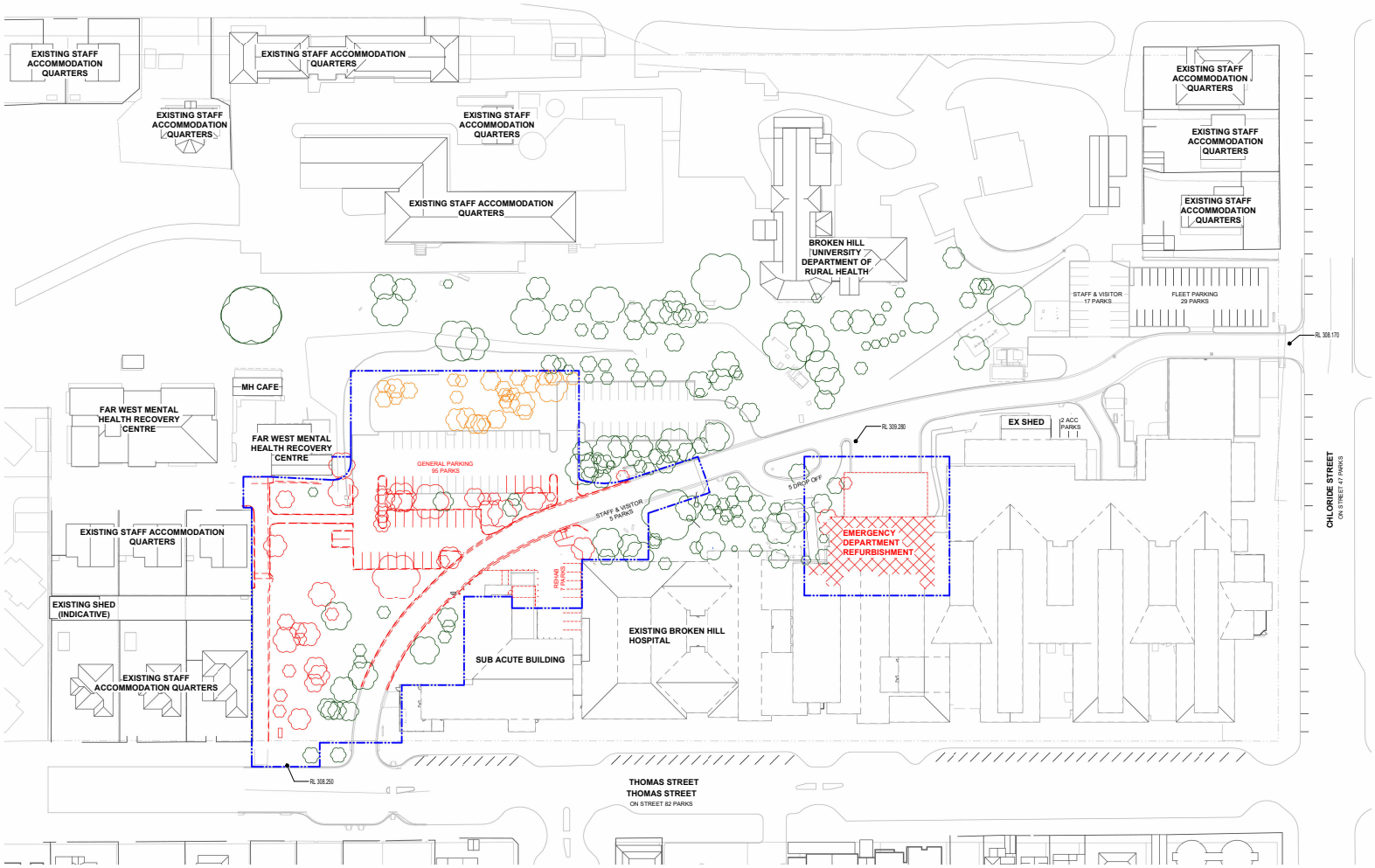
176 Thomas Street
Broken Hill NSW 2880

DRAWING TITLE

SITE PLAN

SCALE	DRAWN BY	CHECKED
1 : 500@A0	MT	EH

PROJECT No.	DRAWING No.	REVISION
10600	STH-AR-DWG-REF-004	1



KEY PLAN

REV	DESCRIPTION	DRN	DATE
1	RFI 2 SUBMISSION	MT	19/09/23

LEGEND

- DEMOLITION WORKS
- EXISTING TO REMAIN
- TREES TO BE RETAINED
- STAGE 1 TREES TO BE REMOVED
- STAGE 2 TREES TO BE REMOVED

