



Westmead Redevelopment Multi-Storey Car Park Preliminary Construction Traffic Management

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Westmead Redevelopment

Multi-Storey Car Park

Preliminary Construction Traffic Management Plan

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GTA Consultants Office: NSW

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1. Introduction

1.1 Background

Health Infrastructure is proposing to construct a Multi-Storey Car Park (MSCP) and associated works at Westmead Hospital, on the corner of Darcy Road and Institute Road, Westmead. The car park would support future growth of the Westmead health Precinct, as well as future development associated with the Westmead Redevelopment.

A State Significant Development Application is to be lodged with the Department of Planning and Environment (DPE). As such, Health Infrastructure commissioned GTA Consultants in October 2015 to prepare a preliminary Construction Traffic Management Plan CTMP for the proposed MSCP.

1.2 Purpose of this Report

This preliminary CTMP has been prepared in accordance with relevant Council and RMS requirements for Construction Traffic Management Plans.

The CTMP associated with the construction activity aims to ensure the safety of all workers and road users in the vicinity of the construction site. The CTMP's primary objectives are:

- To identify the need for adequate and compliant traffic management requirements within the vicinity of Westmead Health Campus
- To ensure continuous, safe and efficient movement of traffic for both the general public and construction workers
- Establishment of a safe pedestrian environment in the vicinity of the site
- To inform the Contractor(s) and set the ground rules for managing the construction traffic associated with the construction sites.

1.3 References

In preparing this report, reference has been made to the following:

- an inspection of the site and its surrounds
- Procedures for use in the Preparation of a Traffic Management Plan (TMP), Roads and Maritime Services (RMS), December 2001 (Version 2.0)
- Traffic Control at Work Sites manual, RMS, June 2010
- Australian Standard AS1742.3 – 2009 'Manual of Uniform Traffic Control Devices – Part 3: Traffic control for works on roads'
- other documents and data as referenced in this report.

Figure 2.2: Existing Site Conditions



Basemap source: Sydway

Figure 2.3: Existing Staff Car Park



Figure 2.4: Existing Visitor Car Park



2.2 Road Network

The Campus is accessed via several key traffic routes with key access points located along Darcy Road, Hawkesbury Road and Redbank Road.

Table 2.1 provides a summary of the characteristics of the surrounding key roads.

Table 2.1: Surrounding Road Network

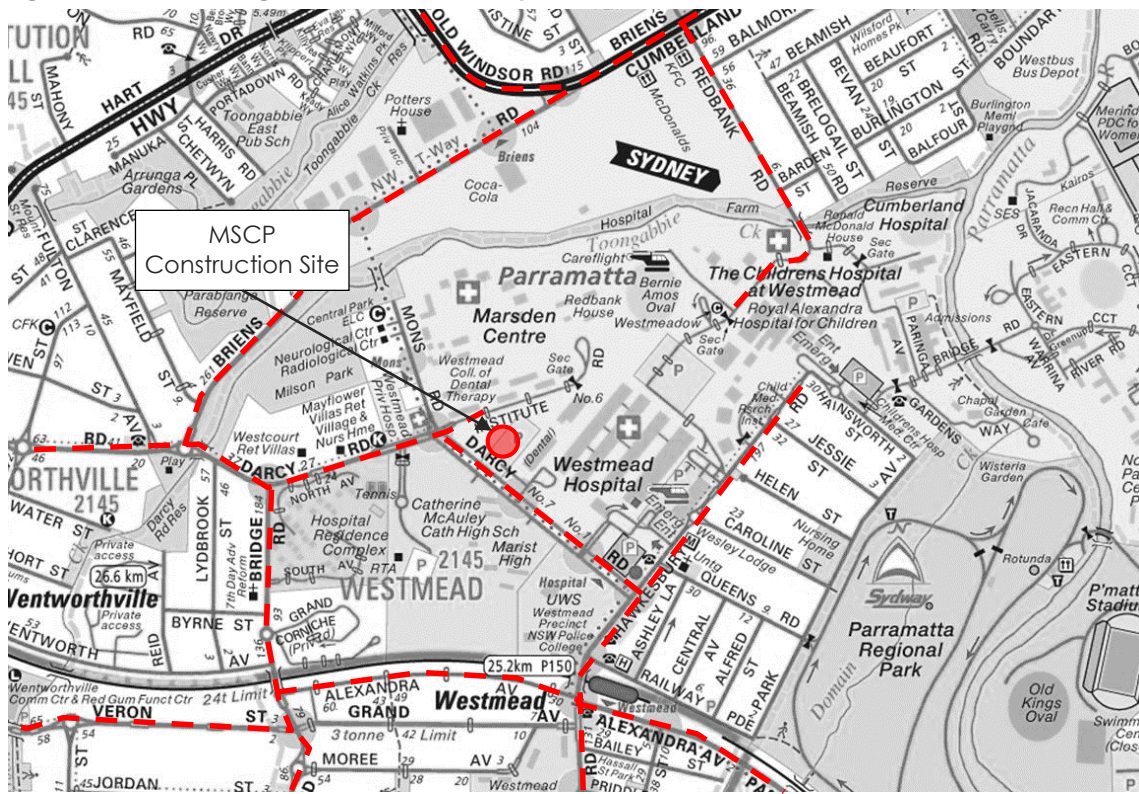
Road	Classification	Authority	Characteristics
Darcy Road	Regional Road	RMS	Two-way, 4-lane road with an additional Transit Way (T-Way) running through the median. It connects to Hawkesbury Road to the south.
Mons Road	Local Road	Council RMS - T-Way and Bus Lanes	Two-way, 2-lane road with marked kerbside parking for the southern portion and is an exclusive T-Way for the northern portion. Mons Road connects to Briens Road to the north and Institute Road and Darcy Street to the south.
Institute Road	Private Access Road	Council	Provides local access into a Hospital staff car park with boom gates limiting access.
Redbank Road	Local Road	Council	Two-way, 2-lane road with kerbside parking. It connects to Briens Road, located north of the Hospital.
Briens Road	Local Road	Council RMS - Bus Lanes	Generally a 4-lane road with bus lanes between Mons Road to the west and Cumberland Highway to the east. Arterial road further to the east (also known as Cumberland Highway) with 3-lanes in each direction.
Hawkesbury Road	Local Road/ Regional Road	Council RMS west of Darcy Road	Two-way, two lane road with kerbside parking. At intersections, parking is removed to allow additional traffic lanes and bus only lanes. It connects to the Great Western Highway to the south and is an RMS Regional Road west of Darcy Road.

