ARUP

John Holland Group

Sydney Children's Hospital Stage 1 and Minderoo Children's Comprehensive Cancer Centre

Construction Traffic and Pedestrian Management Plan

Reference: REP001

Final RevH | 20 January 2025

Job number 257913

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Document Verification

Project title	Sydney Children's Hospital Stage 1 and Minderoo Children's Comprehensive Cancer Centre
Document title	Construction Traffic and Pedestrian Management Plan
Job number	257913
Document ref	REP001

Revision	Date				
		Filename	ConstructionTrafficPedestrianManagementPlan-REP001_VD1.0_20220615_Draft		
Draft 1.0	15 June 2022	**Description**	First draft for comment		
			Prepared by	**Checked by**	**Approved by**
		Name	James Edwards	James Turner	James Turner
Draft 1.1	17 June 2022	**Filename**	ConstructionTrafficPedestrianManagementPlan-REP001_VD1.1_20220617_Draft		
		Description	Changes following client review		
			Prepared by	**Checked by**	**Approved by**
		Name	James Edwards	James Turner	James Turner
Final 1.0	20 June 2022	**Filename**	ConstructionTrafficPedestrianManagementPlan-REP001_VF1.0_20220620_Final		
		Description			
			Prepared by	**Checked by**	**Approved by**
		Name	James Edwards	James Turner	James Turner
Final 2.0	08 July 2022	**Filename**	ConstructionTrafficPedestrianManagementPlan-REP001_VF2.0_20220708_Final		
		Description	Revisions following final client review		
			Prepared by	**Checked by**	**Approved by**
		Name	James Edwards	James Turner	James Turner
C	26 July 2022	**Filename**	ConstructionTrafficPedestrianManagementPlan-REP001_VF3.0_20220726_Final		
		Description	Revisions following PwC and HI reviews		
			Prepared by	**Checked by**	**Approved by**
		Name	James Edwards	James Edwards	James Edwards
D	02 August 2022	**Filename**	ConstructionTrafficPedestrianManagementPlan-REP001_VF3.1_20220802_Final		
		Description	Final revisions – for issue		
			Prepared by	**Checked by**	**Approved by**
		Name	James Edwards	James Turner	James Turner
E	03 July 2023	**Filename**	ConstructionTrafficPedestrianManagementPlan-REP001_VF4.0_20220703		
		Description	Updated with vehicle rejection loop and work zone following discussions with Council		
			Prepared by	**Checked by**	**Approved by**
		Name	James Edwards		James Edwards

F	13 June 2024	**Filename**	ConstructionTrafficPedestrianManagementPlan-REP001_VF5.0_20240613		
		Description	Added access to B2 Loading dock level from Hospital Road.		
			Prepared by	**Checked by**	**Approved by**
		Name	James Edwards	James Turner	James Turner
		Signature			
G	6 November 2024	**Filename**	ConstructionTrafficPedestrianManagementPlan-REP001_VG6.0_20241021		
		Description	Added Hospital Road Access Amendment.		
			Prepared by	**Checked by**	**Approved by**
		Name	James Turner	James Turner	James Turner
		Signature			
H	20 January 2025	**Filename**	ConstructionTrafficPedestrianManagementPlan-REP001_VG6.0_20241021		
		Description	Updated appendices and minor text changes.		
		Name	**Prepared by**	**Checked by**	**Approved by**
		Signature	James Turner	James Turner	James Turner

Issue Document Verification with Document	✓

Contents

Tables

Figures

Appendices

1. Introduction

1.1 Overview

The Randwick Campus Redevelopment (RCR) comprises the construction of a number of new hospital facilities within the Randwick Health Campus (RHC). The subject site at Sydney Children's Hospital Stage 1 and Minderoo Children's Comprehensive Cancer Centre (SCH1/MCCCC) forms one of these buildings within the RCR, being a highly complex project with critical early milestone components.

The new SCH1/MCCCC building is subject to the State Significant Development (SSD)-10831778 planning approval. It is adjacent to the newly built Acute Services Building (ASB) to the south and to the proposed Health Translation Hub (HTH) by the University of New South Wales (UNSW).

John Holland (JH) engaged Arup to prepare this Construction Traffic and Pedestrian Management Plan (CTPMP) for the SCH1/MCCCC. It has been prepared to operate in conjunction with the CTPMP for the ASB under SSD10339.

The objective of this plan is to ensure that the construction activities associated with the SCH1/MCCCC project are safely delivered using a **robust set of methodologies and zero unplanned disruption to hospital services**.

The JH construction management processes will provide:

- Seamless performance and accountability from a single responsible entity.
- Reduced risk of delivery by ensuring compliance, providing certainty to partners, and demonstrating operational capability.

It is envisaged that this CTPMP will evolve during the course of the project as the design develops in conjunction with the design consultant team, project stakeholders; HI, UNSW, South Eastern Sydney Local Health District (SESLHD, the LHD), Sydney Children's Hospital network (SCHN) and PricewaterhouseCoopers (PwC).

The CTPMP defines the impacts of the proposed construction activities on areas within the RCR site and Randwick Health Campus and the surrounding road network. This plan will outline the proposed mitigation strategies to be implemented during the relevant construction activities and outlines contingency measures that will be enacted to eradicate any potential risk to stakeholders. The following sections set out how it is intended to manage the construction activities associated with the project.

The proactive and collaborative approach is underpinned by the following overriding and non-negotiable objectives:

- Maintain business continuity of the hospital and adjoining facilities and properties
- To deliver a world class facility on time to the highest safety and quality standards
- Safe and timely delivery of construction works enabling construction of the SCH1/MCCCC
- Communicate in a timely fashion with all relevant stakeholders what, when and how we are planning to undertake interface works
- Maintain an effective local road network and minimising negative impacts to on-street parking conditions
- Present a positive public perception of the project during the construction works
- Use experienced and competent subcontractors with appropriate resources to deliver their works in the manner we prescribe
- Hands on control of subcontractors from experienced JH site supervision

John Holland intends that this CTPMP meet a number of key outcomes in addition to consent requirements for the plan:

Figure 1 Key outcomes

1.2 Consent Conditions

The Department of Planning has issued the approved Development Consent conditions for the SSD-10831778. The relevant construction conditions which have been addressed in this CTPMP include:

Table 1 Consent condition reference table

Code	Development Consent Condition		Report sections
B17	Construction Traffic and Pedestrian Management Plan	A Construction Traffic and Pedestrian Management Plan (CTPMP) must be prepared and submitted to TfNSW for endorsement (via development.sco@transport.nsw.gov.au) to achieve the objective of ensuring safety and efficiency of the road network and address, but not be limited to, the following:	This document
	a)	be prepared by a suitably qualified and experienced person(s);	Arup personnel are suitably qualified Traffic Engineers and Transport Planners with experience in preparing Traffic Management Plans for similar projects
	b)	be prepared in consultation with Council, TfNSW and the Sydney Light Rail Operator;	The CTPMP has been prepared after initial consultation with TfNSW, for issue to the relevant authorities

Code	Development Consent Condition		Report sections
	c)	detail the measures that are to be implemented to ensure road safety and network efficiency during construction in consideration of potential impacts on general traffic, cyclists, pedestrians, light rail and bus services;	3.3, 3.5, 2.2, 5.7, 5.8
	d)	detail heavy vehicle routes, access and parking arrangements;	0, 5.3, 5.4
	e)	location of any proposed work zones;	0, 5.3
	f)	details of crane arrangements including location of any cranes;	0, Appendix A.4
	g)	predicted construction vehicle movements, noting movements are to be minimised during peak periods;	5.1
	h)	details of specific measures to ensure the arrival of construction vehicles to the site does not cause additional queuing on High Street or Botany Street;	3.5, 2.2, 5.1, 0, 5.4
	i)	details of the monitoring regime for maintaining simultaneous operation of buses, light rail and construction vehicles on roads surrounding the site;	5.7
	j)	pedestrian and traffic management measures;	3.3, 3.5, 2.2, 5.7, 5.8
	k)	construction program and construction methodology;	0
	l)	a detailed plan of any proposed hoarding and / or scaffolding;	Appendix belowA.3
	m)	measures to avoid construction worker vehicle movements within the precinct;	2.5
	n)	consultation strategy for liaison with surrounding stakeholders, including other developments under construction;	2.1, 3.4, 3.5, 2.2, 5.1, Appendix A.3
	o)	any potential impacts on general traffic, cyclists, pedestrians and light rail and bus services within the vicinity of the site from construction vehicles;	3.3, 2.2, 0, 5.7, 5.8
	p)	cumulative construction impacts of projects within the precinct. Existing CTPMPs for development within or around the site should be referenced in the CTPMP to ensure that coordination of work activities are managed to minimise impacts on the surrounding road network; and	3.4, 3.5
	q)	proposed mitigation measures for any identified impacts for the duration of the impacts and measures proposed to mitigate any associated traffic, public transport, pedestrian, and cyclist impacts should be clearly identified and included in the CTPMP.	3.3, 3.5, 2.2, 0, 5.3, 5.7, 5.8

Code	Development Consent Condition		Report sections
B23	Construction Environmental Management Plan	A Driver Code of Conduct must be prepared and communicated by the Applicant to heavy vehicle drivers and must address the following:	
	a)	minimise the impacts of earthworks and construction on the local and regional road network;	Appendix A.1
	b)	minimise conflicts with other road users;	Appendix A.1
	c)	minimise road traffic noise; and	Appendix A.1
	d)	ensure truck drivers use specified routes.	Appendix A.1
B26	Construction Parking	Prior to the commencement of construction, the Applicant must provide sufficient parking facilities on-site or within any approved works zones for construction vehicles and machinery, including for heavy vehicles, to ensure that construction traffic associated with the development does not utilise public and residential streets or public parking facilities.	2.2, 5.3, Appendix A.2, Appendix A.5
B34	Construction Access Arrangements	Prior to the commencement of construction, evidence of compliance of construction parking and access arrangements with the following requirements must be submitted to the Certifier:	
	a)	all vehicles must enter and leave the Site in a forward direction;	2.2, 0, Appendix A.6
	b)	the swept path of the longest construction vehicle entering and exiting the site in association with the new work, as well as manoeuvrability through the site, is in accordance with the latest version of AS 2890.2; and	Appendix A.6
	c)	the safety of vehicles, cyclists and pedestrians accessing adjoining properties, where shared vehicle, cyclist and pedestrian access occurs, has been addressed.	3.4, 3.5, 2.2, 0, 5.3, 5.8
C8	Construction Traffic	All construction vehicles (excluding site personnel vehicles) are to be contained wholly within the site, except if located in an approved on-street work zone, and vehicles must enter the site or an approved on-street work zone before stopping unless directed by traffic control.	2.2, 0, 5.3, Appendix A.2, Appendix A.5, Appendix A.6

2. Business Continuity

2.1 Continuity of Health Services across the Randwick Health Campus

Proposed methodology for working within an operational hospital environment and maintaining pedestrian traffic and vehicular traffic to entries.

The JH project team understands the challenging nature of the RCR and the constraints of managing major construction works adjacent and within an operational hospital environment and the non-negotiable requirement of no disruptions to hospital 'business continuity'.

Works areas

The first strategic approach from the site team in addressing live environment works is elimination. This means isolating work areas from operational hospital areas prior to any works being commenced and eliminating a works/hospital operations interface.

The construction activities under the Main Works Package will be enclosed by A-Class hoarding and will be secured to ensure no unauthorised access. The A-Class hoarding will be maintained for the construction of the site. A B-Class hoarding is proposed on High Street to accommodate site sheds and offices above the street level.

When elimination is not feasible, the second approach is to fully isolate the work area through secure hoardings prior to commencing any works and to provide controlled work access through the operational environment. This will be applicable to services connections to existing infrastructure that are required.

Along with significant works interfaces noted above there will also be planned investigative works, access to plant rooms, minor temporary works and installation of protective measures which will require process and controls to ensure full visibility of all subcontractors for these types of activities. JH will impose a strict regime of consultation on all works outside the site perimeters, regardless of the nature of the intended works.

A Hospital Campus Disruption Works Notice process will be followed. This includes all workers to complete the required hospital worker induction. The Disruptive Works Notice process has been detailed in the Community and Stakeholder Management Plan.

JH have identified a process that will ensure that the design and construction methodology mitigates the construction risks inherent in conducting site works within or adjacent to a live Health Campus. The planning for health service continuity and risk management process will underpin all stages of the SCH1/MCCCC project and will be used as the guiding principle for how construction will be undertaken around the campus.

A Road Safety Audit was prepared by Arup for this site in 2021 at the Concept Design stage. A Detailed Design Road Safety Audit is in process and will be submitted in accordance with the SSD conditions.

Identification of critical health service continuity elements was undertaken during the planning phase and has informed initial construction methodology planning. Examples include but not limited to the following:

Program and staging:

- Analysis of disruptive works staging in the most efficient manner to minimise disruption.

Site establishment:

- Efficient use of existing redundant facilities and space available for site establishment to minimise space taken by the construction site,
- Planning for construction access in controlled zones.

Construction interfaces:

- Strictly controlling where construction will interface with existing hospital operations, nearby residential dwellings or public,
- Ensuring sight lines from the construction site are managed so that patient and residential privacy in adjacent buildings are maintained,
- Developing a Disruptive Works Notice system to identify, document and communicate disruptions to stakeholders in a timely, interactive and transparent manner,
- Separation of the construction workers from staff, public and patients by providing discrete site accommodation and amenities within the construction boundaries,
- Using low impact construction methods to ensure noise and vibration doesn't impact the daily operations of the Hospital and nearby residential properties.

During the construction phase, JH will implement ongoing risk assessment, mitigation and controls identified in the planning phases. Continual monitoring of changing conditions will be taken into account when assessing and implementing our design and construction methodology. Strategies to support Randwick business continuity include but not limited to:

- Regular construction risk assessment using the Interface Strategy principles to identify areas of and manage potential interface risks that may affect the Randwick Hospitals Campus business continuity,
- Utilising the Disruptive Works Notification process to identify, manage, communicate and collaborate on works that affect the existing Hospital facility in a clear and transparent way,
- Undertake a holistic integrated system testing and commissioning process,
- Undertaking an efficient, transparent Completion and Validation processes in collaboration with stakeholders and principal representatives to ensure that the completed product is seamlessly transitioned into a live hospital environment.

2.2 General Principles

As a general principle, construction of the proposed works will be staged to minimise impacts to traffic and other modes of transport. The overall principles for traffic management during construction of the proposed works will include:

- Maintain access to properties located in the vicinity of the site at all times
- Maintain access to all health services within the RHC at all times to facilitate operational continuity throughout the construction process
- Maintain Ambulance access, entry and parking throughout the construction process
- Maintain access and egress for the existing SCH drop off area on High Street;
- Manage and control construction traffic movements on the adjacent road networks and vehicles movements to and from the construction site
- Maintaining existing RHC carpark operations
- Always ensure adherence of the Construction Worker's Driver's Code of Conduct through the construction period
- Limit the interaction of construction traffic with hospital traffic, especially heavy vehicle and light vehicle conflicts
- Trucks to enter and exit the site in a forward direction
- Maintain traffic capacity at intersections and mid-block in the vicinity of the site

- Restrict construction vehicle activity to designated truck routes in the area
- Construction access driveways and on-street work zones to be managed and controlled by site personnel
- Provide an appropriate environment for pedestrians at all times
- Maintain convenient access and circulation for public transport
- Pedestrian movements adjacent to construction activity, across construction access driveways and to/from public transport facilities, will be managed and controlled by an authorised and qualified traffic controller
- Pedestrian warning signs and construction safety signs/devices to be utilised in the vicinity of the site and to be provided in accordance with SafeWork and any applicable legislative requirements
- Throughout all activities, disabled pedestrian access will be adjusted/maintained as required for entry and exit to existing hospital buildings and surrounding footpaths;
- Construction activity is to be carried out in accordance with approved hours of work

Traffic management and control will be established at all site entrances across the project. Traffic control will ensure that materials and deliveries will not block off roadways and will streamline the truck movements in and out of the project site.

2.3 Hours of work

SSDA approved working hours are shown below, however the project will prioritise a 5-day working week. Specific activities may require work outside standard hours, including on Saturdays and evenings which will be in accordance with SSDA conditions and Health Infrastructure out of hours work protocol.

	SSDA approved working hours
Monday – Friday	7:00am to 6:00pm
Saturday	8:00am to 5:00pm
Sunday	No work

2.4 Proposed site plan

The site for the future SCH1/MCCCC is located immediately west of the existing Sydney Children's Hospital, with the Acute Services Building to the south and future HTH building to the west. In the early phases, the HTH will be available for vehicle movements and staging, with construction on this site to commence while construction of the SCH1/MCCCC is ongoing.

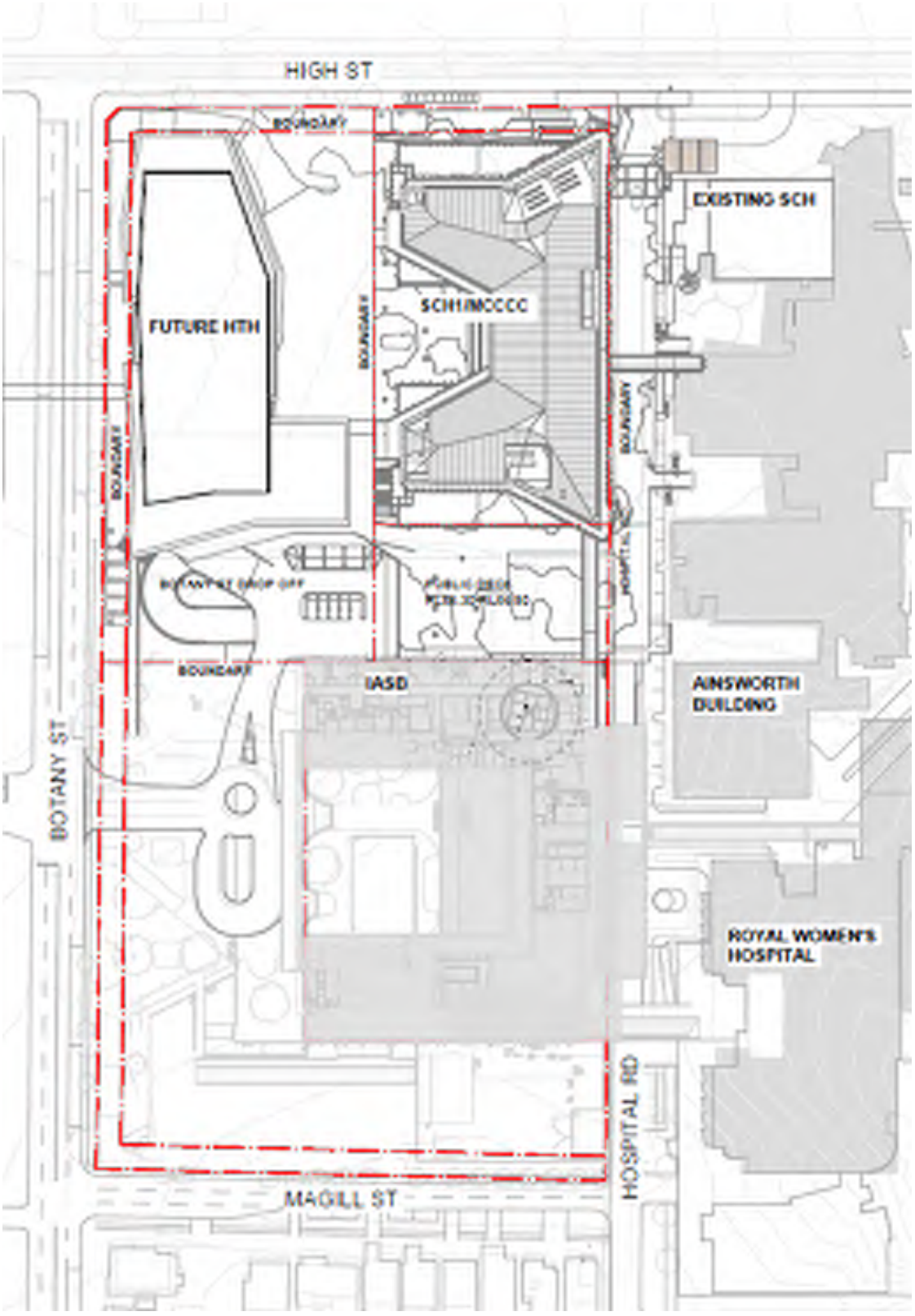


Figure 2 Basic site plan showing the SCH1/MCCCC building and surrounding sites, including the future HTH building (John Holland)

2.5 Construction workforce

At its peak, the project will engage a workforce of approximately 320 individuals with an average workforce of approximately 150. It is anticipated that the peak workforce will be reached in late 2023 to early 2024. Figure 3 shows estimated labour resources throughout the program and general construction activities on site. All workers will undergo mandatory inductions to understand their responsibilities when working on the project site and in close proximity to a live hospital environment. This is inclusive of parking restrictions, transportation options and available on-site storage facilities.

Due to the constrained site and surrounding construction, no on-site parking will be provided for workers. JH discourage the use of private vehicles to access the site (see section 5 for more information about alternative travel options). The project site is well serviced by public transport providing site workers with alternative travel options. Workers will be encouraged use public transport or active transport and employ other methods to reduce the number of private vehicles used to access the site. JH will actively promote public transport services and will provide information to all site workers. On site secure tool storage will be provided to facilitate alternative transport options. See Section 6 for detail of the Construction Worker Transport Strategy.