TOTAL ON-SITE LONG TERM PARKING (LOWER CAMPUS):

EXISTING CAR SPACE:	155 SPACES
EXISTING CAR SPACE TO BE DEMOLISHED:	38 SPACES

LANDSCAPING:

EXISTING TREES TO BE REMOVED (STAGE 1):	38 TREES
EXISTING TREES TO BE REMOVED (STAGE 2):	31 TREES
TOTAL EXISTING TREES TO BE RETAINED:	144 TREES

DIMENSIONS

USE FIGURED DIMENSIONS, DO NOT SCALE. CONTRACTORS MUST VERIFY ALL DIMENSIONS ON THE SITE BEFORE COMMENCING ANY WORK OR MAKING ANY SHOP DRAWING WHICH MUST BE SUBMITTED AND REVIEWED BEFORE MANUFACTURE.

FIXTURES, FITTINGS & EQUIPMENT SPECIFICATIONS

SUBSTITUTE FF&E EQUIPMENT SPECIFICATIONS
THE FIT-OUT DESIGN AND DOCUMENTATION HAS BEEN COMPLETED ON THE BASIS OF SPECIFIC FF&E EQUIPMENT SELECTIONS AT THE TIME OF BRIEFING THE DESIGN THE DESIGN PROVISIONS FOR FF&E WAS DEVELOPMENT INCORPORATED SPATIAL ALLOCATIONS, SERVICING, LOADING AND ACCESS CLEARANCES AND WHERE APPROPRIATE SERVICES REQUIREMENTS, HAVING DUE REGARD FOR SURROUNDING FIXTURES AND FITTINGS. IT SHOULD BE NOTED THAT SUBSTITUTE FF&E OR EQUIPMENT WITH ALTERNATE SPECIFICATIONS SHOULD NOT BE PROCURED PRIOR TO VALIDATING THE SUITABILITY OF THE ITEM AGAINST THE ORIGINAL DESIGN AND SERVICES PROVISIONS IN THE MODEL. THIS OFFICE ACCEPTS NO RESPONSIBILITY FOR THE PROCUREMENT OF SUBSTITUTE FF&E AND EQUIPMENT WHICH HAS NOT BEEN REVIEWED AND VALIDATED AGAINST THE ORIGINAL DESIGN PROVISIONS.

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ISSUED FOR INFORMATION

ARCHITECTS

STH

ABN: 31 154 470 065
PELACO COMPLEX, BUILDING 3, LEVEL 2
21-31 GOODWOOD ST, RICHMOND VIC 3121, AUSTRALIA
PH: (03) 9885 3333