The surrounding local road network connects with the broader arterial network, including connections to the Cumberland Highway, Great Western Highway, M4, Old Windsor Road and Pennant Hills Road.

The Great Western Highway and the M4 both provide east-west access to greater Sydney including Sydney CBD, Parramatta, Blacktown and key regional centres. The Cumberland Highway provides a north-south arterial road link to south-west Sydney areas including Liverpool and extending to the M5 to allow access to Campbelltown, Canberra and southern regional centres. The M2 and M7 also combine more broadly to provide a convenient north-south link.

The location of the proposed MSCP and its surrounds as well as key access routes to the Campus are shown in Figure 2.5.

Figure 2.5: Surrounding Road Network and Key Access Routes



Basemap source: Google Maps

2.3 Ambulance Routes

The Westmead Hospital main entry and the Emergency Department (ED) is located at the southern corner of the main building, with access via Darcy Road and Hawkesbury Road. The CHW main entry and ED is located at the southern corner of the building, with access via Hawkesbury Road. Ambulances typically use Darcy Road, Hawkesbury Road and Mons Road (including T-Way) to access the Campus emergency facilities.

2.4 Public Transport

Westmead Hospital is located about 500m from Westmead Railway Station which is well within the typical 800m catchment radius of a Railway Station. The Railway Station is located to the south and the MDCP site is located at the northern end of the Hospital precinct. The distance between the MDCP site and Railway Station is about 600m.

The Western Line (T1) operates at Westmead Railway Station, which provides frequent services to the Sydney CBD. The Cumberland Line (T5) also operates at Westmead Railway Station, providing a north-south link between Campbelltown and Schofields.

Parramatta Railway Station is located one stop to the east of Westmead, which is a major transport interchange providing a number of additional NSW TrainLink services extending to the Blue Mountains, and less regular services to Central West NSW including Orange, Bathurst and Dubbo.

The site is also well-served by the North-West T-way which opened in 2007 and provides regular bus services with significantly increased reliability and good travel times, improving the level of service offered to passengers.

All bus services that pass the site originate or terminate at Parramatta Railway Station with the exception of the 808 Merrylands to Westmead service. The majority of bus services operate as part of the T-way, which provides direct services to/ from the north-west Sydney growth area that includes Rouse Hill, Glenwood and Bella Vista. There are also limited services which provide local links to, inter alia Blacktown and Constitution Hill.