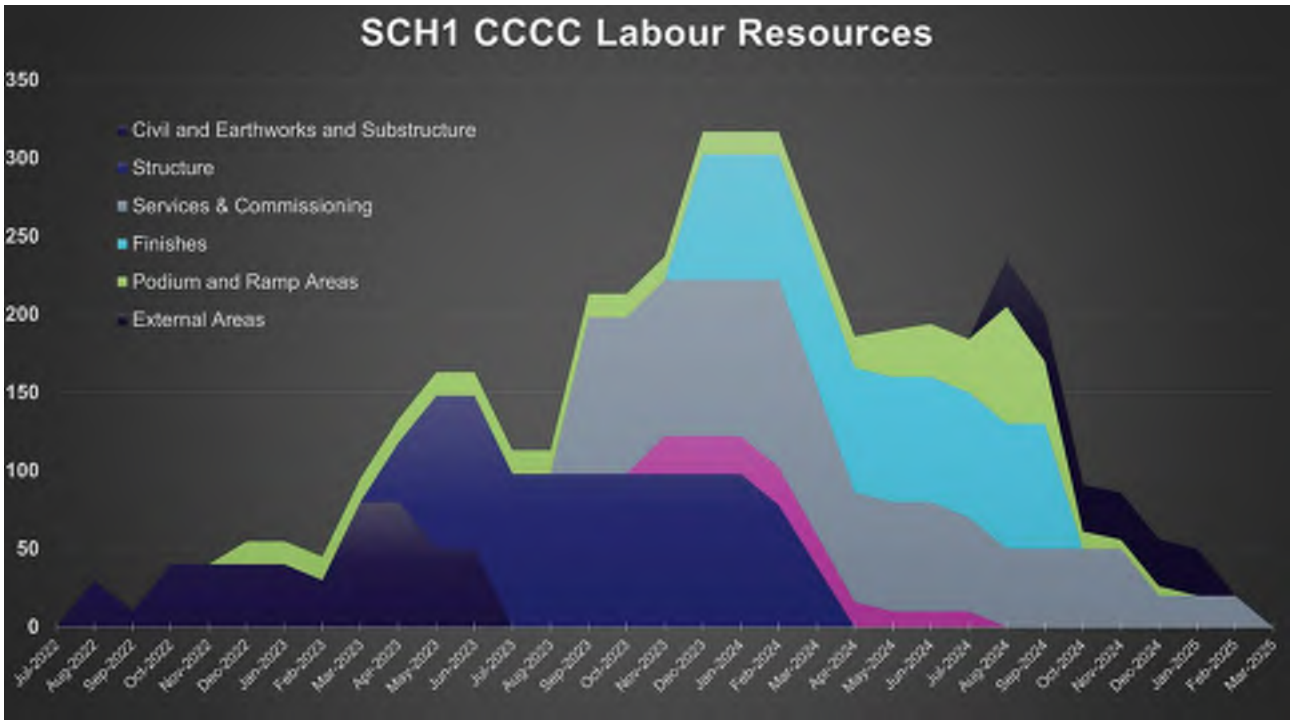


Figure 3 Labour histogram and indicative construction programme (John Holland)

3. Construction Programme and Activities

3.1 Key milestones

The key milestones for the project are outlined below, with a number of overlapping schedules.

Table 2 Key Milestones

Program Activities	Key dates
Civil and earthworks and substructure	Aug-22 to Jul-23
Structure	Mar-23 to Apr-24
Services and Commissioning	Aug-23 to Mar-25
Finishes	Nov-23 to Apr-25
Podium and Ramp Areas	Nov-22 to Feb-25
External Areas	Jul-24 to Q2 2025

3.2 Site Construction Phase overview

More details on Site Construction Phases can be found in the Hoarding Layout Plan and Materials Handling Plan in Appendix A.3 and A.5 respectively.

The JH project team fully appreciate the disruption and change the construction works will bring to hospital operations and understand the challenges stakeholders will have in communicating the phasing sequences and the program of the works to the staff and public.

The construction program and methodology covering the works phases are documented in a series of draft plans. These will provide the basis for a full set of phasing control plans, which will be developed in conjunction with detailed design development during the Planning Phase in consultation with stakeholders.

The phasing plans will be developed to include:

- All site establishment items;
- Changed or modified egress paths;
- Pedestrian and vehicle circulation route changes;
- Temporary signage requirements; and
- Upcoming changes to works areas including approximated program dates.

3.2.1 Site establishment

During the site establishment phase of the project the following activities will be undertaken. Current “A” Class plywood hoarding will be retained; this hoarding ensures there is no unauthorised access to the site.

The JH site office will initially be located at the northern end of the Future HTH site, close to High Street but with access only from Botany Street as shown on the Materials Handling Plan.

The site will have up to two gates installed on Botany Street at various phases of the development. These gates will be steel and chain link mesh with large identification and statutory Workplace Health and Safety signage installed on them.

Figure 4 below indicates how the phase 1 site will look with site accommodation, access and Materials Handling areas clearly identified. An Early works CTPMP has been independently prepared by Ford Civil for the Phase 1 site establishment, vehicle access and traffic control of the site, dated 17th May 2022 which further details these arrangements.

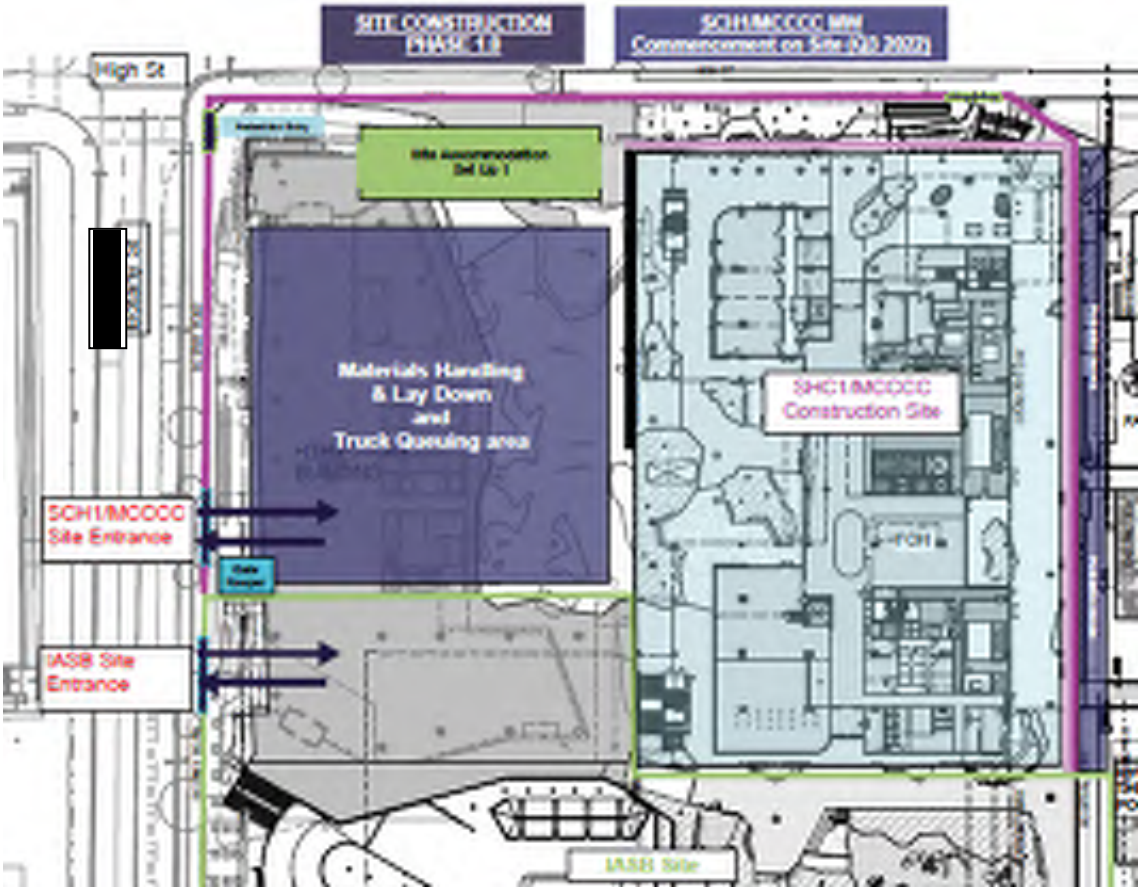


Figure 4 Phase 1 Site Layout with Botany Street to the left of the image and High Street to the top (John Holland)

Botany Street gate

This gate will be the primary construction access gates during the construction works, it will facilitate all heavy haulage, articulated vehicles, and all major deliveries on and off site. All vehicles will enter and exit the site in the forward direction. Detailed swept path analysis has been provided later in this document.

Hospital Road access

Hospital Road access from the South will be used for construction vehicle access as detailed in Section 5. Noting that hospital operations in existing and under development buildings will also need to retain access to Hospital Road and their access will not be limited by Construction Vehicles. Hospital Road has been closed at High Street to through traffic. The existing SCH drop off exit at the northern end of Hospital Road is maintained, as well as access to the substation and fire booster pump set. Pedestrian access on the eastern side of Hospital Road is also retained.

High Street access

High Street will be used for access as detailed in Section 5.

3.2.2 Cranes and Materials Handling

The proposed tower crane locations provide overall coverage to this site, capacity for heaviest lifts, minimal disruption to internal fitout and providing flexibility and redundancy between cranes. JH has identified a preferred option however we will investigate this positioning and selection with stakeholders. See Appendix A.4 for detailed crane locations, a snapshot of which is shown below in Figure 5.

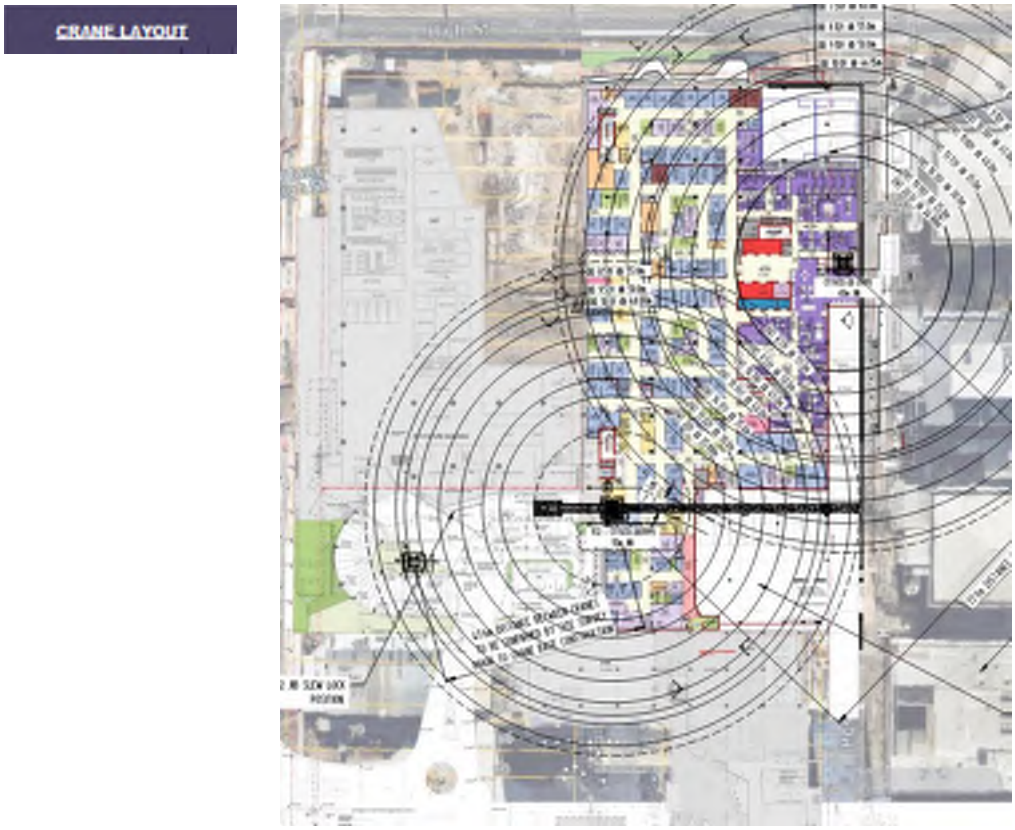


Figure 5 Extract from Appendix A.4 showing planned Tower Crane Locations (John Holland)

Tower Crane No 1 is located within the Tower structure at the north of the site. This will be the first crane to be installed. It is proposed to have a 60m boom. The central position provides crane hook coverage to the core area and the floor plate, with the loading zone to the southern side. This crane has been sized for major lifts such as generators, and cooling towers.

Tower Crane No 2 will be positioned on the southern podium. This crane is proposed to have a 65m boom. Tower Cranes 1 and 2 are shown in Figure 6.

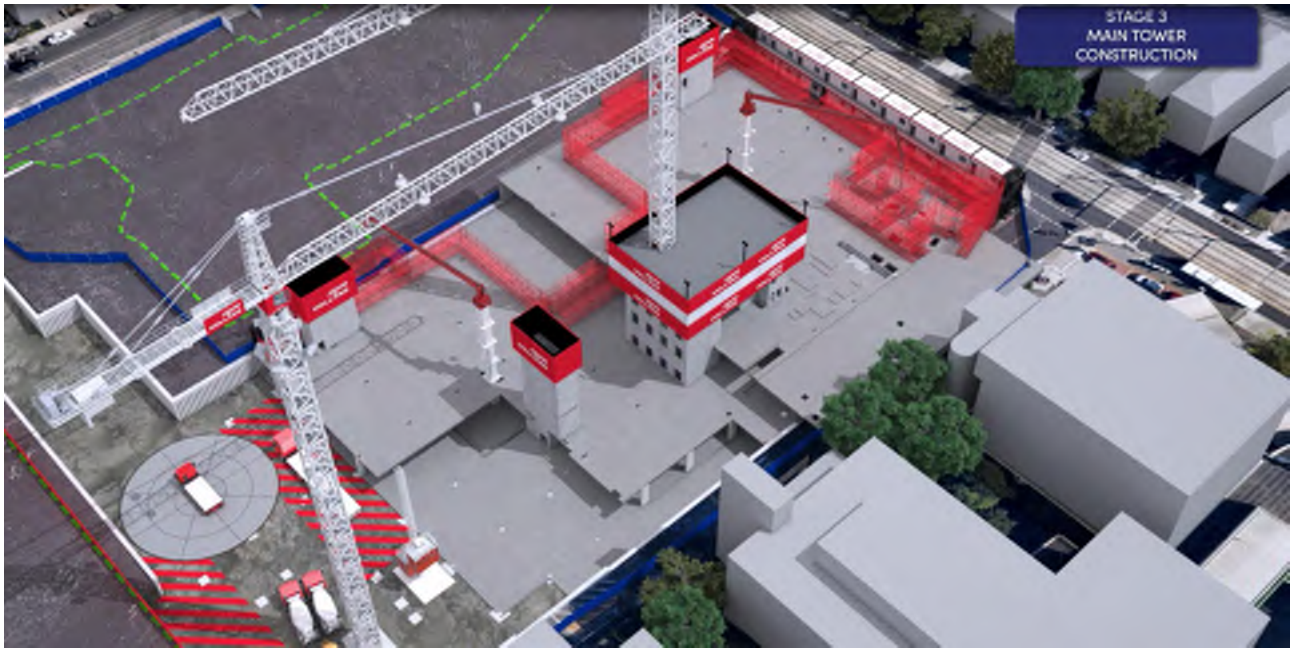


Figure 6 Tower Crane No 1 in the centre of the image and Tower Crane No 2 to the bottom left (John Holland)

Moving materials and workers up and down the structure will be by means of a number of person and material hoists. Careful consideration has been given to the quantity and location of the hoists to provide adequate vertical transportation to each level of the tower. The hoists will be progressively removed once the temporary fitout and commissioning of the internal builder's lifts are completed.

3.3 Fencing and Hoarding for Site Segregation and Security

JH understand the critical importance of maintaining a secure and safe perimeter hoarding line to protect the public and staff from construction activities and prevent unauthorised access into the construction site 24 hours a day. Segregation of the site accommodation compound from the main site is equally important for worker safety.

JH understands that one of the keys to the successful delivery of the SCH1/MCCCC will be the flow of materials and equipment into and out of the construction site. It is imperative that planning considers and successfully manages:

- The maintenance of pedestrian and traffic flows to the surrounding roads;
- The unimpeded continued use of existing vehicular and pedestrian entry and exit points to the Campus; and
- 24-hour access to the ambulance drop off area for Prince of Wales Hospital and Sydney Children's Hospital;

To achieve these goals, this Construction Traffic and Pedestrian Management Plan has been developed to meet the conditions stated section 2.2 General Principles.

3.4 Coordination with Other Construction Sites

JH has and will continue to engage and meet on a regular basis with these key stakeholders of surrounding developments, including other development within the RCR to understand upcoming work activities to minimise impact on the coordination of truck movements on the road network. CTPMPs prepared for the ASB (v6, LendLease, September 2021) and for early works on the SCH1/MCCCC project (v04, Traffix, May 2022 for Ford Civil) have been consulted through the development of this CTPMP and will be instructive in the ongoing coordination between projects. Mitigation steps include:

- Regular meetings with Construction Management personnel from these sites during peak construction activities such as concrete structure works to coordinate day to day activities.
- Issuing three week look ahead programmes which will identify nominated days of large concrete pours and coordinate with the other sites to programme these works around other higher volume vehicle activities.
- Utilising truck haulage movements as per the JH construction traffic management plan.

There is limited impact on other construction developments within the local network such as the ASB, and HTH developments. JH will have regular meetings with ASB Contractor and HTH Contractor to understand and minimise any impacts to the network.

It is noted that peak estimated construction vehicle volumes mentioned in the LendLease CTPMP for the ASB (v4, April 2020) are higher than those anticipated for this project. Given the recency of this neighbouring development, traffic impacts resulting from this project are anticipated to be lesser than those experienced recently during construction of the ASB. Traffic management on site will ensure private vehicle traffic accessing the ASB once it is in operation will be given priority over construction traffic.

3.5 Online Materials Booking System

In an effort to reduce and minimise impact of construction traffic within an operational RHC and ASB environment, JH will utilise Veyor online materials booking system throughout the project as an internal management tool. This system allows the external supply chain to book in a delivery to the project through an online portal which can be live streamed to the Site Manager's computer or field device. This system facilitates an efficient just in time delivery of construction materials, alleviating further traffic congestion onsite.

This daily information can then be sent electronically to the team, TfNSW, Randwick City Council as required to ensure that effective just in time deliveries occur on-site and traffic congestion around construction loading zones are avoided.

During Concrete phase, the Concrete supplier will have an online app tracking tool of all concrete trucks to monitor delivery route and timing of deliveries. This will be able to be viewed in real time on site by JH Site Management. Delivery bookings will be scheduled to avoid peak traffic periods both to minimise impacts to other traffic and to maximise efficiency of site access for large vehicles where required.

4. Existing Transport Conditions

Much of the existing traffic conditions refer to surveys and traffic counts taken before 2020 as responses to the Covid-19 pandemic had significant impacts to traffic volumes and travel behaviours more broadly. The City South East Light Rail (CSELR) project has been completed and RCR has progressed during this time, including the closure of Hospital Road. Surrounding land uses, living and working populations and local transport options have changed since these traffic surveys were taken. Nevertheless, the data presented here still represents the best available information and the advice herein is informed by experience and professional judgement of Traffic Planners and Engineers.

4.1 Base Transport Context

Review of baseline transport conditions investigated travel behaviours relative to mode for RHC staff, visitors and patients. Data indicated that over 40% of staff live within 5km of the RHC and 12% live within the suburb of Randwick itself. The majority of those accessing the RHC use private vehicles as a primary mode of transport, however staff public transport use is high relative to other hospitals.

The RHC is bound to the east by Avoca Street, a state owned arterial road. Barker Street, which sits along the south of the RHC and primarily functions as a collector road linking the main hospital access roads (Hospital Road and Easy Street) to the arterial road network. High Street (northern boundary of the site)

plays a similar role. However, with the opening of the CSELR, its function has transitioned to a more transit-focused corridor.

The majority of intersections are performing within practical capacity. However, the key intersections along Avoca Street, mainly with Barker Street and Alison Road, are currently operating at capacity during peak periods.

Randwick is a district hub for buses in Sydney's eastern suburbs. A number of bus routes frequent the area. The majority of these buses provide all-day services to the CBD, while others provide access to surrounding areas including Green Square, Mascot, Bondi Junction and Maroubra Junction.

4.2 Traffic Volumes

Traffic surveys were conducted to provide an understanding of the existing performance at the intersections surrounding and in the vicinity of the site. Intersections considered as part of the analysis include the following:

- Alison Road / Belmore Road / Cook Street (signalised)
- Alison Road / Avoca Street (signalised)
- Belmore Road / Arthur Street (signalised)
- Avoca Street / High Street / Belmore Road (signalised)
- High Street / Botany Street (signalised)
- High Street / Hospital Road (signalised)
- Avoca Street / Nurses Drive
- Avoca Street / Barker Street (signalised)
- Barker Street / Easy Street
- Barker Street / Hospital Road
- Barker Street / Botany Street (signalised)
- Botany Street / University of NSW (UNSW) Gate 11 access

The surveys were collected on a typical weekday – Thursday 20 July and Thursday 26 October in 2017 – outside of school and university holiday periods. The network peak across all intersections was identified as:

- AM peak hour: 7:30 – 8:30am
- PM peak hour: 4:45 – 5:45pm

A summary of the peak hour traffic volumes across the key mid-block road links and intersections are shown in Figure 7 to Figure 10.