CLIENT

NSW GOVERNMENT Health Infrastructure

PROJECT

BROKEN HILL ACUTE ADULT MENTAL HEALTH UNIT AND EMERGENCY DPT

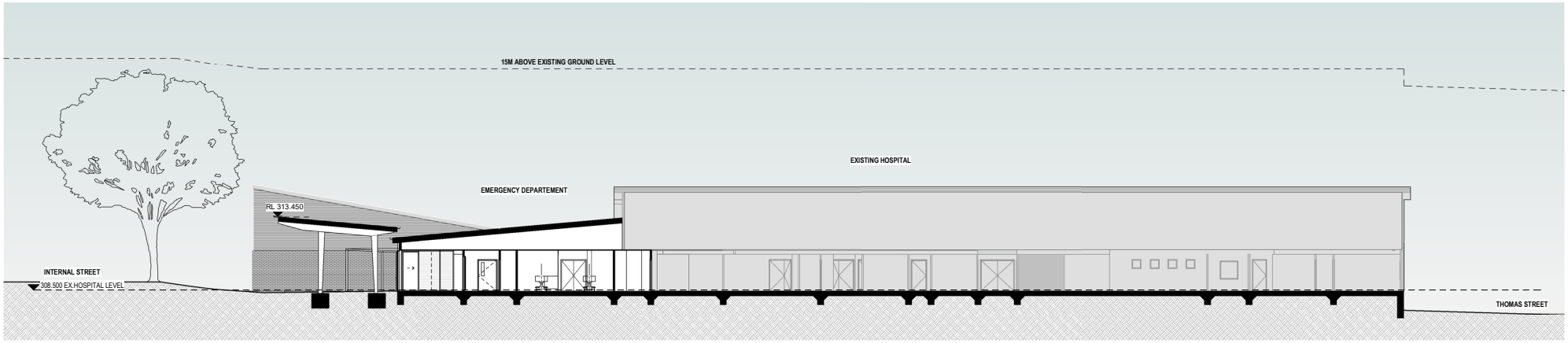
176 Thomas Street
Broken Hill NSW 2880

DRAWING TITLE

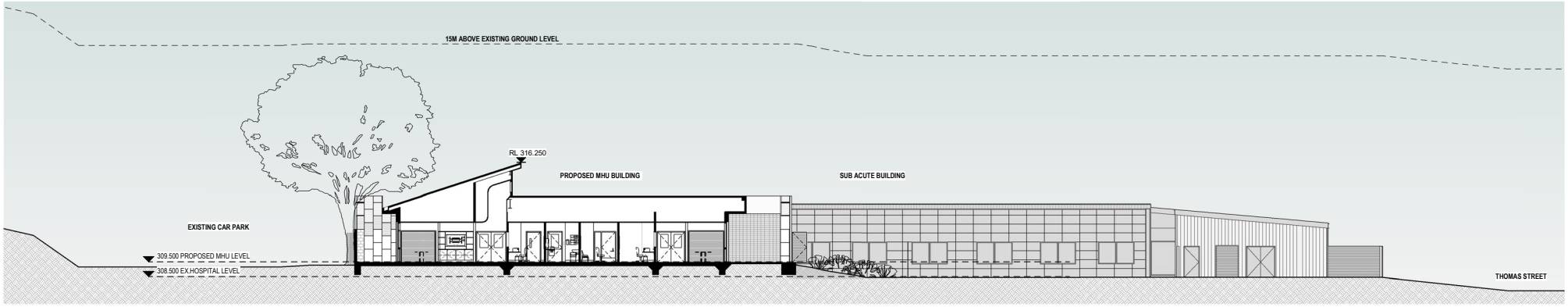
DEMOLITION SITE PLAN

SCALE	DRAWN BY	CHECKED
1 : 500@A0	MT	EH

PROJECT No.	DRAWING No.	REVISION
10600	STH-AR-DWG-REF-005	1



1 SITE SECTION - ED - NORTH/SOUTH
SCALE: 1 : 100



2 SITE SECTION - MHU - NORTH/SOUTH
SCALE: 1 : 100

KEY PLAN

REV	DESCRIPTION	BRN	DATE
1	RMF SUBMISSION	MT	08/06/23

DIMENSIONS
USE FIGURED DIMENSIONS, DO NOT SCALE. CONTRACTORS MUST VERIFY ALL DIMENSIONS ON THE SITE BEFORE COMMENCING ANY WORK OR MAKING ANY SHOP DRAWING WHICH MUST BE SUBMITTED AND REVIEWED BEFORE MANUFACTURE.

FIXTURES, FITTINGS & EQUIPMENT SPECIFICATIONS
SUBSTITUTE FF&E EQUIPMENT SPECIFICATIONS
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ISSUED FOR INFORMATION

ARCHITECTS

STH
ABN: 31 134 476 582
RELACO COMPLEX, BUILDING 3, LEVEL 2
21-31 GOODWOOD ST, RICHMOND VIC 3121, AUSTRALIA
PH: (03) 9885 3333