A high proportion of traffic is identified through the intersections along Avoca Street. As discussed in Section 2.2, Avoca Street is a State Road providing a major north-south traffic movement through the area. Total intersection volumes are identified as exceeding 2,000 vehicular movements per hour at the intersections with Alison Road, High Street and Barker Street in both peak periods.

Barker Street is a key collector road through the study area, carrying a high volume of vehicular traffic to local roads from the state roads such as Alison Road and Avoca Street. Intersection volumes along Barker Street have also been shown to account for a range between 1,300 and 2,600 vehicles in both peak periods.

Many of the intersections in the region are shown to have been operating at or above design capacity at the time these surveys were taken.

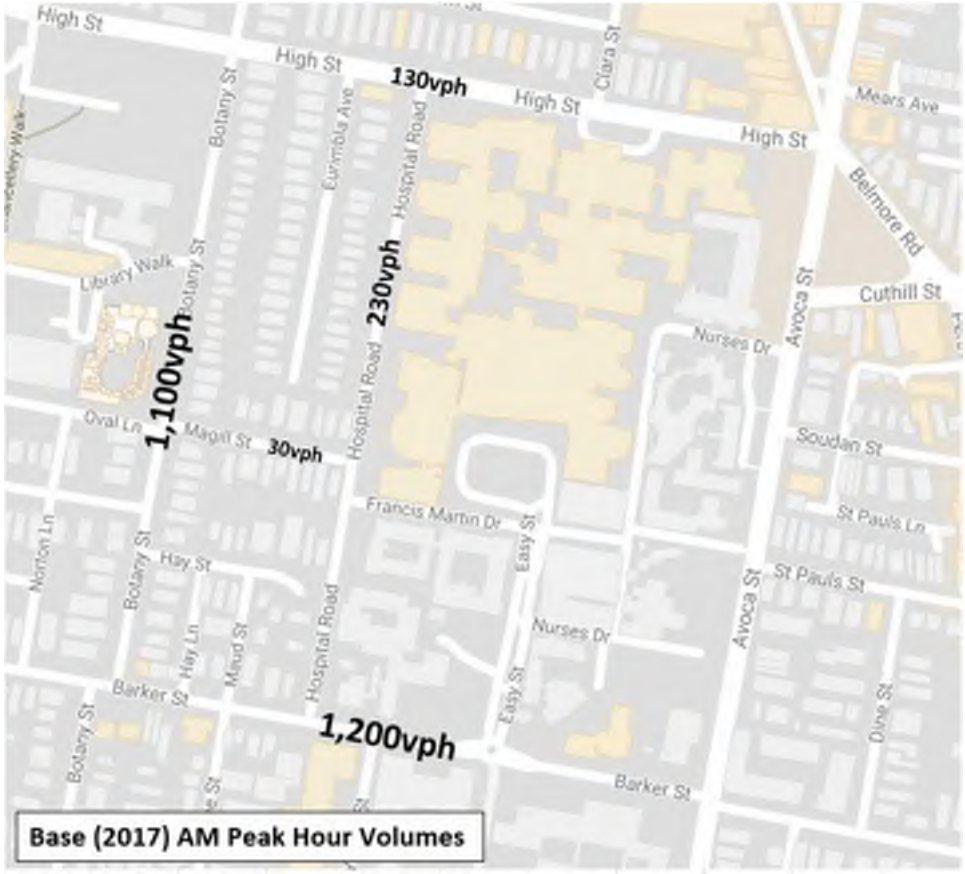


Figure 7 AM peak mid-block traffic volumes

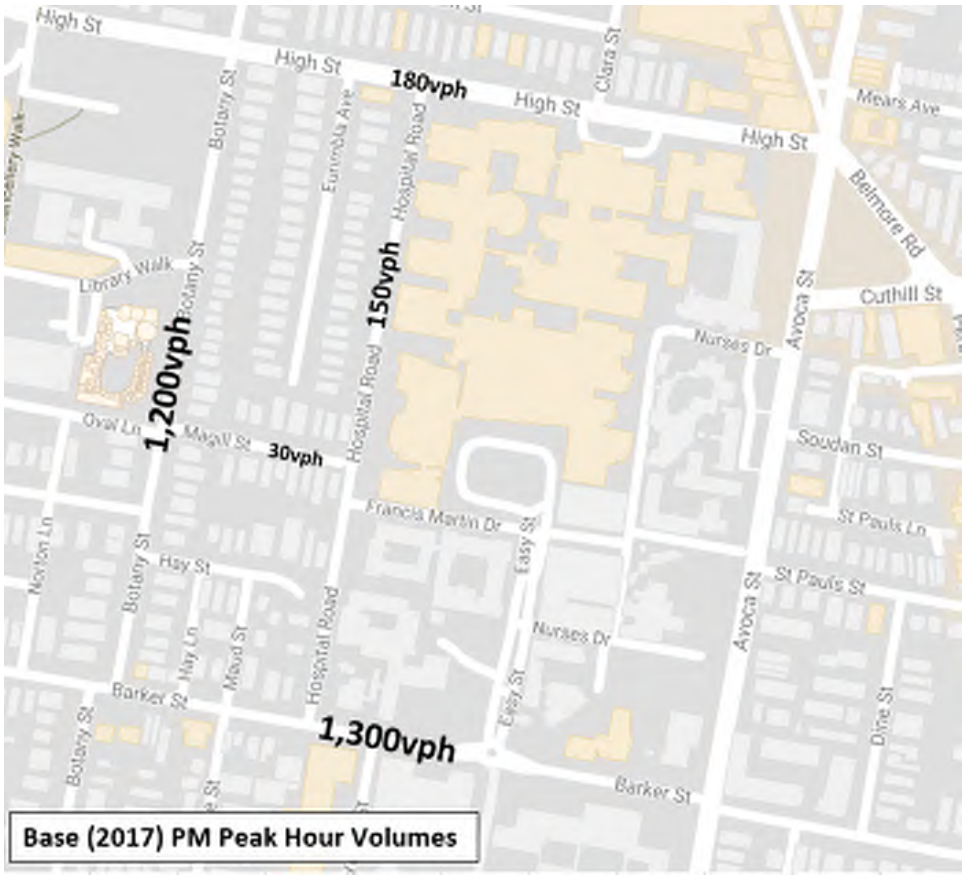


Figure 8 PM peak mid-block traffic volumes

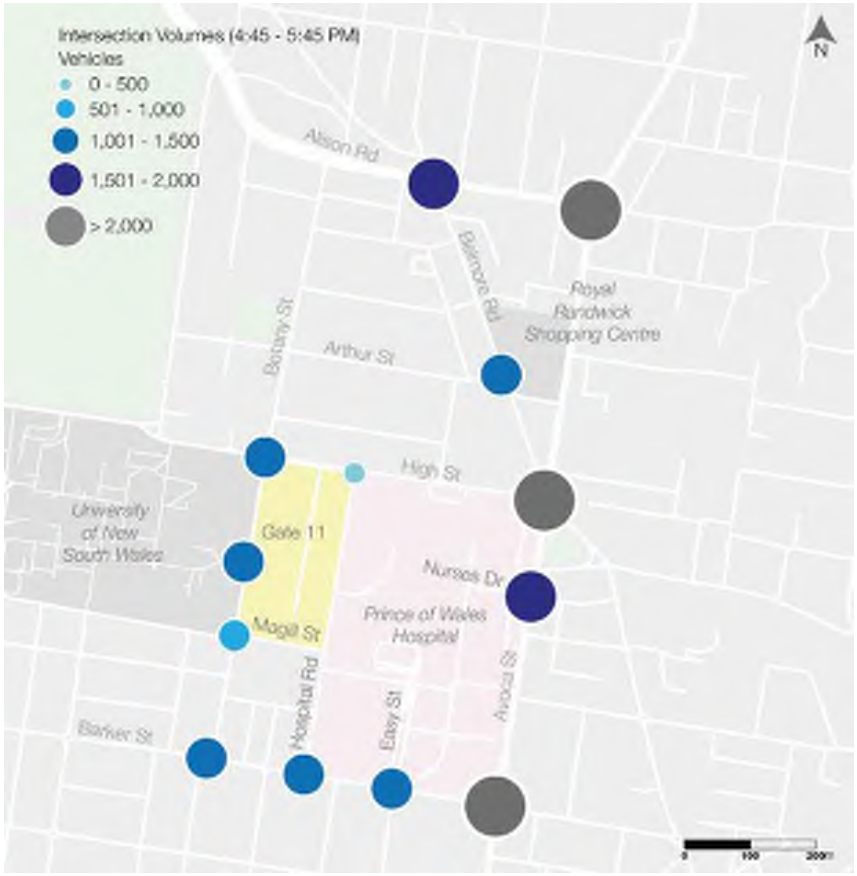


Figure 9 AM peak hour total intersection vehicle volumes (7:30-8.30am)

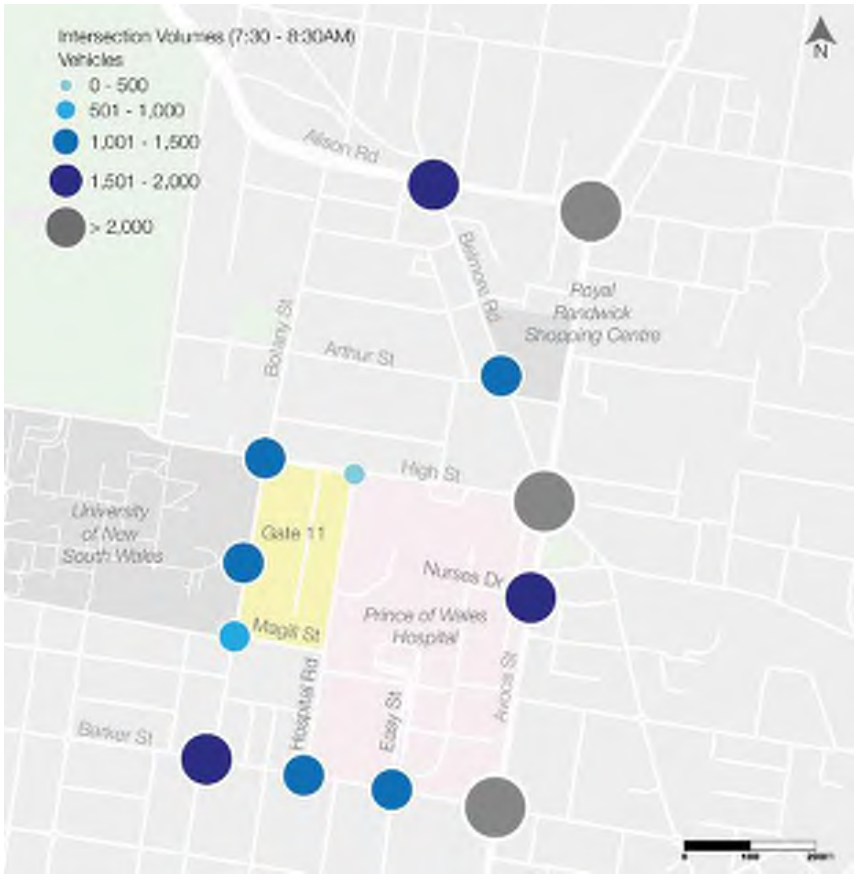


Figure 10 PM peak hour total intersection vehicle volumes (4:45-5:45pm)

4.3 Car Parking

4.3.1 Existing parking supply

At last count, there were 2,302 on-site parking spaces which serve the RHC, comprised of the following:

- Staff: 1,483 spaces
- Visitors: 819 spaces
- Total: 2,302

Since this count was taken, there have been changes to on-site parking such as the removal of parking on Hospital Road, conversion of some spaces within multi-storey facility to Bicycle Parking and End of Trip Facilities. The following commentary on parking supply and demand remains relevant.

This provision of on-site parking corresponds to a rate of 1.56 spaces / 100m2 GFA or 2.16 spaces / bed. This amount is low when benchmarked against other health campuses, as shown in Figure 11.

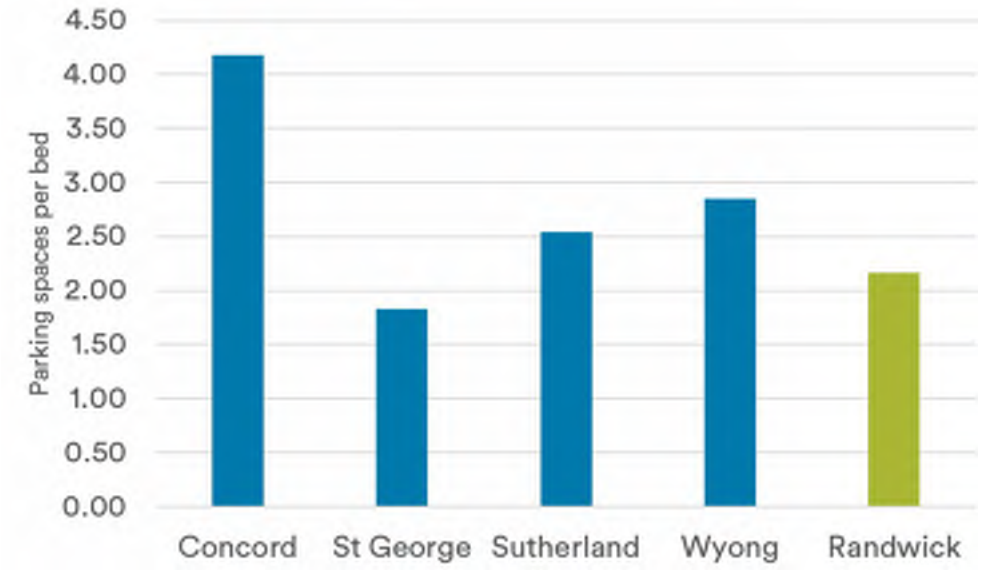


Figure 11 Parking rates at NSW hospital campuses (Source: Arup projects, 2012 - 2017)

An on-street parking review conducted by TTW (2013) on the surrounding road network indicated a total of 207 spaces. Further counts were conducted by Arup (October and November 2017) to update the on-street parking supply in light of construction along High Street and Botany Street relating to the CSELR and redevelopment of UNSW. As a result, there is likely to be a total of 222 on-street parking spaces (Table 3).

Table 3 On-street parking spaces (TTW, 2013; Arup, 2017).

On Street Parking Spaces		
Street	**Location**	**Parking**
High Street	Between Avoca Street and Botany Street	0*
Botany Street	Between High Street and Barker Street	45**
Barker Street	Between Botany Street and Avoca Street	60
Avoca Street	Between High Street and Barker Street	50
Magill Street	Between Botany Street and Hospital Road	22
Eurimbla Avenue	South of High Street	51
Hospital Road ^	Between High Street and Magill Road	-
High Street	Between Avoca Street and Botany Street	0*
Total		228

* The CSELR removed all parking from this section of High Street

** The construction works at the ASB resulted in the removal of approximately 8 on-street spaces on the western side of Botany Street

^ Parking along Hospital Road was included within the on-campus parking supply but has since been removed due to the Hospital Road Lowering project work. Parking provision on Hospital Road south of Magill Street is unaffected by construction works

4.3.2 Existing parking demand

Parking demand surveys previously undertaken (PTC, 2014) for the campus indicate peak occupancies for staff and visitor parking of over 90% during the middle of a typical weekday. It is typically considered that parking occupancy of 90% represents the practical capacity of a car park where drivers have significant difficulty in locating parking spaces. Therefore, the existing car parking areas on-site are considered to be operating at maximum capacity on weekdays.

Previous surveys estimated that existing on-site parking supply within the RHC is insufficient to meet demand, resulting in approximately 550 vehicles accommodated in parking areas off-campus, predominantly in surrounding streets, as summarised in Table 4 below. Staff and visitors are forced to find parking off-campus due to car parks being at or above the 90% utilisation threshold and incoming staff are forced to park off-campus at times because staff they are replacing are still occupying on-campus parking spaces. This would be most likely to occur at the interchange between day and afternoon/evening shifts, the two most populous shift periods.

Given the existing parking shortfall, management of construction worker travel behaviour and discouragement of private vehicle usage becomes even more vital to limit impacts to the local area.

Table 4 Existing parking supply and demand (PTC, 2014).

Existing Parking Supply & Demand					
User	**Parking demand**			**Parking supply**	**Difference**
	On-campus	**Off-campus**	**Total**	**On-Campus**	
Staff	1,395	205	1,600	1,483	-117
Visitors	710	345	1,055	819*	-236
Total	2,105	550	2,655	2,302	-353

* The number of visitor parking spaces was updated following a parking inventory audit conducted by Arup (October and November 2017).

The parking demand can also be expressed as a ratio of total gross floor area (GFA) and beds, as follows:

- 1.90 spaces / 100 square metres GFA
- 60 spaces / bed

The campus has a low hospital staff car driver mode share compared to other health campuses, as illustrated in Figure 12.

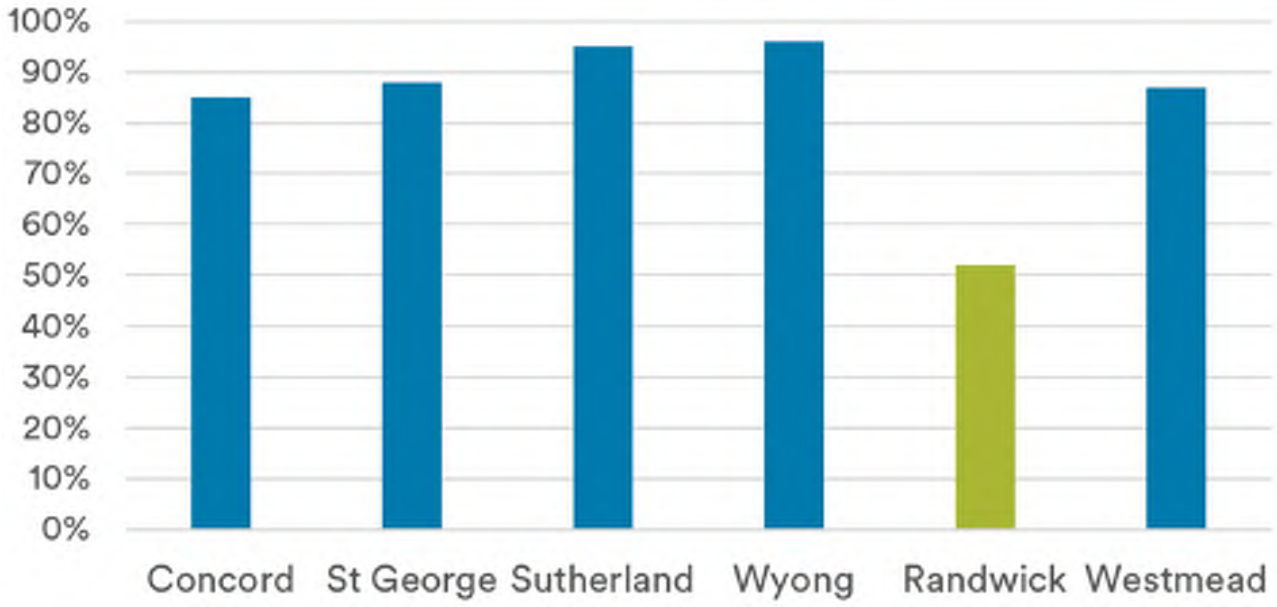


Figure 12 Staff driver mode share to NSW Hospital's (Source: Arup projects, 2012 – 2017)

5. Construction Traffic Management

5.1 Construction Vehicles and Volumes

Heavy vehicles including Articulated Vehicles (AV) for machinery delivery and Heavy Rigid Vehicles (HRV) including truck and trailer combinations will be used for removal of excavation spoil and delivery of building materials for construction of the structure and fitout.

Swept paths have been developed for the gates on Botany Street indicating that both Articulated Vehicles (AV) for machinery delivery and Heavy Rigid Vehicles (HRV) including truck and trailer combinations can turn left into and right out of each driveway. It is proposed to provide 11.0m wide gates to facilitate these movements as shown in Appendix A.6. Swept paths also show the 19m articulated vehicle can turn around within the site with a minimum turning circle of 25m diameter.

The highest single-day construction vehicle loading is expected to occur on major concrete pour days. These days require extensive planning and preparation including communication and coordination with neighbouring sites to ensure access and minimise the likelihood of interruptions.

Outside of these days, communication between site managers will be used to manage daily construction vehicle traffic, using site booking systems and scheduling site activities to minimise coincident deliveries.

Estimated construction delivery volumes for the SCH1/MCCCC site are provided below:

- **Concrete pours – 50 concrete trucks/day**. Large pours expected every 4 days during the structure cycle
- **Structure Deliveries – 10-12 deliveries/day** of formwork, reinforcement and post-tensioning materials
- **Fitout Deliveries – 10-15 deliveries/day** of ductwork, pipework, plasterboard and associated items.

It is envisaged that the project will require approximately 10 trucks per day which would form part of the overall traffic movements contained within the Current CTPMP. This route may also be used for loadout of dirt which would see around 40 trucks per day for a two-week period however it is likely that this will end up happening from the existing Botany Street workzone.

Heavy vehicle movements and material deliveries are to be scheduled to avoid movements during peak traffic periods, to both minimise impacts to other road users and to provide more efficient access to and from the site.

Work on the neighbouring ASB site is in final stages. The CTPMP prepared for the ASB Project shows that all work on the ASB and Hospital Road lowering was to have been completed before the end of June 2021. As such, construction traffic generated by works on this site is anticipated to be limited to small vehicles only, with full commissioning to bring increased levels of traffic as staff and patients begin to access the site. Once operational, visitor access to the ASB will be via a new signalised intersection on Botany Street, delivered by the ASB project and improving access and safety for vehicles and pedestrians with the Randwick Health & Innovation Precinct. Ambulance access to the ASB is from Magill Street and logistics access is from Hospital Road. Public access to the ASB site, along with all other public traffic, will be given priority at all times over construction vehicles moving in and out of the SCH1/MCCCC site.

At later phases of the SCH1/MCCCC project, work will begin on the HTH site. These two sites will be accessed from gates located close together on Botany Street. Coordination between site management on these projects will be critical to maintaining access at Botany Street for ASB staff, patients and visitors and to manage construction vehicle traffic entering and leaving the two sites. Management principles include regular coordination meetings and sharing of booking calendars.

Materials Handling plans (see Appendix A.5) show the five phases of the construction process, with site extents and access points changing according to work on the site and activities on the neighbouring ASB and HTH sites. The following table summarises the phases and the milestones that trigger them.

Table 5 Site construction phases, milestones and approximate dates where available

Phase number	Milestone	Date
Phase 1	Commencement on site	Q3 2022
Phase 2	ASB Contractor vacates remaining SCH1/MCCCC site	TBC
Phase 3	HTH Site handover	4 Jan 2023
Phase 4	Commencement of podium works	July 2024
Phase 5	Botany Street Ramp Works	Nov 2024

5.2 Site Access Points

Materials Handling Plans show two gate locations on Botany Street to be used at various phases of construction on the SCH1/MCCCC site. During Phases 1 and 2, when the full HTH site is available for materials handling, lay down and truck queueing and turnaround, a gate located around the midpoint of the site, as shown in Figure 13, will be utilised for site access with all vehicles entering and exiting in the forward direction.

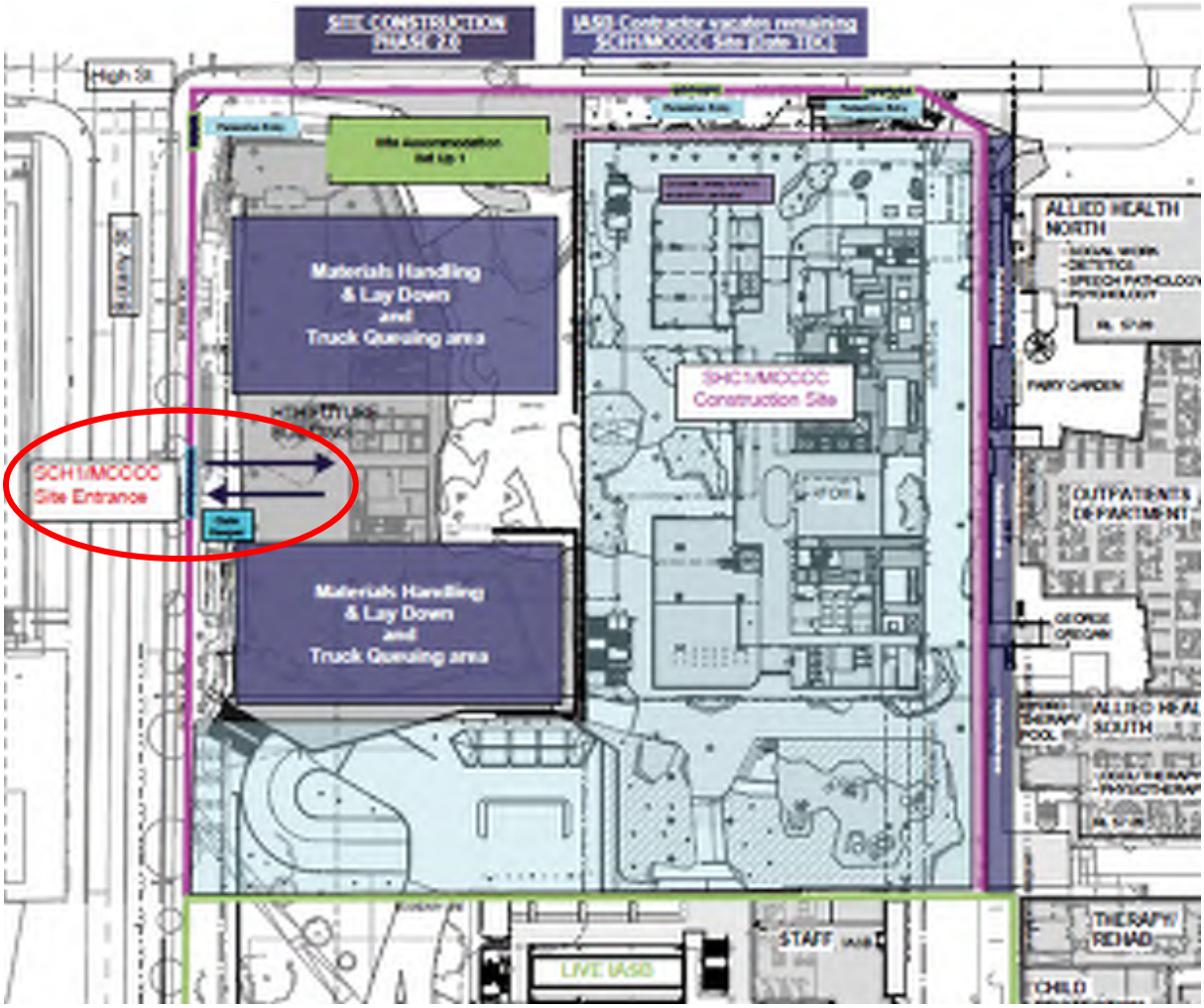


Figure 13 Site access for Construction Phases 1 and 2 showing materials handling areas within the future HTH site (John Holland)

Following handover of the HTH Site, vehicle access will shift further south on Botany Street, with the HTH Site entrance located immediately to the north as shown in Figure 14. For Phase 3, a temporary ramp on site gives access to the Basement 2 level where materials handling areas and a truck turntable are located. In Phase 4, the materials handling plan shows these features to be located at street level in the western portion of the site, where the temporary ramp is shown in Figure 14. In these cases, use of a truck turntable ensures all vehicle movements in and out of the site are made in the forward direction.

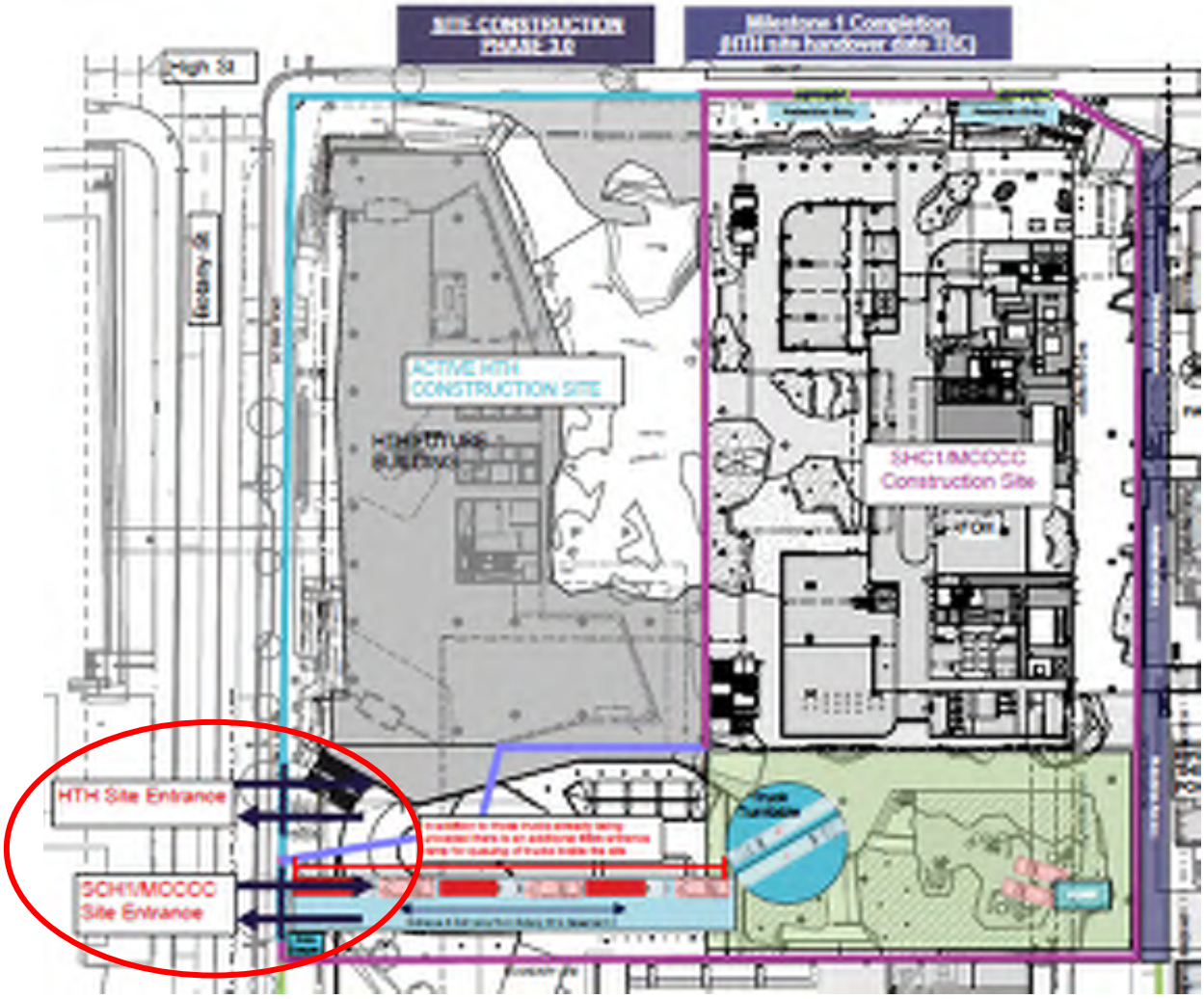


Figure 14 Site access for Construction Phases 3 and 4 showing temporary ramp to truck turntable at Basement 2 level (John Holland)

In the final steps of construction, when constructing the drop off zone and ramp to B1 parking level, a workzone will be established on Botany Street and access to the SCH1/MCCCC site will be through the new ASB forecourt entrance from Botany Street. This stage will also include the use of High St and Hospital Rd gates as shown below in Figure 16. The proposed Botany Street workzone is shown in Figure 15. The Materials Handling Plans for all five phases are included in Appendix A.5 and Swept path analysis is shown in Appendix A.6.

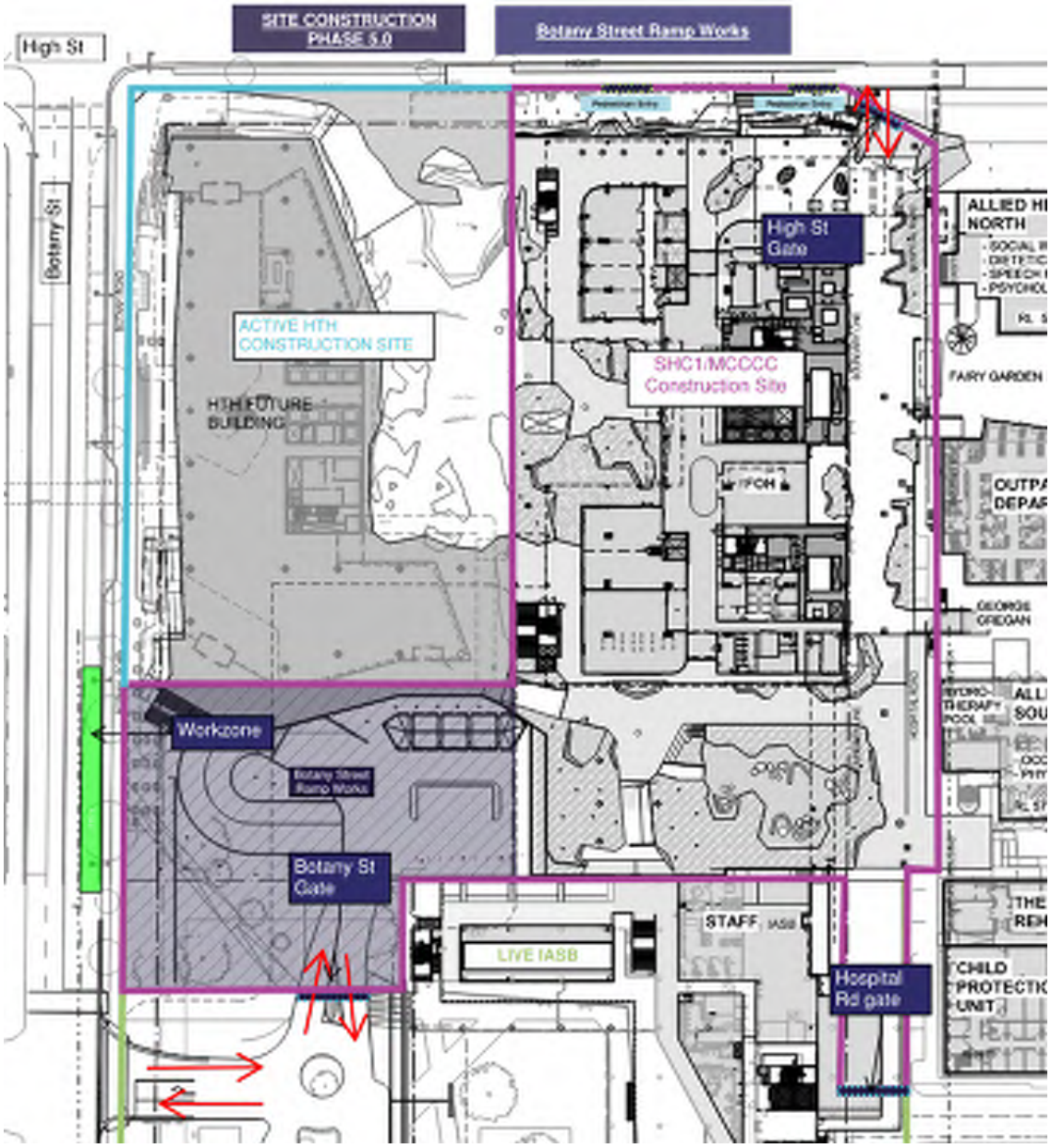


Figure 15 Phase 5 site plan with Botany Street workzone (John Holland)

During load out, now that the ASB access is operational, construction vehicle access will also be proposed via the ASB forecourt through two sets of swinging vehicle access gates. An A-class hoarding will be established to separate construction activities form the ASB public activities, with a pedestrian gate accessible near the eastern building side of the forecourt. The construction vehicle access proposed is shown in Figure 16.

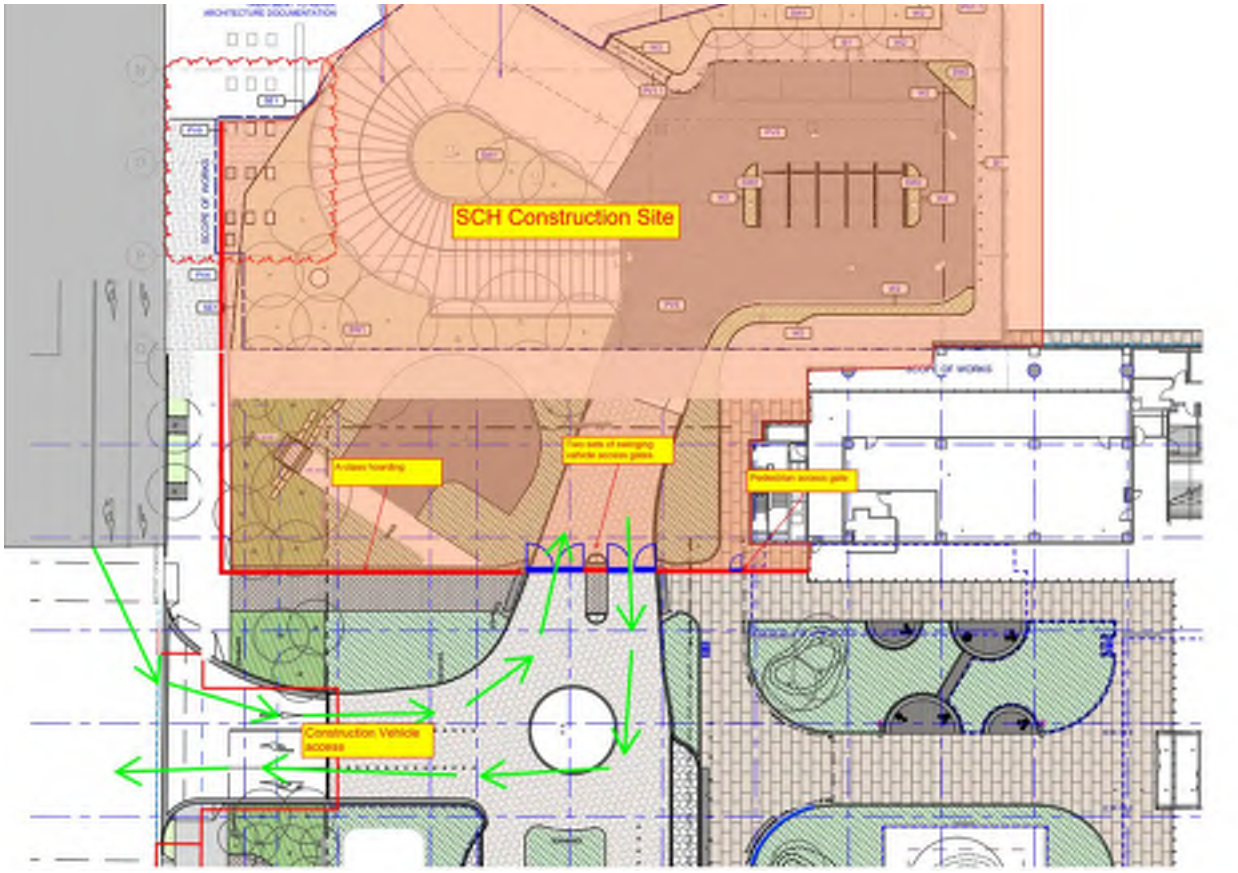


Figure 16: ASB Forecourt Access

Allowance for loadout of dirt therefore will include two scenarios:

- **Standard case** – 10 trucks per day (November 2024 to August 2025)
- **Soil load out case** – 40 trucks per day for a two week period sometime from mid November 2024 to mid December 2024

Following completion of the basement levels and vehicle access from Hospital Road, the B2 loading dock at the northern end of the site will be accessible (see composite image in Figure 17). This Freight Loading facility and access routes have been designed to facilitate access for vehicles up to an HRV, with rear loading to a raised dock and access to goods lifts and various other material handling facilities within the hospital building. The Hospital Road route is designed for two-way access for rigid vehicles and provides at-grade access to the existing Prince of Wales Hospital Loading Dock, as well as below ground ramp access to the future SCH1/MCCCC loading dock operations.

Figure 17 Composite image showing Hospital Road tunnel ramp to B2 Loading Dock

The addition of this heavy vehicle access point does change the number of heavy vehicles accessing the site during construction. By offering an additional loading zone it will reduce the number of vehicles accessing other points, reducing the risk of queuing to access the Botany Street workzone. The number of construction vehicles expected to access the B2 Loading Dock is no more than 2 per hour, which is fewer than planned for when the hospital is in full operation.

5.3 Construction Parking

Based on experience on neighbouring construction sites, and the space available within the future HTH site, it is not anticipated that there will be a need for an external truck marshalling area. Materials Handling Plans for phases 1 to 4 (see Appendix A.5) include areas identified for materials handling and truck queueing areas within the site. Phase 5 specifies no articulated vehicle access to the workzone to maximise efficient use of the restricted workzone space. Site management tools will be used to book and schedule deliveries to enable site managers to control traffic loads within the site.

5.4 Construction Haulage Routes

The access points on Botany Street will be predominantly utilised as left turn entry for trucks with vehicles approaching from Alison Road on Botany Street and using the kerbside lane for turning into the driveway. This arrangement has been approved for early works and is not shown to be disrupting traffic flows. This arrangement will minimise impacts on through traffic. Trucks will exit turning right onto Botany Street to travel north towards Alison Road.

Magill Street has been opened to public traffic now that Hospital Road is closed to facilitate carpark entry and exit to the main hospital carpark. Construction vehicles are not permitted to use Magill Street. Boom gates prevent vehicle movements between Hospital Road and Magill Street between 10pm and 7am. Emergency vehicles are exempted.

To keep construction related traffic to a minimum on the surrounding roads, it is necessary to define routes for construction traffic to and from the work site. These access routes are to predominantly utilise arterial roads and minimise the use of local roads including Magill Street, Arthur Street and Clara Street where possible. The key arterial roads surrounding the site are Avoca Street, Anzac Parade and Alison Road.

Access to the site will be via Botany Street and via Hospital Road to the B2 Loading Dock. Proposed access routes are shown to and from the site, and these access and egress routes take into account TfNSW, TMC and SCO considerations which have previously been raised on neighbouring construction projects.

These routes will be communicated to the workforce via startup meetings, toolbox talks and issuing this CTPMP.