CLIENT

NSW GOVERNMENT Health Infrastructure

PROJECT

BROKEN HILL ACUTE ADULT MENTAL HEALTH UNIT AND EMERGENCY DPT

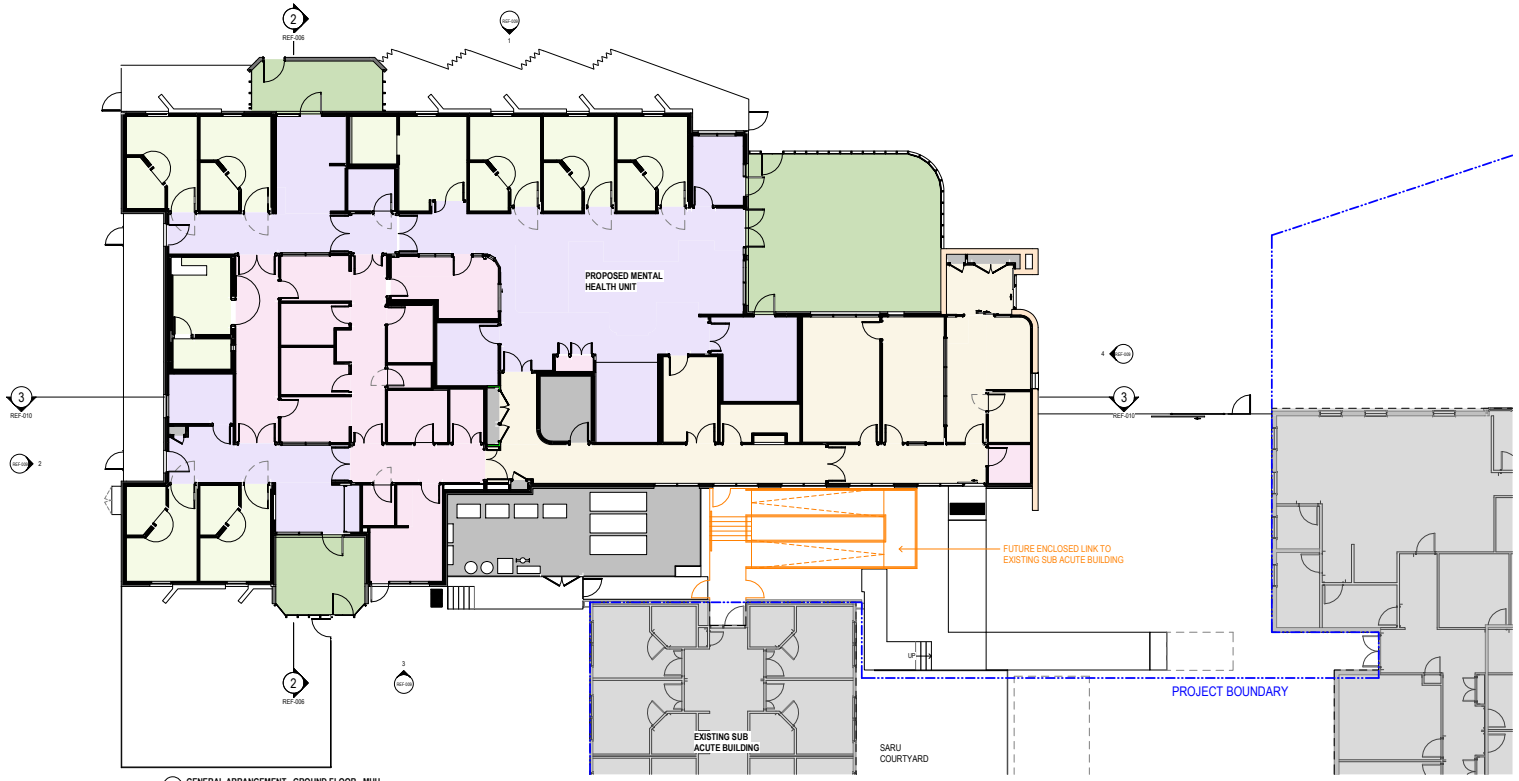
176 Thomas Street
Broken Hill NSW 2880

DRAWING TITLE

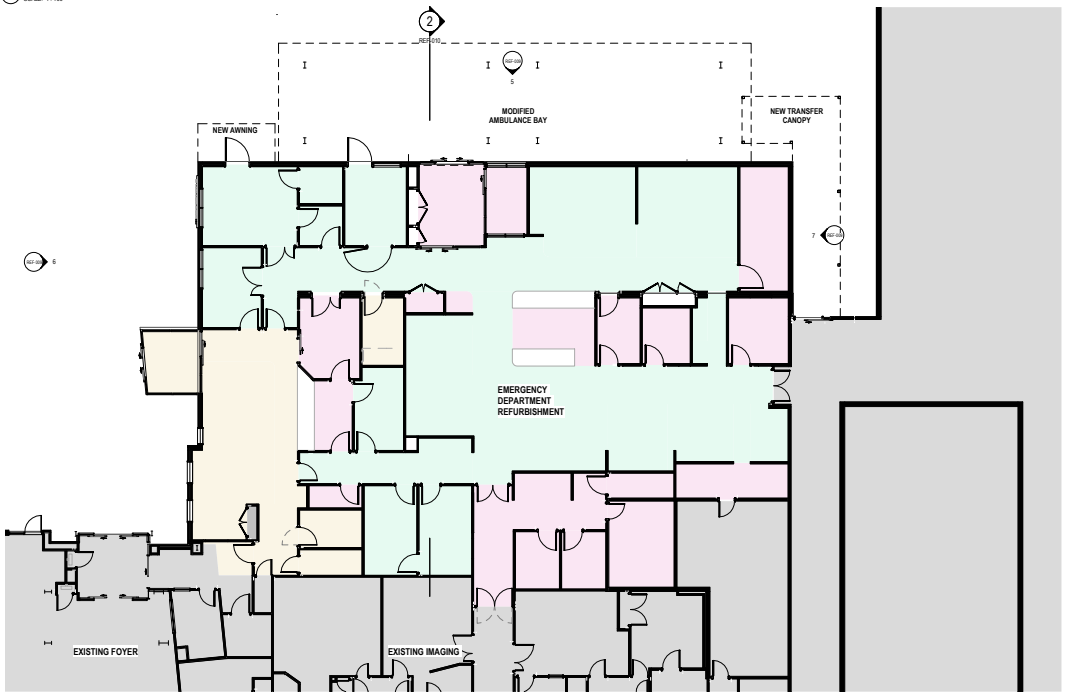
SITE SECTIONS

SCALE	DRAWN BY	CHECKED
1 : 100@A0	MT	EH

PROJECT No	DRAWING No	REVISION
10600	STH-AR-DWG-REF-006	1



1 GENERAL ARRANGEMENT - GROUND FLOOR - MHU
SCALE: 1 : 100



2 GENERAL ARRANGEMENT - GROUND FLOOR - EMERGENCY DEPARTMENT
SCALE: 1 : 100

KEY PLAN

REV	DESCRIPTION	BRN	DATE