5.4.1 Vehicle Routes to site;

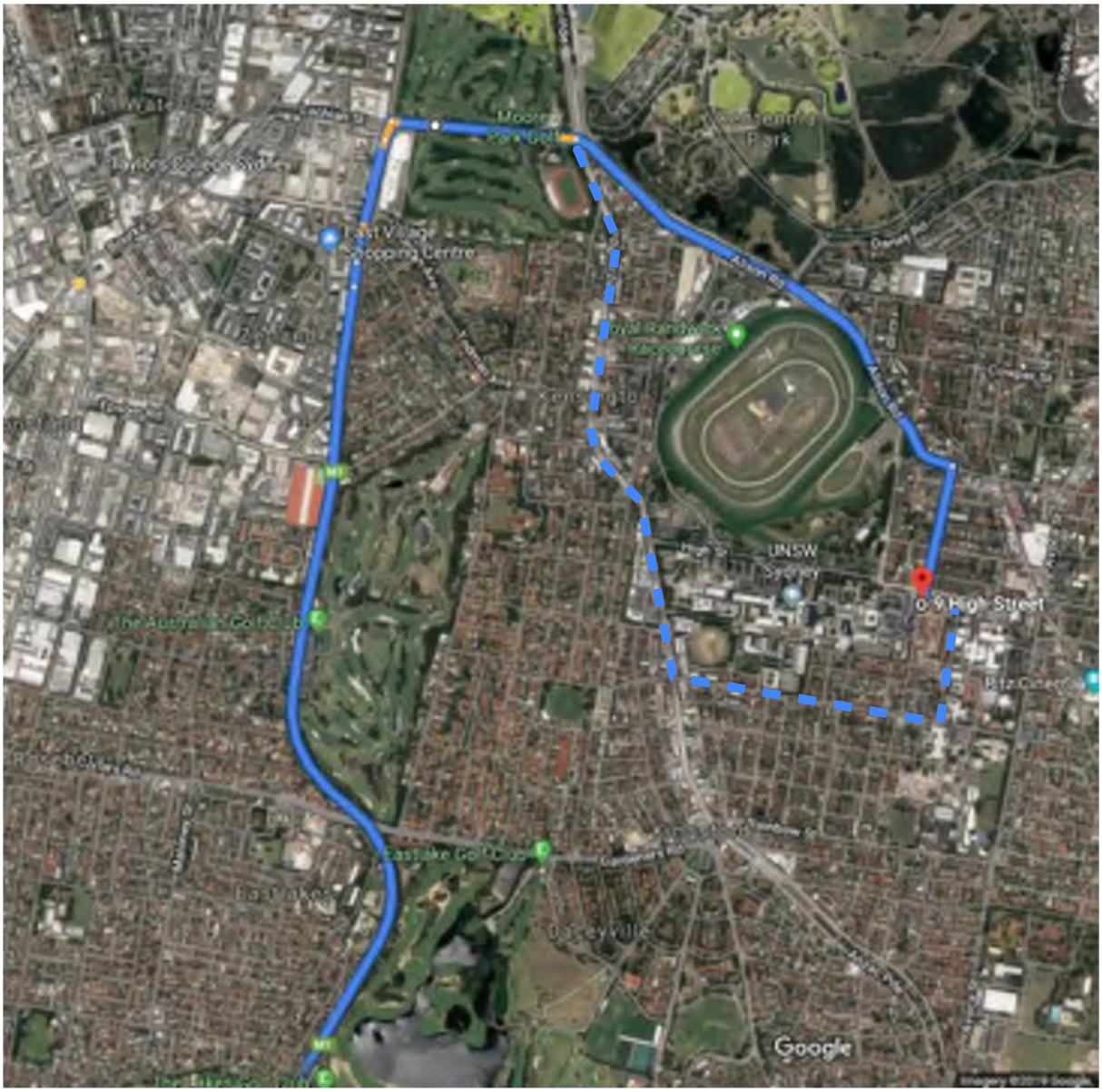


Figure 18 Travelling from Southwest M5/M1 to Randwick

Delivery vehicles travelling from the west of Sydney will follow a direction as outlined in the above figure. Utilising the M5/M1 vehicles follow the following route to the site:

- Exit from the M5/M1 onto Dowling Street
- Turn right onto Dacey Avenue
- Veer right onto Alison Road
- Turn right onto Botany Street
- Enter site via Botany Street gate

Construction delivery vehicles will follow a similar route leaving site, turning right out of the Botany Street gate in accordance with the TCP.

If travelling to the B2 Loading Dock the vehicle will follow the above route from the M5/M1 to Dacey Avenue. From there they will follow the dashed line route to site:

- Turn right onto Anzac Parade
- Turn left onto Barker Road
- Turn left onto Hospital Road
- Enter ramp access to B2 Loading Dock level

Figure 19 Travelling from North M1 to Randwick

Construction vehicles travelling from the north of Sydney will follow a direction as outlined in the above figure. Utilising the M1 tunnel vehicles follow the following route to the site:

- Exit from the M1 onto Anzac Parade
- Turn left into Alison Road
- Turn right into Botany Street
- Enter site via Botany Street gate

If travelling to the B2 Loading dock, vehicles will continue on Anzac Parade to Barket Street and follow the route indicated by the dashed line in Figure 18 and described in the dot points below that image.

5.4.2 Vehicle Routes leaving site

The majority of construction delivery vehicles will leave the site heading north (reverse of the delivery route);

- Exit the site and turn right onto Botany Street
- Left onto Alison Road
- Continue northbound or southbound as required.

Small rigid vehicles (including concrete trucks) and those accessing the Botany Street workzone will be permitted to leave site in a southbound direction for the duration of works. Refer to Figure 20 below which details the vehicle travel path.

- Travel south on Botany Street
- Turn left onto Barker Street
- Turn left onto Avoca Street
- Turn left onto Alison Road

For vehicles leaving the B2 Loading Dock level, they will proceed south on Hospital Road to Barker Road. All vehicles less than 9m in length should turn left and follow the route outlined above. Vehicles longer than 9m may turn right and proceed westbound to Anzac Parade where they can turn left or right as required.

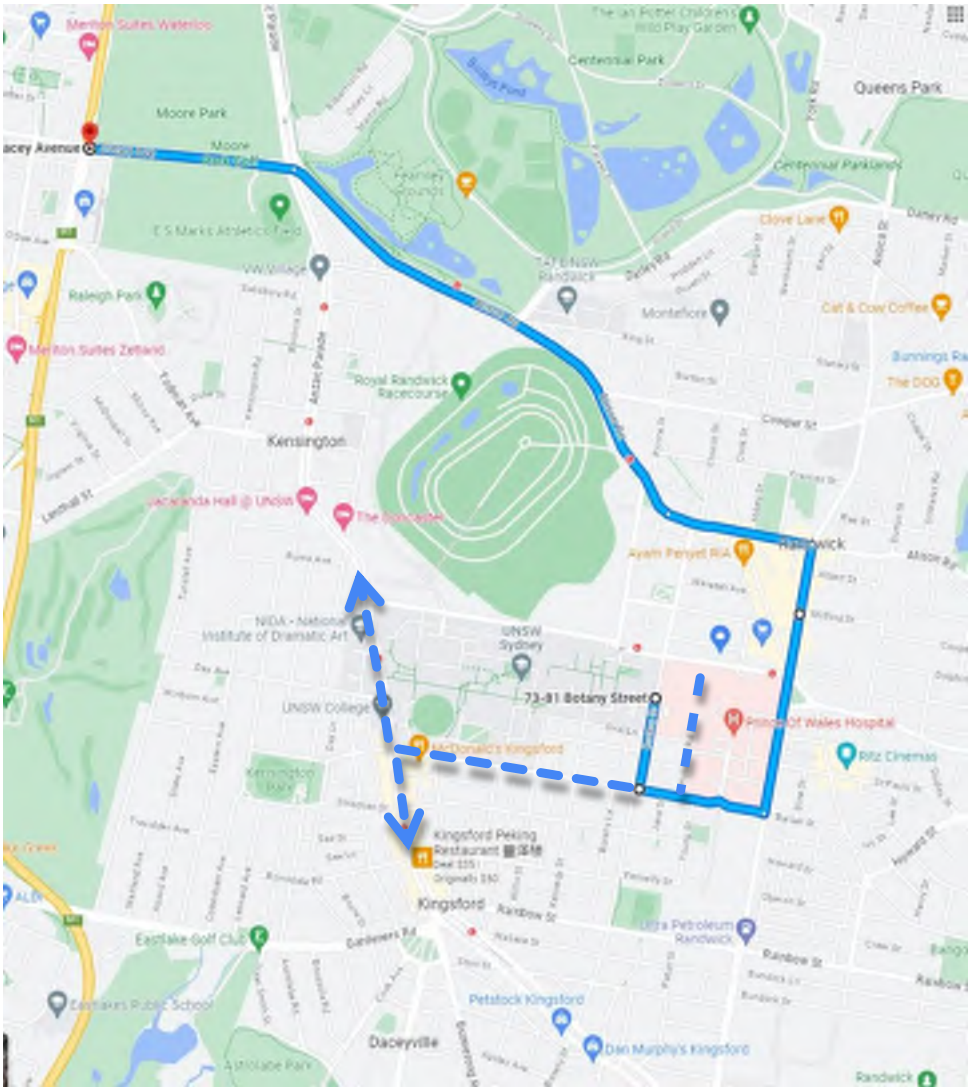


Figure 20 Route for vehicles leaving site heading South on Botany St or Hospital Road

5.5 Truck Diversion Route

In the instance that a driver misses the entrance gate they will follow the approved diversion route to loop around the local area in an anti-clockwise direction and re-enter the site from the north. This travel path is shown in Figure 21 and is described as;

- Travel south on Botany Street
- Turn Left onto Barker Street
- Turn left onto Avoca Street
- Turn left onto Alison Road
- Turn left onto Botany Street
- Arrive back to site and turn left into the gate

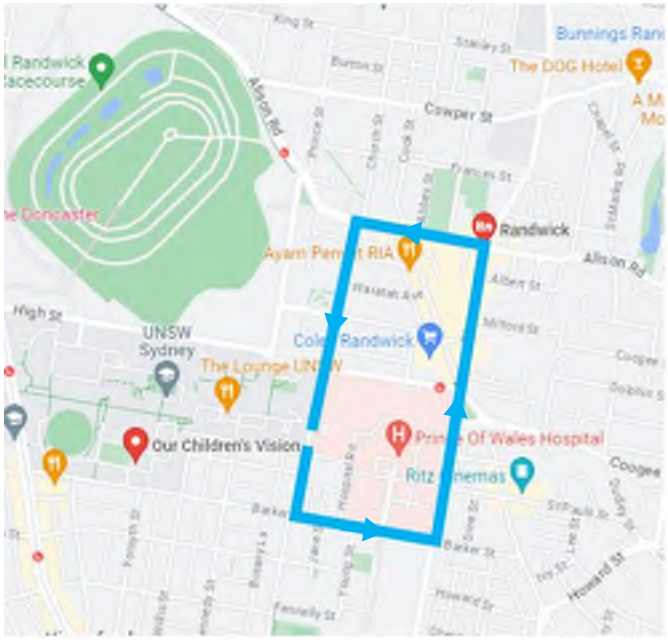


Figure 21 Truck diversion route

5.6 Botany Street workzone exit

During the final phase, site constraints necessitate the establishment of an on-street workzone on Botany Street. Under these conditions, construction vehicles arriving from the north will access the workzone in the parking lane on the eastern side of Botany Street but will not have the option to turn around to leave to the north. Instead, vehicles will depart southbound, following the route shown previously in Figure 20:

- Travel south on Botany Street
- Turn Left onto Barker Street
- Turn left onto Avoca Street
- Turn left onto Alison Road

Or follow the route as shown in Figure 22:

- Travel south on Botany Street
- Turn Right onto Barker Street
- Turn left or right to Anzac Parade as necessary.

During this final phase vehicles will be limited in size, specifically excluding Articulated Vehicles.

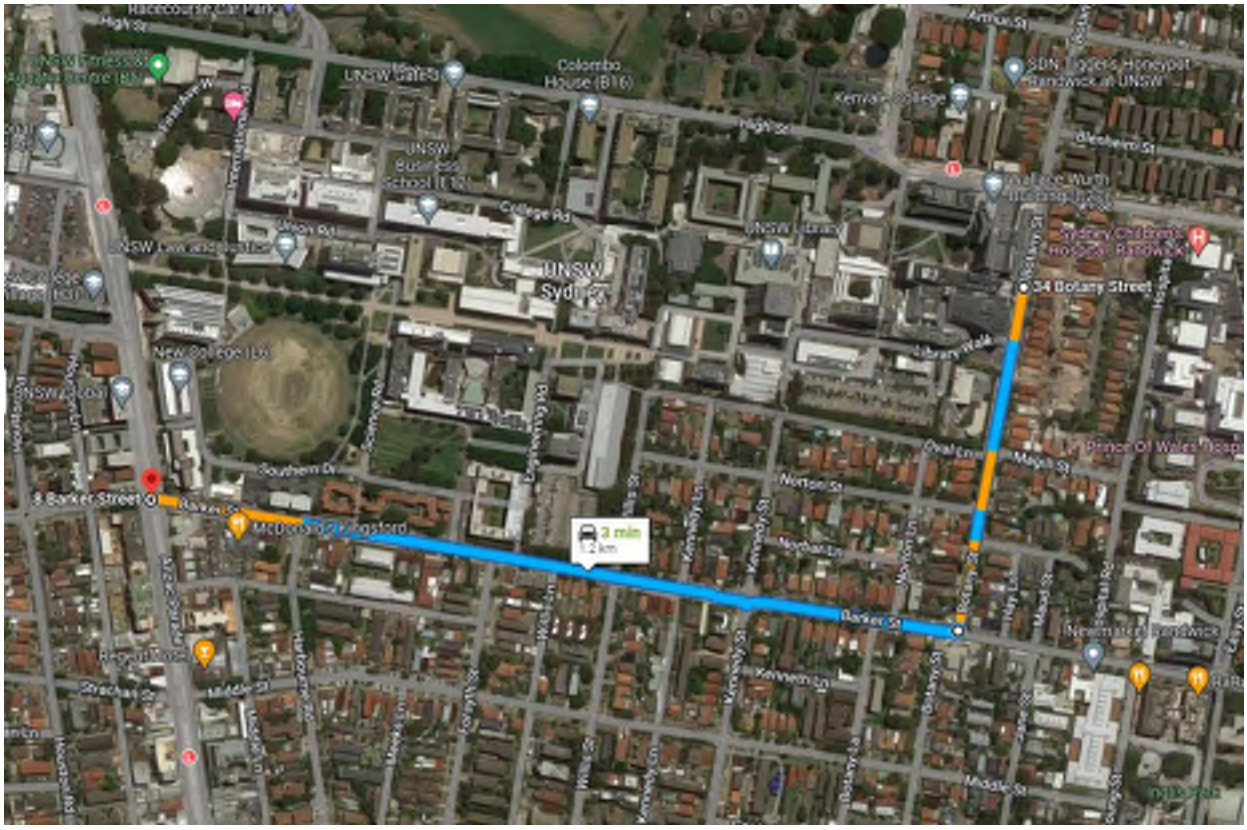


Figure 22 Botany Street workzone exit route to Anzac Parade

5.7 Impacts to Public Transport

The proposed works will interface with a number of existing public transport routes on Botany Street and High Street. JH will ensure that trucks do not queue along these roads and instead, directly enter and be wholly accommodated within the site. The introduction of the Light Rail has led to removal of Bus Stops on High Street, east of Wansey Road.

It is understood that the 357 route currently operates on Botany Street, though there are no current stops in operation in this location. JH will have the following mitigation measures in place to ensure no impact on the bus operations network:

- Construction deliveries are not to operate on High Street except for a small period where works over the northern end of Hospital Road necessitate it. Approvals have been granted for this activity and it is being programmed to minimise impacts to public transport, including light rail, and other road users,
- Botany Street buses will always be provided priority access over construction vehicles to minimise impacts to Public Transport Services,
- Deliveries to site are to be pre-booked and are not to occur during peak traffic periods,
- Promotion of public transport use by workers which reduces vehicular movements around the precinct.

5.8 Impacts to Active Transport

Cycle traffic on Botany Street is to be given the same level of priority as pedestrians and general traffic when managing construction traffic entering and leaving the site. During construction activities, JH will provide cyclists with priority as per all other road users, and control heavy vehicles with TfNSW certified traffic controllers as required.

Pedestrians on High Street and Botany Street may be impacted from walking past the site during construction. Traffic controllers will manage all construction vehicle and pedestrian interactions. During all phases of construction, construction, vehicles entering, exiting and driving around the site will be required to give way to pedestrians at all times, as required under the NSW Road Rules. Where footpaths are required to be closed temporarily on the frontage of the site, safe alternative detours will be put in place.

6. Construction Worker Transport Strategy

A Construction Worker Transportation Strategy (CWTS) has been prepared in response to development consent for State Significant Development Application (SSDA) number SSD10339. Specifically, the CWTS demonstrates compliance with Condition B26 and B27.

The CWTS document is a separate report to this CTPMP.

Appendix A

A.1 Driver Code of Conduct

Purpose and Objectives

The purpose of the Heavy Vehicle Driver Code of Conduct is to ensure that the impacts of construction traffic on transport networks and adjoining properties is minimised. This Code clearly defines and details acceptable behaviour for all heavy vehicle drivers operating in connection with the Sydney Children's Hospital Stage 1 / Minderoo Children's Comprehensive Cancer Centre (SCH1/MCCCC) suppliers and subcontractors.

Responsibilities of Drivers

- Driver must record a Plant Pre-start inspection prior to arrival at site
- Drivers must follow ALL road rules and regulations required by law. Drivers must:
  - Hold a current and appropriate licence for the class of vehicle they are operating
  - Comply with speed limits on all roads
  - Comply with all road works speed limits
  - Obey construction traffic signs and devices
  - Obey sign posted (road) load limits
  - Ensure the vehicle does not exceed mass or dimension limits
  - Ensure loads are distributed to remain within the capacity of the vehicle and axles
  - Restrain loads appropriately in accordance with the NTC Load Restraint Guide.
  - Make sure that your vehicle is roadworthy and well maintained
- Drivers must drive safely which includes, but is not limited to:
  - Making sure you are medically fit to drive, have no alcohol in your system and you are not under the influence of drugs
  - Driving in a calm, courteous manner that is appropriate with existing road, traffic and weather conditions
  - Not operating any vehicles or machinery while suffering from fatigue
  - Implementing fatigue management and rest laws and procedures
  - Responding to changes in circumstances (such as delays), reporting these to your base (if possible) to implement short-term fatigue management measures
- Making sure that your rest breaks are taken at the prescribed intervals and are effective
- If you are concerned about the placement of a load or mass of loaded materials raise the issue with the SCH1/MCCCC Supervisor and do not leave site.
- Drivers must always behave in a professional manner.
- Drivers must adhere to routes nominated by SCH1/MCCCC for each specific worksite and they must not use any roads if their weight is over the posted load limit.
- In the instance a driver misses a site entry point, maintain contact via radio with traffic control and circulate the site back to entry from a Northern approach.
- Drivers should only park or wait in approved areas as directed by SCH1/MCCCC. DO NOT queue at worksite gates.

- Drivers are to arrive and depart from worksites as required by SCH1/MCCCC. Drivers will be turned away if they arrive outside of the approved hours and the truck operating company will be notified.
- Turn vehicles off when not in use or required to idle for long periods of time. (Note: This requirement does not apply to concrete agitators)
- Drivers must not leave their vehicle unless it is correctly parked, has been turned off, hand brake applied, and the keys removed. (Note: This requirement does not apply to concrete agitators)
- Drivers leaving their vehicle must wear appropriate PPE (safety boots, long pants, Hi-Vis long sleeve shirt, hard hat and safety glasses).
- Vehicles must not transfer dirt or debris onto public roads. You must use rumble grids/ wheel wash units where they are installed. If any materials are deposited on public roads you must immediately contact your Supervisor and the SCH1/MCCCC Supervisor to arrange for the road to be cleaned.
- Before leaving any site, it is mandatory to cover truck loads and tailgates and draw bars must be free of loose material.
- If approached by people with enquiries about the Project Works, drivers should remain polite and provide them with the Site Managers number. Do not provide any other information about the project.
- Drivers must comply with the SCH1/MCCCC 'GMR's, which have been communicated via Inductions.
- As a courtesy to people who may be impacted by driver behaviour, drivers will:
  - Use horns only in an emergency or for safety reasons
  - Not tailgate (drive too close to other vehicles)
  - Not use compression braking if possible where noise is likely to adversely impact on residents
  - Ensure that there is no littering
  - Not block residential driveways or any other access points.

Declaration

I have read and understand the above conditions and will ensure that I abide by this Code of Conduct.

Signed: Date: / /

Print Name: Company:

A.2 Work Zone Traffic Management Plan

NOTES:

- This Traffic Guidance Scheme is developed by competent and experienced persons in accordance with the requirements outlined in the TCAWS Version 6, AS1742.3 and the Road Management Act 2004. Prior to implementation of the TGS, KPI GROUP will carry out an inspection and risk assessment. Signed copy of the SWMS will be available on-site at all times.

- This plan is developed in conjunction with vehicle and pedestrian movement plans access management and other measures. PWZTMP qualified person must ensure the TGS is implemented, maintained as per attached TGS. Otherwise, any adjustment and modification will be captured in the checklist and work pack.

- Pedestrian management is to be overseen by onsite crew and supported by a risk assessment. If additional signage (TCAWS 6.52 - Table 6.5) is required it is subject to modifying TGS criteria, see below.

- All amendments will be outlined and recorded in a work pack and checklist.

- Signs to be installed on high legs if sight obstruction is present (for example behind guardrails/barriers .etc.)

- Site Specific TGS is drafted for nominated works that is noted on the TGS. TGS must be formally reviewed and signed off by PWZTMP qualified person (a minimum of every 6 months from the drafted date) as per TCAWS 7.11.2. Details refer to the amendment box below.

- KPI GROUP does not accept responsibility of this plan if it is implemented or modification by external parties.

Adjusting / Modifying TGS:

ITCP Holder-

- ITCP qualified person must ensure that the TGS is implemented as approved. Minor adjustments can be completed in accordance with Section 7.10.3 Tolerances on positioning of signs and devices (Table below), Modifications will be recorded on the TGS checklist and a signed copy will be available on-site.

PWZTMP Holder-

- Modifications to a Site Specific TGS must be approved by the PWZTMP or relevant qualification holder, and must be supported by a TMP or risk assessment to ensure all TGSs considers and mitigate identified site-specific conditions and risks.
- If risk is identified during the implementation of the TGS and requires modification outside of the tolerance listed below, the works must be stopped until an updated TGS is drafted and approved by a PWZTMP qualified person prior to works recommencing. (refer to TCAWS 7.10.4)

- Any anomalies or inconsistencies found in the TGSs being used must be recorded and reported back to the TGS designer who is PWZTMP qualified.

Implementing A TGS

- A TGS must be installed, maintained and removed in a planned and safe manner.
The implementation of a TGS must only be undertaken by an ITCP qualified person.
(Refer To TCAWS 7.10.1)

- Signs and traffic control devices must be installed in a sequence via GPS, survey, landmarks, side streets or chainage in accordance with TCAWS V6 Section 6.4 and AGTTM Section 6.2

- An implementation TGS should be provided if the risk of implementation is deemed high. The sequence of implementation should be determined as part of the drafting process in TGS or SWMS, rather than being determined on-site. (Refer To TCAWS 7.10.2)

Tolerances on positioning of signs and devices

- Local constraints might not allow signs and devices to be placed exactly in accordance with the designed and approved TGS. Where a specific distance is provided for the longitudinal positioning of signs or devices with respect to other items or features, the tolerances to adjust are:

Tolerance	Positioning of signs, length of tapers or markings	Spacing of delineating devices
Minimum	10% less than the distances or lengths given	Nil
Maximum	25% more than distances or lengths given	10% more than the spacing shown

(Refer To TCAWS 7.10.3)

Clearances and spacing of signs and devices

- Clearances between the edge of traffic lane and delineating devices or a road safety barrier system must be in accordance with in Table 6-1. Clearances must be measured to the traffic side edge of delineating devices or barrier. This edge must also be the line from which clearances to the work area are measured for the purpose of determining treatments.

CROSS SECTION DIAGRAM

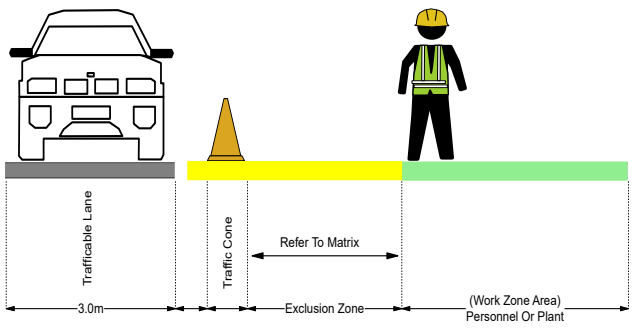


Table 6-2. Required maximum spacing of cones and bollards

Purpose and usage	Speed zone of device location Km/h	Maximum spacing m
On approach to a traffic controller position (centerline or edge line)	All cases	4
Merge tapers	55 to 75 greater than 76	9 12
Lateral shift tapers	55 to 75 greater than 76	12 18
Protecting freshly painted lines	55 to 75 greater than 76	24 60*
All other purposes	less than or equal 55 55 to 75 greater than 76	4 12 18

Dimension 'D'
AS 1742.3: A distance expressed in metres, determined in accordance with Clause 4.1.5 and used for positioning of advance signs and related purposes.

Speed of Traffic km/h	Dimension m
55 or less	15
56 to 65	45
Greater than 65	speed of traffic, in Km/h

Taper Lengths

Approximate speed of traffic	Traffic control at beginning of taper	Lateral shift taper	Merge taper
45 or less	15	0	15
46 - 55	15	15	30
56 - 65	30	30	60
66 - 75	N/A	70	115
76 - 85	N/A	80	130
86 - 95	N/A	90	145
96 - 105	N/A	100	160
Greater than 105	N/A	110	180

Traffic Guidance Scheme installation:

Date: _____ / _____ / 20 _____

Traffic Guidance Scheme Installer:

Full Name: _____
ITCP Number: _____
Expire Date: _____ / _____ / 20 _____
Signature: _____
Date: _____ / _____ / 20 _____

Traffic Guidance Scheme Modifications:

Full Name: _____
PWZTMP Number: _____
Expire Date: _____ / _____ / 20 _____
Signature: _____
Date: _____ / _____ / 20 _____

Site Inspection Date
Prior to Implementation: _____ / _____ / 20 _____

TGS Modification Notes:

JOHN HOLLAND

PEDESTRIAN GATES TO BE IMPLEMENTED WHEN A TRUCK IS ENTERING SITE

10

Library Walk

Botany Street

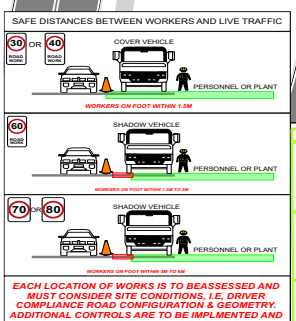
PEDESTRIANS WATCH YOUR STEP

PEDESTRIANS WATCH YOUR STEP

15m

15m

ROAD WORKS AHEAD



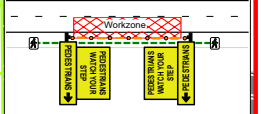
EACH LOCATION OF WORKS IS TO BEASSESSED AND MUST CONSIDER SITE CONDITIONS, I.E, DRIVER COMPLIANCE ROAD CONFIGURATION & GEOMETRY. ADDITIONAL CONTROLS ARE TO BE IMPLMENTED AND NOTED IN THE RISK ASSESSMENT.

TGS RESOURCE REQUIREMENTS

TC	PTCD	TMA	DROP DECK	UTE	OTHER
2	0	0	0	0	0

PEDESTRIAN MOVEMENT PLAN

FULL FOOTPATH WIDTH TO BE MAINTAINED AT ALL TIMES & DEDICATED TC'S TO MINTOR AT ALL TIMES



VEHICLE MOVEMENT PATHS

INGRESS

EGRESS

PROJECT: Sydney Children's Hospital	**TGS REFERENCE NO:** JHH001	**SCALE** 1 : 1000	**Location:** Hospital Rd, Randwick	**Rev No:** 00
Author Name: Jack Hobbs	**Accreditation:** TCT0105185	**Date:** 09/09/2024	**Approver Name:** Emma A	**Accreditation:** TCT0022852	**Date:** 09/09/2024	**Page No:** 02

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LEVEL 1, 9-13 BRONTE RD
BONDI JUNCTION, NSW 2022
PH: 1800 574 574
www.kpiconstruction.com.au

1. This Traffic Guidance Scheme has been designed by a PWZTMP qualified person & is drawn to TfNSW TCAWS Manual V6.1 & AS1742.3.
2. Modifications to this TGS must be completed by a person holding PWZTMP, details recorded on Page 1 and approval sought from the KPI Group NSW Operations Manager prior to implementation.
3. This is a short term TGS.
4. The sub-contractor must ensure all ROL, SZA and ROLCOA requirements are met during implementation of this TGS.
5. Existing 3.0m lane width shall be maintained. A clearance area between the edge of traffic lane and delineation SHALL be provided. Measurements for this clearance are outlined under AGTTM03 CL 2.5.8.
6. Existing or Conflicting signage SHALL be covered or removed when this TGS is operational. (TCAWS Ver.6.1, 4.5.5 Table 4-9)
7. TGS must be installed, maintained and removed in a planned and safe manner. The implementation of a TGS must only be undertaken by an ITCP qualified person. (Refer To TCAWS 7.10.1)
8. At the start of a roadwork speed zone the Roadwork Speed Limit (see R4 212) signs shall be erected on both sides of the carriageway. (TCAWS Ver.5, 8.2.5)
9. Dimension 'D' is determined in accordance with the TCAWS Manual issue 6.1.
10. All ROL', SZA' and ROLCOA must be activated prior to implementation of this TGS.

ACCREDITED TRAFFIC CONTROLLER with Approved Stop / Slow Bat	TRAFFIC CONES	E-STOP or PORTABLE TRAFFIC LIGHTS	PORTABLE BOOM GATE
TRAFFIC CONTROL VEHICLE with Illuminated Flashing Arrowboard	WORK AREA	SIGNALISED INTERSECTION	
TRUCK MOUNTED ATTENUATOR with Illuminated Flashing Arrowboard	PEDESTRIAN ROUTE	FLASHING AMBER/INTERSECTION BLACKOUT	
LATERAL HAZARD MARKER either TS-5 or TS-4 (Horizontal)	EXCLUSION ZONE per TCAWS requirements	TEMPORARY TTM SIGNAGE	

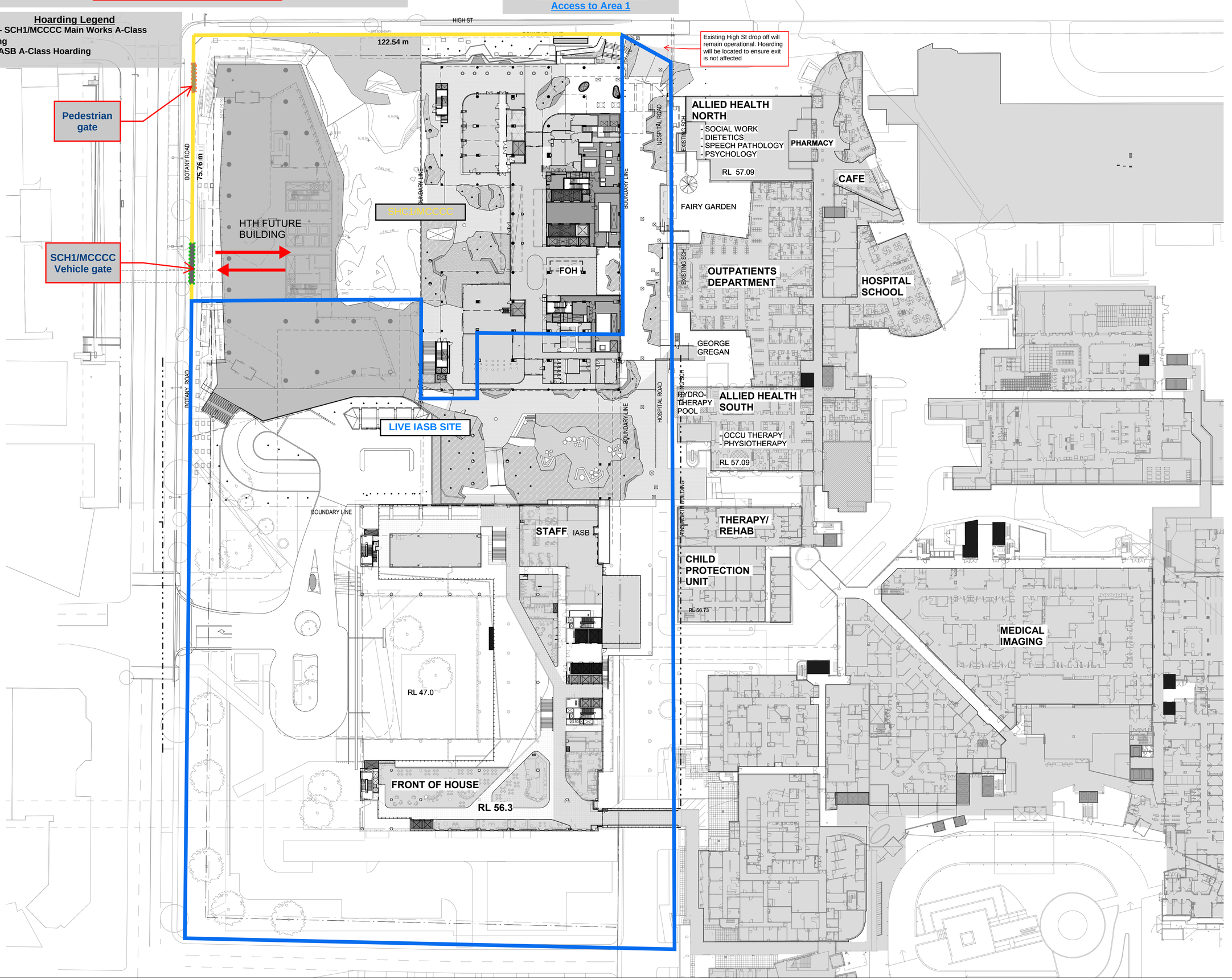
A.3 Hoarding Plan

HOARDINGS PLAN: PHASE 1

Commencement on Site
Access to Area 1

Hoarding Legend

Yellow - SCH1/MCCCC Main Works A-Class Hoarding
Blue - IASB A-Class Hoarding



LEGEND

- CIRCULATION (PUBLIC)
- CIRCULATION (STAFF)
- LIFT (BED & STAFF)
- LIFT (PUBLIC)
- EXISTING
- VACANT (AFTER COMPLETION OF SCH1/CCCC)

REV		
F	ISSUED FOR TENDER	10/09/21
E	ISSUED FOR 100% DD	06/08/21
D	ISSUED FOR 100% SD	26/02/21
C	ISSUED FOR 95% SD	18/12/20
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A	DRAFT CD ISSUE	21/07/20

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PROJECT
SYDNEY CHILDREN'S HOSPITAL STAGE 1 AND CHILDREN'S COMPREHENSIVE CANCER CENTRE

Sheet Name
PROPOSED CLINICAL ADJACENCY PLAN - LEVEL 00

5,019.37 mm
0 5 10 15 20 25m
1:500

Scale	Date
As indicated@A1	10/09/21
Drawn By	**Checked By**	**Revision**
AL	BB	F

Project No 19101

Drawing No
SCH1-AR-DG-06-00001

FOR TENDER

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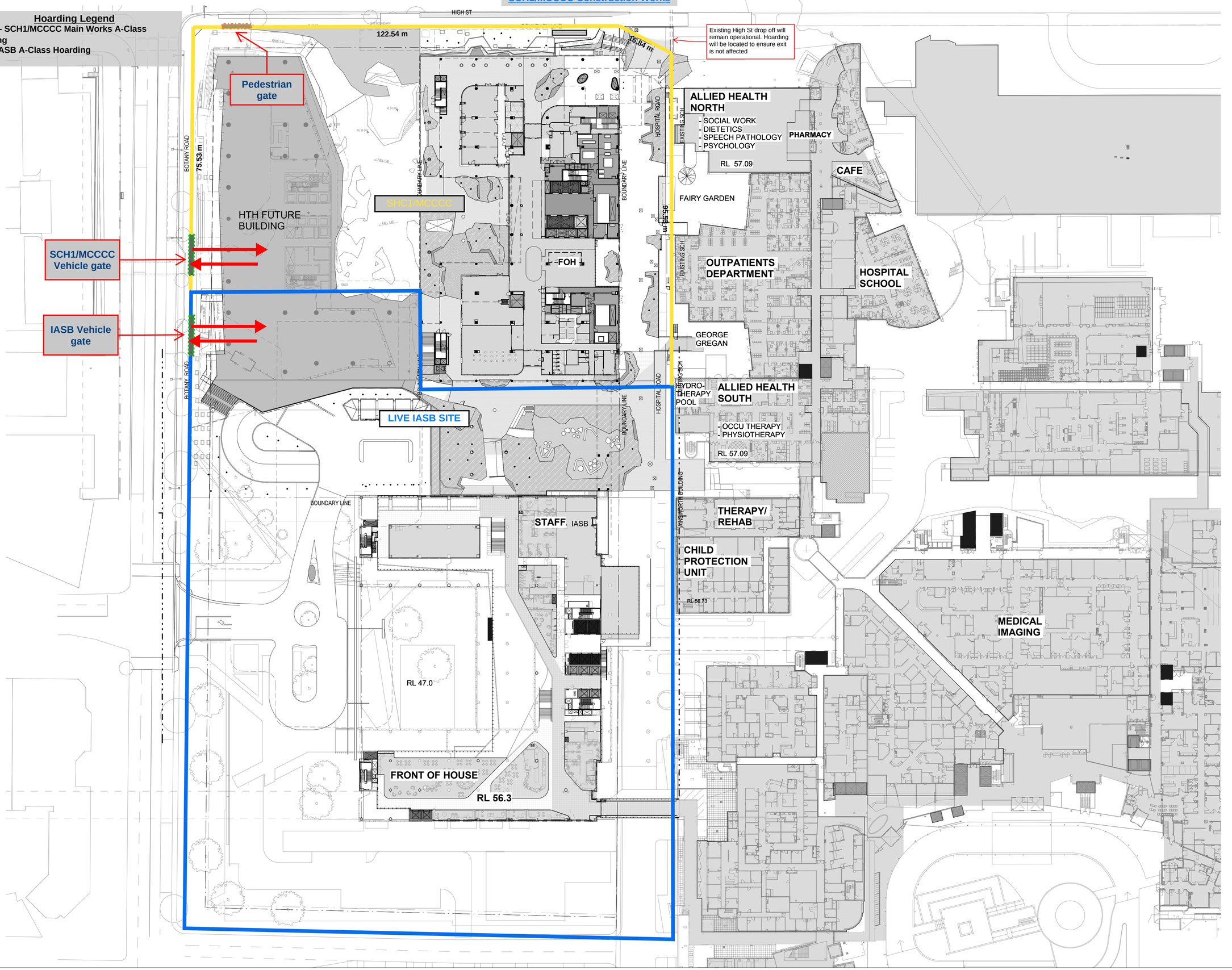
HOARDINGS PLAN: PHASE 2

Access to Area 2
SCH1/MCCCC Construction Works

Hoarding Legend
Yellow - SCH1/MCCCC Main Works A-Class Hoarding
Blue - IASB A-Class Hoarding



LEGEND

- CIRCULATION (PUBLIC)
- CIRCULATION (STAFF)
- LIFT (BED & STAFF)
- LIFT (PUBLIC)
- EXISTING
- VACANT (AFTER COMPLETION OF SCH1/CCCC)

REV		
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A	DRAFT CD ISSUE	21/07/20

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PROJECT
SYDNEY CHILDREN'S HOSPITAL STAGE 1 AND CHILDREN'S COMPREHENSIVE CANCER CENTRE

Sheet Name
PROPOSED CLINICAL ADJACENCY PLAN - LEVEL 00

0 5 10 15 20 25m
1:500

Scale	Date
As indicated@A1	10/09/21
Drawn By: AL	Checked By: BB
Revision: F	
Project No: 19101	
Drawing No: **SCH1-AR-DG-06-00001**	

FOR TENDER

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HOARDINGS PLAN: PHASE 3

Hoarding Legend
Yellow - SCH1/MCCCC Main Works A-Class Hoarding
Blue - IASB A-Class Hoarding

Access to Area 3
SCH1/MCCCC Construction Works

pedestrian gate

Existing High St drop off will remain operational. Hoarding will be located to ensure exit is not affected

SCH1/MCCCC Vehicle gate

IASB Vehicle gate

HIGH ST
BOTANY ROAD
HOSPITAL ROAD
BOUNDARY LINE
SITE BOUNDARY
122.25 m
17.06 m
135.27 m
139.49 m
40.85 m
227.95 m
HTH FUTURE BUILDING
SHC1/MCCCC
FOH
LIVE IASB SITE
STAFF IASB
FRONT OF HOUSE
RL 47.0
RL 56.3
RL 57.09
RL 56.73
EXISTING SCH
ALLIED HEALTH NORTH
- SOCIAL WORK
- DIETETICS
- SPEECH PATHOLOGY
- PSYCHOLOGY
PHARMACY
CAFE
FAIRY GARDEN
OUTPATIENTS DEPARTMENT
HOSPITAL SCHOOL
GEORGE GREGAN
HYDRO-THERAPY POOL
ALLIED HEALTH SOUTH
- OCCU THERAPY
- PHYSIOTHERAPY
THERAPY/ REHAB
CHILD PROTECTION UNIT
MEDICAL IMAGING

LEGEND

- CIRCULATION (PUBLIC)
- CIRCULATION (STAFF)
- LIFT (BED & STAFF)
- LIFT (PUBLIC)
- EXISTING
- VACANT (AFTER COMPLETION OF SCH1/CCCC)

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PROJECT
SYDNEY CHILDREN'S HOSPITAL STAGE 1 AND CHILDREN'S COMPREHENSIVE CANCER CENTRE

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1:500

Scale	Date
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AL	BB	F

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HOARDINGS PLAN: PHASE 4

HTH site handover (date TBC)

Hoardings Legend
Yellow - SCH1/MCCCC A-Class Hoarding
Purple - HTH A-Class Hoarding
Blue - IASB A-Class Hoarding

HIGH ST
57.39 m
15.14 m
HIGH STREET - B-Class Hoarding
Existing High St drop off will remain operational. Hoarding will be located to ensure exit is not affected
ACTIVE HTH SITE
HTH FUTURE BUILDING
BOTANY ROAD
HOSPITAL ROAD
BOUNDARY LINE
102.89 m
183.227 m
SHC1/MCCCC
FOH
140.92 m
38.89 m
15.41 m
26.34 m
16.71 m
136.48 m
HTH Vehicle gate
SCH1/MCCCC Vehicle gate
IASB Vehicle gate
LIVE IASB SITE
STAFF IASB
RL 47.0
FRONT OF HOUSE
RL 56.3
ALLIED HEALTH NORTH
- SOCIAL WORK
- DIETETICS
- SPEECH PATHOLOGY
- PSYCHOLOGY
PHARMACY
RL 57.09
CAFE
FAIRY GARDEN
OUTPATIENTS DEPARTMENT
HOSPITAL SCHOOL
GEORGE GREGAN
HYDRO-THERAPY POOL
ALLIED HEALTH SOUTH
- OCCU THERAPY
- PHYSIOTHERAPY
RL 57.09
THERAPY/ REHAB
CHILD PROTECTION UNIT
RL 56.73
MEDICAL IMAGING
EXISTING SCH
NORTH BUILDING