1	RMF SUBMISSION	RT	08/06/23

LEGEND

- ENTRY / WAITING / RECEPTION
- INPATIENT UNIT
- STAFF / CLINICAL SUPPORT
- ACTIVITY & RECREATION
- COURTYARDS
- TREATMENT

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ISSUED FOR INFORMATION

ARCHITECTS
STH
ABN: 21 134 476 582
RELACO COMPLEX, BUILDING 3, LEVEL 2
21-31 GOODWOOD ST, RICHMOND VIC 3121, AUSTRALIA
PH: (03) 9885 3333

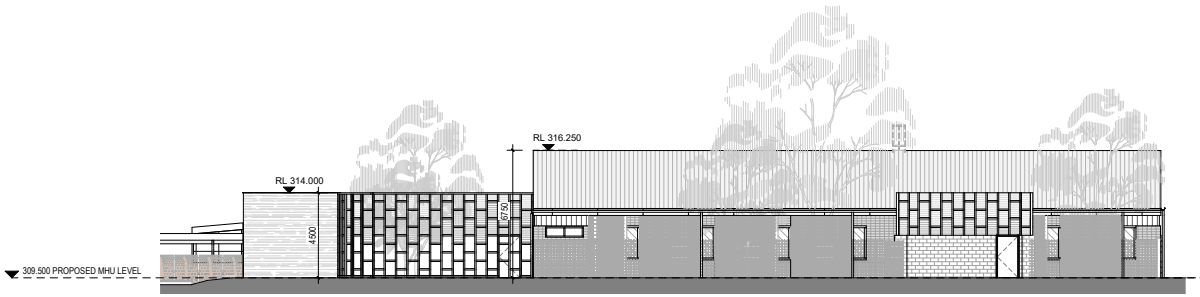
CLIENT
NSW GOVERNMENT Health Infrastructure

PROJECT
BROKEN HILL ACUTE ADULT MENTAL HEALTH UNIT AND EMERGENCY DPT
176 Thomas Street
Broken Hill NSW 2880