LEGEND

- CIRCULATION (PUBLIC)
- CIRCULATION (STAFF)
- LIFT (BED & STAFF)
- LIFT (PUBLIC)
- EXISTING
- VACANT (AFTER COMPLETION OF SCH1/CCCC)

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FOR TENDER

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10/09/2021 6:51:31 PM

HOARDINGS PLAN: PHASE 5

Botany St Ramp Works
SCH1/MCCCC Construction Works

Hoardings Legend
Yellow - SCH1/MCCCC A-Class Hoarding
Purple - HTH A-Class Hoarding
Blue - IASB A-Class Hoarding

HIGH ST
57,204.19 mm
57,204.19 mm
16,511.46 mm
Existing High St drop off will remain operational. Hoarding will be located to ensure exit is not affected
BOTANY ROAD
ACTIVE HTH SITE
HTH FUTURE BUILDING
SHARED PATH
102.89 m
168.54 m
SCH1/MCCCC
BOUNDARY LINE
HOSPITAL ROAD
EXISTING SCH
FOH
ALLIED HEALTH NORTH
- SOCIAL WORK
- DIETETICS
- SPEECH PATHOLOGY
- PSYCHOLOGY
PHARMACY
RL 57.09
CAFE
FAIRY GARDEN
OUTPATIENTS DEPARTMENT
HOSPITAL SCHOOL
GEORGE GREGAN
HYDRO-THERAPY POOL
ALLIED HEALTH SOUTH
- OCCU THERAPY
- PHYSIOTHERAPY
RL 57.09
Workzone
26.76 m
38.89 m
52,597.80 mm
BOUNDARY LINE
91,065.65 mm
18,619.00 mm
STAFF IASB
LIVE IASB SITE
47,655.78 mm
Vehicle gate
RL 47.0
FRONT OF HOUSE
RL 56.3
AIRPORT BUILDING
THERAPY/ REHAB
CHILD PROTECTION UNIT
RL 56.73
MEDICAL IMAGING

LEGEND

- CIRCULATION (PUBLIC)
- CIRCULATION (STAFF)
- LIFT (BED & STAFF)
- LIFT (PUBLIC)
- EXISTING
- VACANT (AFTER COMPLETION OF SCH1/CCCC)

REV		
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PROJECT
SYDNEY CHILDREN'S HOSPITAL STAGE 1 AND CHILDREN'S COMPREHENSIVE CANCER CENTRE

Sheet Name
PROPOSED CLINICAL ADJACENCY PLAN - LEVEL 00

0 5 10 15 20 25m
1:500

Scale	As indicated@A1
Date	10/09/21
Drawn By	AL
Checked By	BB
Revision	F
Project No	19101
Drawing No	SCH1-AR-DG-06-00001

FOR TENDER

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A.4 Tower Crane Locations

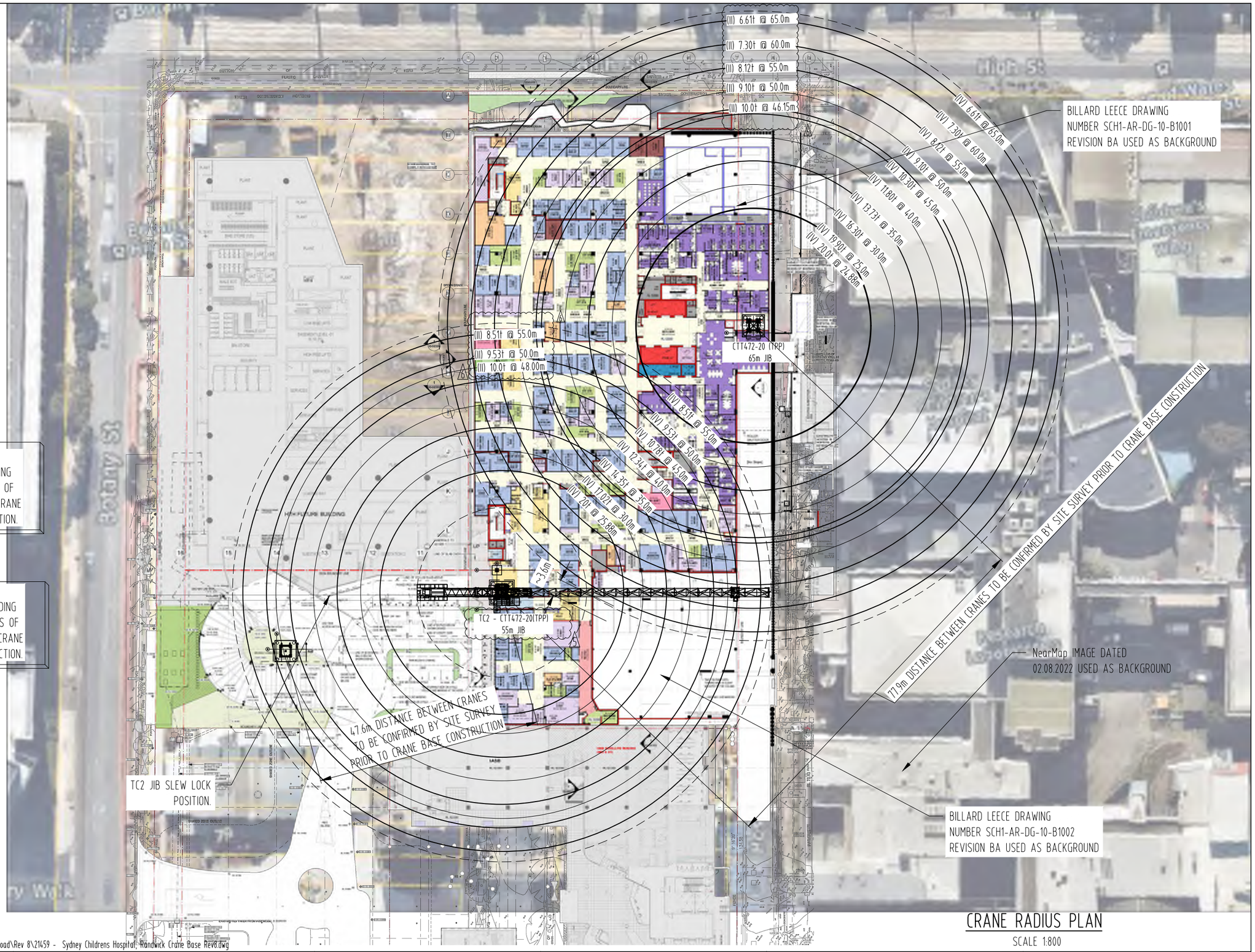
AS THE SCALE OF THE NEARMAP IMAGE MAY NOT BE 100% ACCURATE, DO NOT USE NEARMAP IMAGE FOR LIFT STUDY FOR LOADING ZONES.

NOTE: --- CIRCLE INDICATES EXTENT OF JIB TIP STRUCTURE BEYOND MAX LOAD RADIUS

SAFE WORK METHOD TO BE IMPLEMENTED WHERE CRANES SLEW OVER EACH OTHER

NOTE TC1:
BUILDER TO CONFIRM THAT HEIGHTS OF SURROUNDING STRUCTURES/ TREES WITHIN THE SLEWING RADIUS OF THE CRANE DOES NOT EXCEED RL 99.0 PRIOR TO CRANE BASE MATERIAL SCHEDULING AND BASE CONSTRUCTION.

NOTE TC2:
BUILDER TO CONFIRM THAT HEIGHTS OF SURROUNDING STRUCTURES/ TREES WITHIN THE SLEWING RADIUS OF THE CRANE DOES NOT EXCEED RL 105 PRIOR TO CRANE BASE MATERIAL SCHEDULING AND BASE CONSTRUCTION.



CRANE RADIUS PLAN

SCALE 1:800

S:\Acad L to Z\Randwick - Children Hospital\22. Aconex Individual Drawing Sheet Upload\Rev 8\21459 - Sydney Childrens Hospital, Randwick Crane Base Rev8.dwg

O'HEARN CONSULTING
CRANE & TEMPORARY WORKS ENGINEERING
SUITE 3.05, 90 PHILLIP ST, PARRAMATTA NSW 2150
Telephone (02) 9896 2988 www.ohearnconsulting.com

Client

Project
TOWER CRANES
SYDNEY CHILDRENS HOSPITAL,
HIGH AND HOSPITAL STREET,
RANDWICK, NSW

Drawing Title
TC1 & TC2 Radius Plan

Project Drawing Number
SCH-OHC-SD-TW-10XX004

Date	Amendments	Drn	Rev
02.02.2023	NO CHANGES TO THIS DRAWING	R.P	2
15.02.2023	TC2 SLEW LOCK CRANE POSITION FACING EAST	R.P	3
27.02.2023	NO CHANGES TO THIS DRAWING	R.P	4
11.04.2023	LOAD CHART CORRECTION TO POWER PLUS (TTP)	R.P	5
04.05.2023	LOAD CHART CORRECTION 2 FALL	R.P	6
10.11.2023	NO CHANGES TO THIS DRAWING	R.P	7
23.11.2023	NO CHANGES TO THIS DRAWING	R.P	8

Design R.P
Check MOH
Scale 1:800
Date SEPT 22

Job No. 21459

Size	Dwg No.	Issue
A3	S14	8

A.5 Materials Handling Plan

SITE CONSTRUCTION PHASE 1.0

SCH1/MCCCC MW Commencement on Site (Q3 2022)

High St

Botany St

BOTANY ROAD

HIGH ST

Pedestrian Entry

Site Accommodation Set Up 1

Materials Handling & Lay Down and Truck Queuing area

HTH FUTURE BUILDING

SCH1/MCCCC Site Entrance

Gate Keeper

IASB Site Entrance

SHC1/MCCCC Construction Site

FOH

IASB Site

BOUNDARY LINE

STAFF IASB

RL 47.0

FRONT OF HOUSE

RL 56.3

ALLIED HEALTH NORTH

- SOCIAL WORK
- DIETETICS
- SPEECH PATHOLOGY
- PSYCHOLOGY

RL 57.09

PHARMACY

CAFE

FAIRY GARDEN

OUTPATIENTS DEPARTMENT

HOSPITAL SCHOOL

GEORGE GREGAN

HYDRO-THERAPY POOL

ALLIED HEALTH SOUTH

- OCCU THERAPY
- PHYSIOTHERAPY

RL 57.09

THERAPY/ REHAB

CHILD PROTECTION UNIT

RL 56.73

MEDICAL IMAGING

EXISTING SCH

EXISTING HOSPITAL BUILDING

Pedestrian Access

LEGEND

- CIRCULATION (PUBLIC)
- CIRCULATION (STAFF)
- LIFT (BED & STAFF)
- LIFT (PUBLIC)
- EXISTING
- VACANT (AFTER COMPLETION OF SCH1/CCCC)

REV		
F	ISSUED FOR TENDER	10/09/21
E	ISSUED FOR 100% DD	06/08/21
D	ISSUED FOR 100% SD	26/02/21
C	ISSUED FOR 95% SD	18/12/20
B	CD ISSUE	05/08/20
A	DRAFT CD ISSUE	21/07/20

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PROJECT
SYDNEY CHILDREN'S HOSPITAL STAGE 1 AND CHILDREN'S COMPREHENSIVE CANCER CENTRE

Sheet Name
PROPOSED CLINICAL ADJACENCY PLAN - LEVEL 00

0 5 10 15 20 25m
1:500

Scale	Date
As indicated@A1	10/09/21
Drawn By: AL	Checked By: BB
Revision: F	
Project No: 19101	
Drawing No: **SCH1-AR-DG-06-00001**	

FOR TENDER

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SITE CONSTRUCTION PHASE 2.0

IASB Contractor vacates remaining SCH1/MCCCC Site (Date TBC)

High St

Botany St

BOTANY ROAD

HIGH ST

Pedestrian Entry

Pedestrian Entry

Pedestrian Entry

Site Accommodation Set Up 1

Concrete Jersey Kerbs to excavation perimeter

Materials Handling & Lay Down and Truck Queuing area

HTH FUTURE BUILDING

SHC1/MCCCC Construction Site

SCH1/MCCCC Site Entrance

Gate Keeper

Materials Handling & Lay Down and Truck Queuing area

BOUNDARY LINE

Pedestrian Access

FOH

BOUNDARY LINE

Pedestrian Access

Pedestrian Access

BOUNDARY LINE

BOUNDARY LINE

LIVE IASB

STAFF IASB

IASB Site Entrance

RL 47.0

FRONT OF HOUSE

RL 56.3

EXISTING SCH

ALLIED HEALTH NORTH

- SOCIAL WORK
- DIETETICS
- SPEECH PATHOLOGY
- PSYCHOLOGY

PHARMACY

RL 57.09

CAFE

FAIRY GARDEN

EXISTING SCH

OUTPATIENTS DEPARTMENT

HOSPITAL SCHOOL

GEORGE GREGAN

EXISTING SCH

HYDRO-THERAPY POOL

ALLIED HEALTH SOUTH

- OCCU THERAPY
- PHYSIOTHERAPY

RL 57.09

EXISTING SCH

THERAPY/ REHAB

CHILD PROTECTION UNIT

RL 56.73

MEDICAL IMAGING

LEGEND

- CIRCULATION (PUBLIC)
- CIRCULATION (STAFF)
- LIFT (BED & STAFF)
- LIFT (PUBLIC)
- EXISTING
- VACANT (AFTER COMPLETION OF SCH1/CCCC)

REV		
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As indicated@A1	10/09/21
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FOR TENDER

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SITE CONSTRUCTION PHASE 3.0

Milestone 1 Completion (HTH site handover date TBC)

High St

Botany St

BOTANY ROAD

HIGH ST

ACTIVE HTH CONSTRUCTION SITE

HTH FUTURE BUILDING

SHC1/MCCCC Construction Site

FOH

BOUNDARY LINE

Pedestrian Entry

Pedestrian Entry

Pedestrian Access

Pedestrian Access

Pedestrian Access

HTH Site Entrance

In addition to those trucks already being unloaded there is an additional **65m** entrance ramp for queuing of trucks inside the site

Truck Turntable

PUMP

SCH1/MCCCC Site Entrance

Entrance & Exit ramp from Botany St to Basement 2

Gate Keeper

BOUNDARY LINE

STAFF IASB

LIVE IASB

IASB Site Entrance

RL 47.0

FRONT OF HOUSE

RL 56.3

ALLIED HEALTH NORTH

- SOCIAL WORK
- DIETETICS
- SPEECH PATHOLOGY
- PSYCHOLOGY

PHARMACY

RL 57.09

CAFE

FAIRY GARDEN

EXISTING SCH

OUTPATIENTS DEPARTMENT

HOSPITAL SCHOOL

GEORGE GREGAN

HYDRO-THERAPY POOL

ALLIED HEALTH SOUTH

- OCCU THERAPY
- PHYSIOTHERAPY

RL 57.09

EXISTING SCH

EXISTING SCH

THERAPY/ REHAB

CHILD PROTECTION UNIT

RL 56.73

MEDICAL IMAGING

LEGEND

- CIRCULATION (PUBLIC)
- CIRCULATION (STAFF)
- LIFT (BED & STAFF)
- LIFT (PUBLIC)
- EXISTING
- VACANT (AFTER COMPLETION OF SCH1/CCCC)

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Drawing No: **SCH1-AR-DG-06-00001**	

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High St

SITE CONSTRUCTION PHASE 4.0

Podium Works Commence

HIGH ST

Botany St

BOTANY ROAD

Pedestrian Entry

Pedestrian Entry

ACTIVE HTH CONSTRUCTION SITE

HTH FUTURE BUILDING

SHC1/MCCCC Construction Site

Tower Structure Complete

FOH

BOUNDARY LINE

Pedestrian Access

EXISTING SCH

ALLIED HEALTH NORTH

- SOCIAL WORK
- DIETETICS
- SPEECH PATHOLOGY
- PSYCHOLOGY

RL 57.09

PHARMACY

CAFE

FAIRY GARDEN

OUTPATIENTS DEPARTMENT

HOSPITAL SCHOOL

GEORGE GREGAN

HYDRO-THERAPY POOL

ALLIED HEALTH SOUTH

- OCCU THERAPY
- PHYSIOTHERAPY

RL 57.09

HTH Site Entrance

SCH1/MCCCC Site Entrance

PUMP

Materials Handling

Podium Works Commence

Gate Keeper

10m Turntable

In addition to those trucks already being unloaded there is an additional **45m** for queuing of trucks inside the site. Note - no semi trailer deliveries will be accepted for this stage.

STAFF IASB

LIVE IASB

THERAPY/ REHAB

CHILD PROTECTION UNIT

RL 56.73

ISAB Site Entrance

RL 47.0

MEDICAL IMAGING

FRONT OF HOUSE

RL 56.3

LEGEND

- CIRCULATION (PUBLIC)
- CIRCULATION (STAFF)
- LIFT (BED & STAFF)
- LIFT (PUBLIC)
- EXISTING
- VACANT (AFTER COMPLETION OF SCH1/CCCC)

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Drawn By: AL	Checked By: BB
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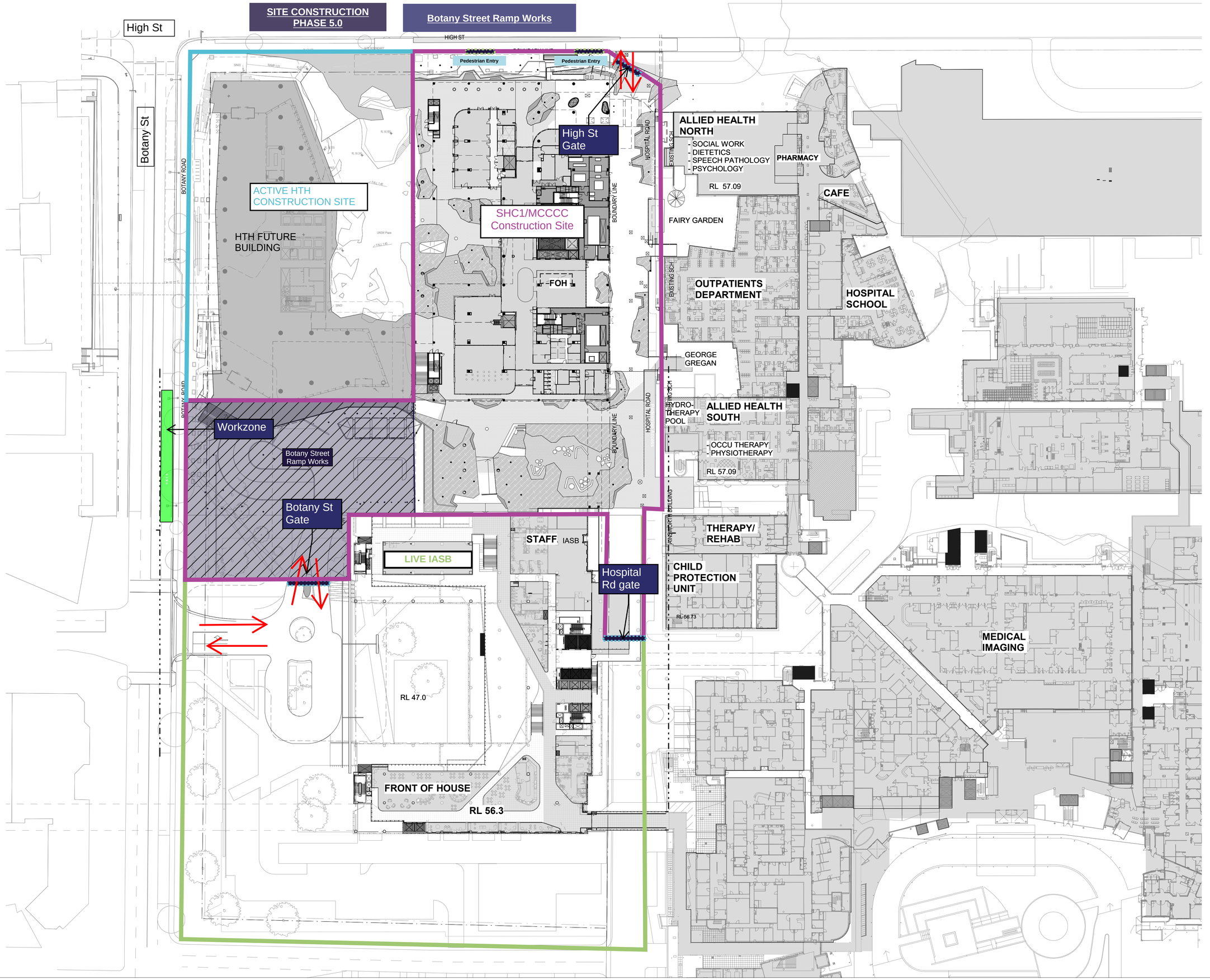

LEGEND

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Drawing No: **SCH1-AR-DG-06-00001**	

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A.6 Swept Paths

Swept Path analysis assessed all access and egress routes, and all these paths are shown in the following pages. However, for operational reasons including minimising impacts to local streets and traffic, heavy vehicles will be instructed to enter and exit the site utilising turning movements to and from the north as detailed in section 5.4 Construction Haulage Routes.

A3

BOUNDARY

BOTANY ST DROP OFF

PUBL
RL56

BOUNDARY

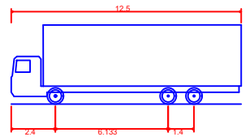
IASB

TANY ST

Legend

- Body Envelope
- 300mm Envelope
- 600mm Envelope
- Wheel Envelope

Design Vehicle(s)



HRV - Heavy Rigid Vehicle

Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock to Lock Time	6.00 sec
Curb to Curb Turning Radius	12.500m

Issue	Date	By	Chkd	Appd
A	22/09/21	AN	JE	JRT
For information				

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Client
HI

Job Title
SCH1/CCCC and UNSW HTH Construction Interface

Drawing Title
Turning Paths
HRV access (entry)

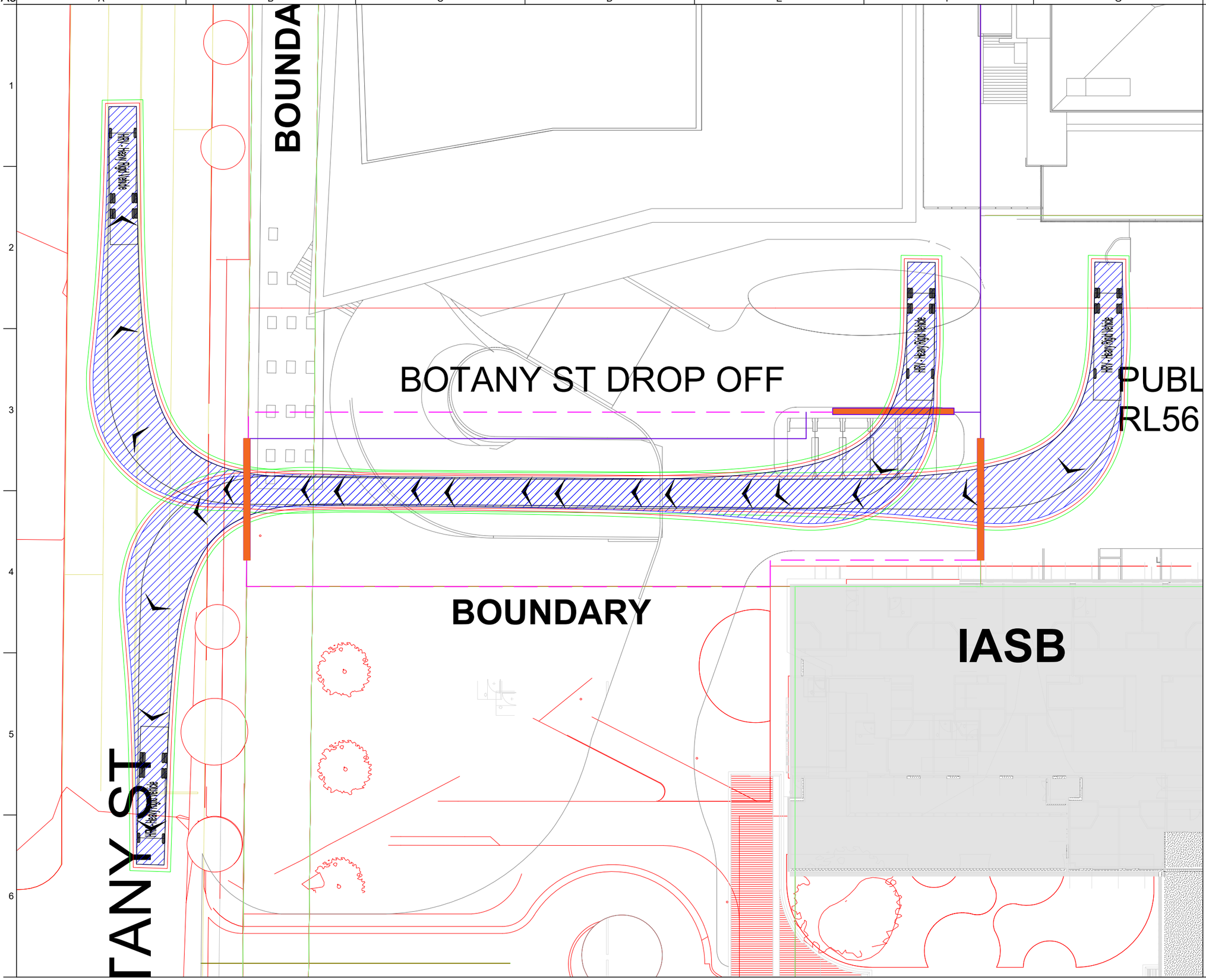
Scale at A3 1:330

Discipline Transport

Drawing Status
Draft

Job No	Drawing No	Issue
257913-00	**SKT003**	**A**

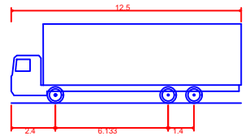
Do not scale



Legend

- Body Envelope
- 300mm Envelope
- 600mm Envelope
- Wheel Envelope

Design Vehicle(s)



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Job Title
SCH1/CCCC and UNSW HTH Construction Interface

Drawing Title
Turning Paths
HRV access (exit)

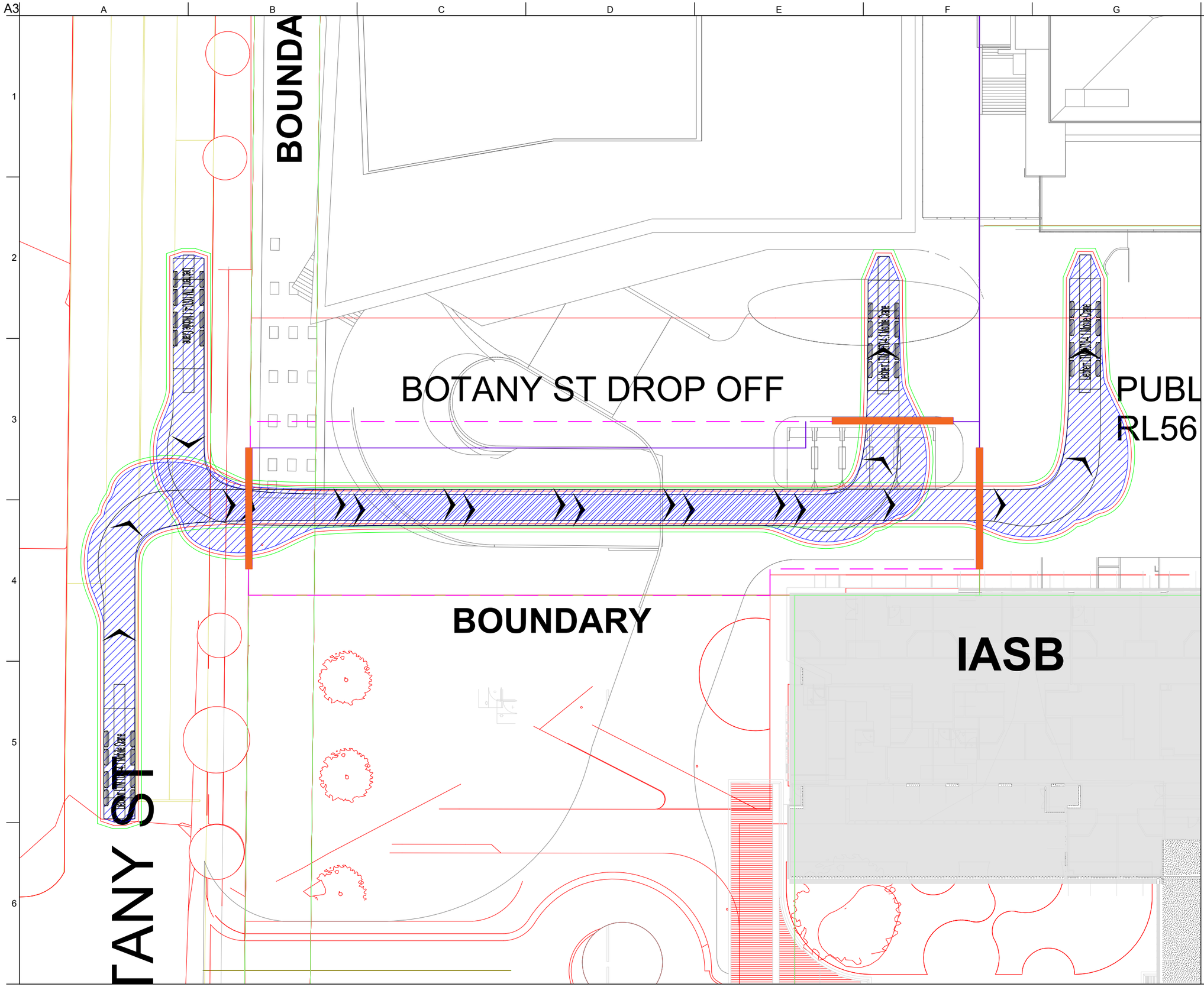
Scale at A3 1:330

Discipline Transport

Drawing Status
Draft

Job No	Drawing No	Issue
257913-00	**SKT004**	**A**

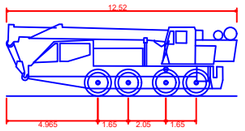
Do not scale



Legend

- Body Envelope
- 300mm Envelope
- 600mm Envelope
- Wheel Envelope

Design Vehicle(s)



Liebherr LTM 1070-4.1 Mobile Crane

Overall Length	12.520m
Overall Width	2.820m
Overall Body Height	3.900m
Min Body Ground Clearance	0.410m
Track Width	2.820m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.490m

Issue	Date	By	Chkd	Appd
A	22/09/21	AN	JE	JRT
For information				

ARUP

Arup, Level 5, 151 Clarence St
Sydney, NSW, 2000
Tel +61(02)9320 9320 Fax +61(02)9320 9321
www.arup.com.au

Client
HI

Job Title
SCH1/CCCC and UNSW HTH Construction Interface

Drawing Title
Turning Paths
Mobile crane access (entry)

Scale at A3 1:330

Discipline Transport

Drawing Status
Draft

Job No	Drawing No	Issue
257913-00	**SKT005**	**A**

Do not scale

A3

BOUNDARY

BOTANY ST DROP OFF

PUBL
RL56

BOUNDARY

IASB

TANY ST

Legend

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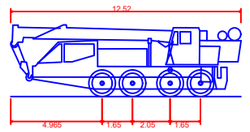
- 300mm Envelope
- 600mm Envelope
- Wheel Envelope

Design Vehicle(s)



Liebherr LTM 1070-4.1 Mobile Crane

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Overall Body Height	3.900m
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Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.490m

Issue	Date	By	Chkd	Appd
A	22/09/21	AN	JE	JRT
For information				

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www.arup.com.au

Client
HI

Job Title
SCH1/CCCC and UNSW HTH Construction Interface

Drawing Title
Turning Paths
Mobile crane access (exit)

Scale at A3 1:330

Discipline Transport

Drawing Status
Draft

Job No	Drawing No	Issue
257913-00	**SKT006**	**A**

Do not scale

A3

A B C D E F G

1 2 3 4 5 6

BOUNDA

BOTANY ST DROP OFF

PUBL
RL56

BOUNDARY

IASB

TANY ST

AV - Articulated Vehicle

AV - Articulated Vehicle

AV - Articulated Vehicle

Legend

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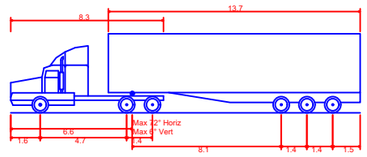
- 300mm Envelope
- 600mm Envelope
- Wheel Envelope

Design Vehicle(s)



AV - Articulated Vehicle

Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock to Lock Time	6.00 sec
Curb to Curb Turning Radius	12.500m

Issue	Date	By	Chkd	Appd
A	22/09/21	AN	JE	JRT
For information				

ARUP

Arup, Level 5, 151 Clarence St
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www.arup.com.au

Client
HI

Job Title
SCH1/CCCC and UNSW HTH Construction Interface

Drawing Title
Turning Paths
19m AV access (entry)

Scale at A3 1:330

Discipline Transport

Drawing Status
Draft

Job No	Drawing No	Issue
257913-00	**SKT007**	**A**

Do not scale

A3

BOUNDARY

BOTANY ST DROP OFF

PUBL
RL56

BOUNDARY

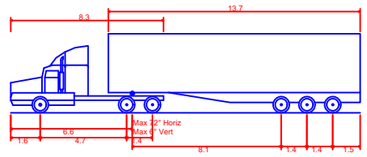
IASB

TANY ST

Legend

- Body Envelope
- 300mm Envelope
- 600mm Envelope
- Wheel Envelope

Design Vehicle(s)



AV - Articulated Vehicle

Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock to Lock Time	6.00 sec
Curb to Curb Turning Radius	12.500m

Issue	Date	By	Chkd	Appd
A	22/09/21	AN	JE	JRT
For information				

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Client
HI

Job Title
SCH1/CCCC and UNSW HTH Construction Interface

Drawing Title
Turning Paths
19m AV access (exit)

Scale at A3 1:330

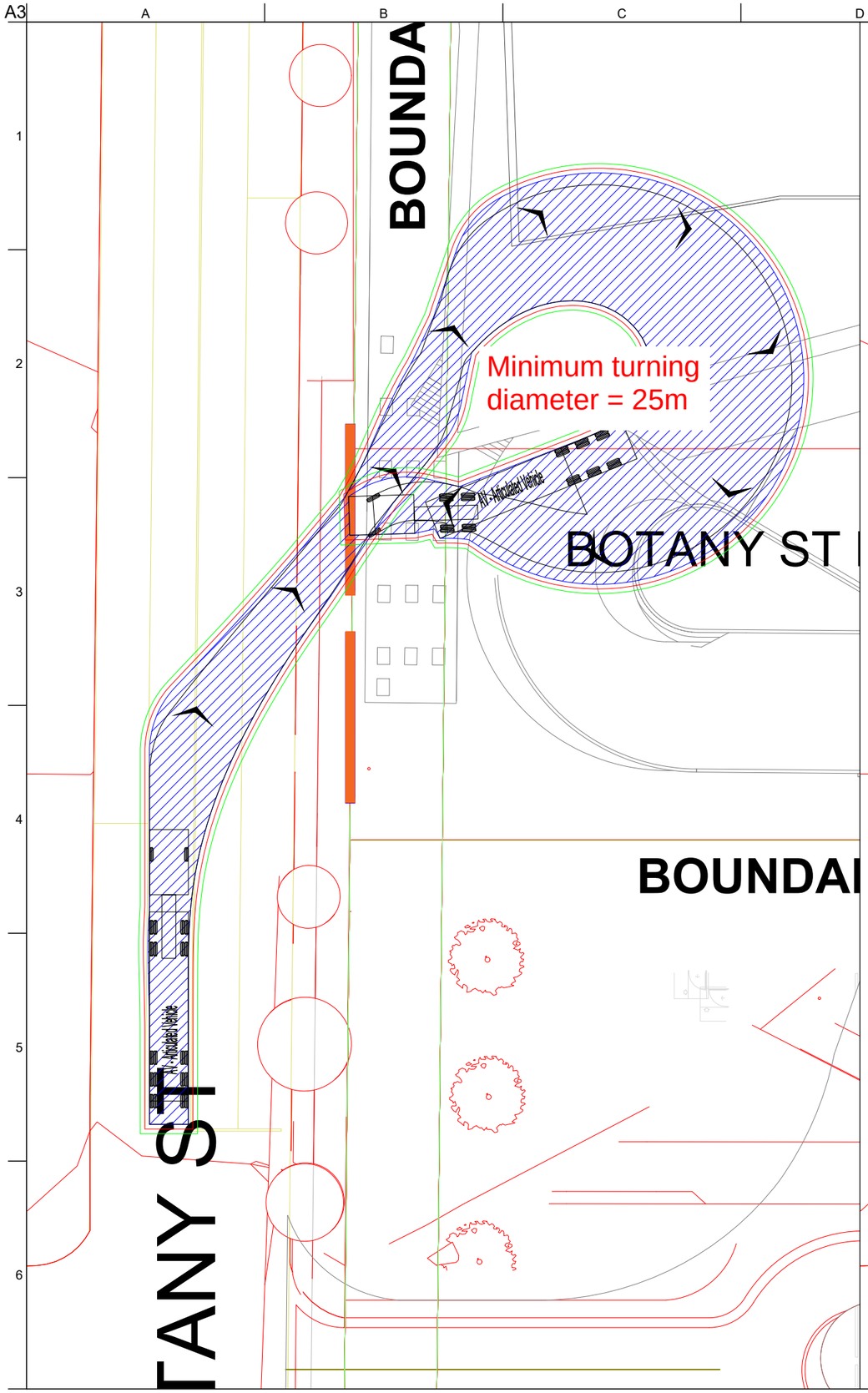
Discipline Transport

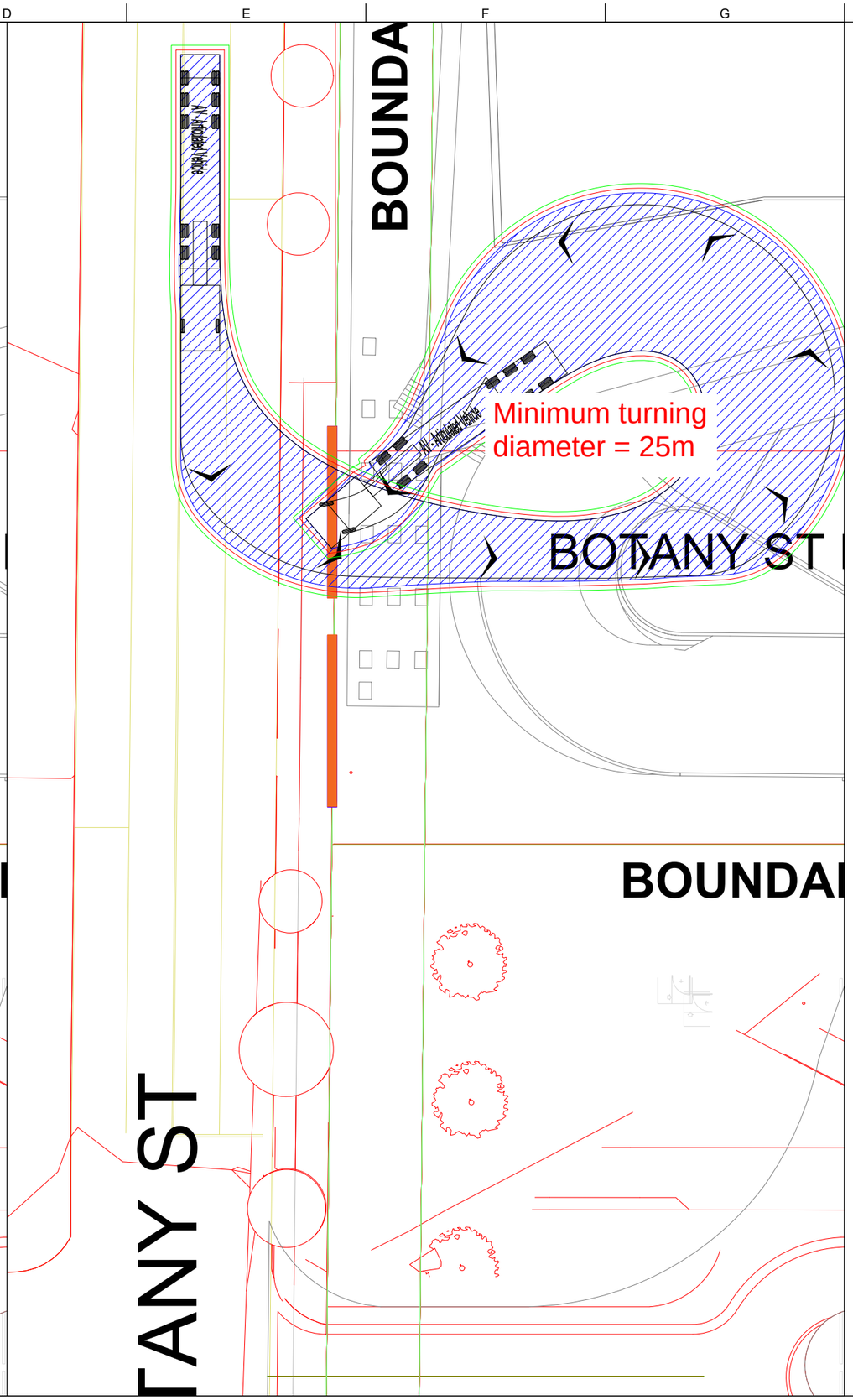
Drawing Status
Draft

Job No	Drawing No	Issue
257913-00	**SK008**	**A**

Do not scale

A3

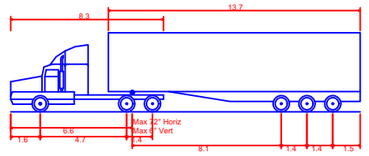




Legend

- Body Envelope
- 300mm Envelope
- 600mm Envelope
- Wheel Envelope

Design Vehicle(s)



AV - Articulated Vehicle

Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock to Lock Time	6.00 sec
Curb to Curb Turning Radius	12.500m

Issue	Date	By	Chkd	Appd
A	11/10/21	AN	JE	JRT
For information				

ARUP

Arup, Level 5, 151 Clarence St
Sydney, NSW, 2000
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www.arup.com.au

Client
HI

Job Title
SCH1/CCCC and UNSW HTH Construction Interface

Drawing Title
Turning Paths
OPT2: UNSW HTH 19m AV entry

Scale at A3 1:330

Discipline Transport

Drawing Status
Draft

Job No	Drawing No	Issue
257913-00	**SK009**	**A**

Do not scale