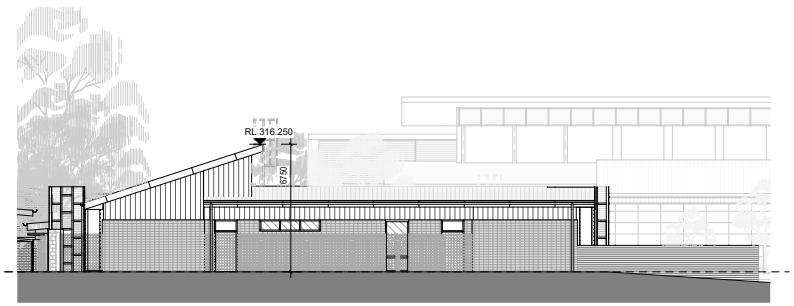
DRAWING TITLE
GENERAL ARRANGEMENT PLAN - GROUND

SCALE	DRAWN BY	CHECKED
As indicated@A0	CJ	EH

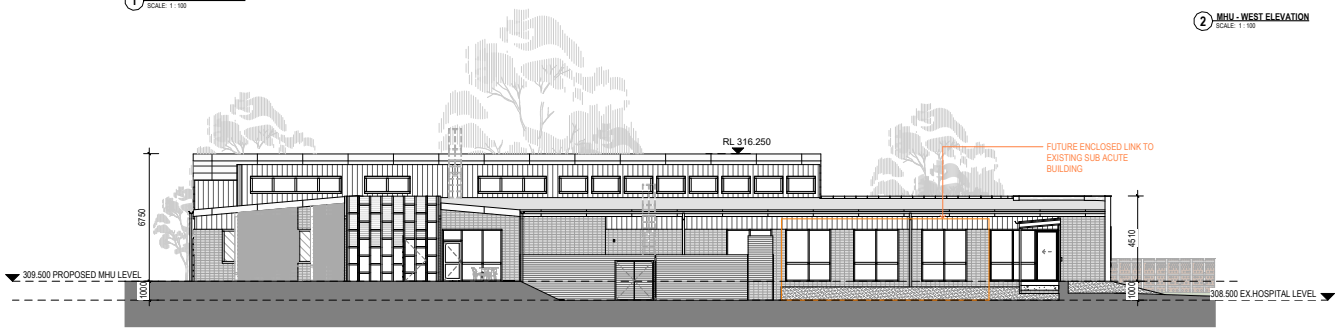
PROJECT No	DRAWING No	REVISION
10600	STH-AR-DWG-REF-007	1



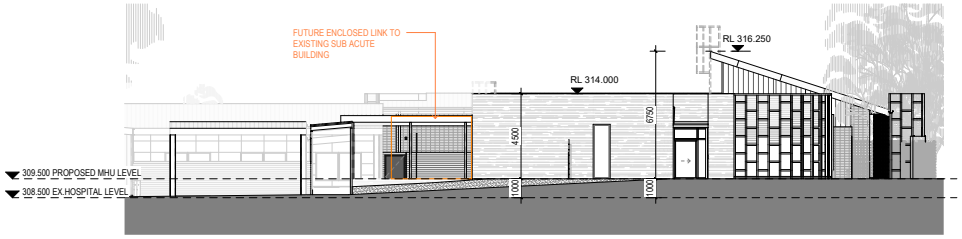
1 **MHU - NORTH ELEVATION**
SCALE: 1 : 100



2 **MHU - WEST ELEVATION**
SCALE: 1 : 100



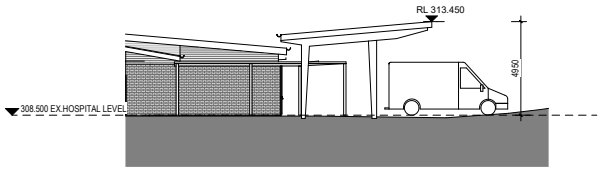
3 **MHU - SOUTH ELEVATION**
SCALE: 1 : 100



4 **MHU - EAST ELEVATION**
SCALE: 1 : 100

5 **ED - NORTH ELEVATION**
SCALE: 1 : 100

6 **ED - WEST ELEVATION**
SCALE: 1 : 100



7 **ED - EAST ELEVATION**
SCALE: 1 : 100

KEY PLAN

REV	DESCRIPTION	BRN	DATE
1	RFI 7 SUBMISSION	MT	30/08/23

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ARCHITECTS

STH

ABN: 31 134 476 065
PELACO COMPLEX, BUILDING 3, LEVEL 2
21-31 GOODWOOD ST, RICHMOND VIC 3121, AUSTRALIA
PH: (03) 9885 3333

CLIENT

NSW GOVERNMENT Health Infrastructure

PROJECT

BROKEN HILL ACUTE ADULT MENTAL HEALTH UNIT AND EMERGENCY DPT

176 Thomas Street
Broken Hill NSW 2880

DRAWING TITLE

BUILDING ELEVATIONS

SCALE	DRAWN BY	CHECKED
1 : 100@A0	CJ	EH

PROJECT No.	DRAWING No.	REVISION
10600	STH-AR-DWG-REF-009	1

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Document Status

Rev No.	Author	Reviewer	Approved for Issue		
		Name	Name	Signature	Date
A	Gina Pinget	Michael Samuel	Michael Samuel	Draft for client review	5/05/2023
0	Mitchell Hodgins	Michael Samuel	Michael Samuel		06/10/2023
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