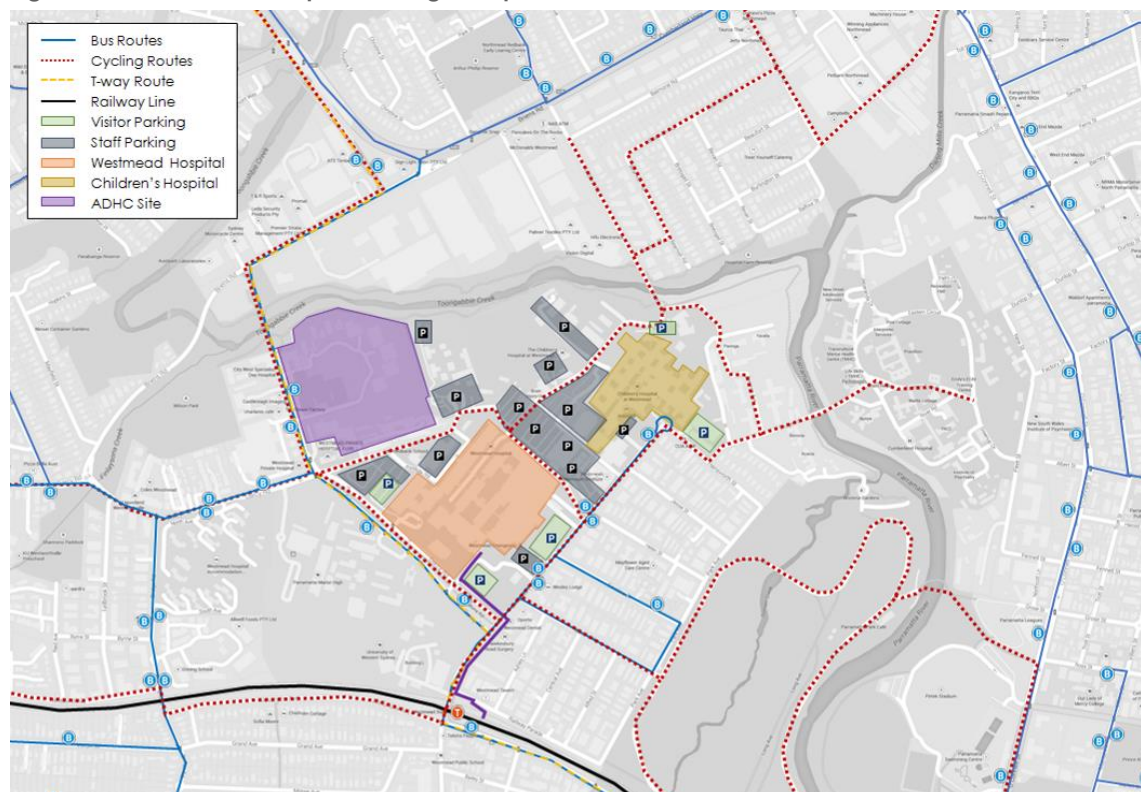
A review of the public transport available in the vicinity of Westmead Hospital is summarised in Table 2.2.

Table 2.2: Public Transport Provision

Mode	Route	Location of Stop	Distance	Route	Peak Hour Frequency
Train	T1	Westmead	500m	Penrith/Richmond to Epping/Hornsby	5-10 mins
	T5		500m	Schofields to Campbelltown	30 mins
	Blue Mountains	Parramatta	2.3km	Sydney to Lithgow	Hourly
	Regional		2.3km	Sydney to Dubbo	Daily
Bus	T60, T61, T62, T63, T64, T65, T66	Mons Rd T-way	50m	Parramatta to Castle Hill/Rouse Hill/Bella Vista	5-15 mins
	818	Darcy Rd/Hawkesbury Rd	50m	Parramatta to Northmead, Merrylands, Castle Hill/Cherrybrook Hornsby/Glenwood	Hourly
	708	Mons Rd T-way	50m	Constitution Hill to Parramatta	2 services per day (1 during AM peak)
	711		50m	Blacktown to Parramatta	30 min

The existing Westmead Hospital public transport along with active travel specifics are highlighted in Figure 2.6.

Figure 2.6: Westmead Hospital Existing Transport Conditions



Basemap source: Google Maps

3. Overview of Construction Activities

The proposal included the construction of an eight storey 1,254 space car park. This will involve:

- Demolition of the following existing items and/or structures:
 - on-grade car park number 7
 - former Coroner's Court building slab and fire services building
 - eastern part of Institute Road
 - lighting, trees and other structures within the site.
- Construction of a 1,254 space multi-storey car park (MSCP) (8 levels) at the corner of Institute and Darcy Road, associated access and egress, and pedestrian bridge link to Dental Building.
- New at-grade car parking area (47 car spaces) east of the MSCP.
- Extension of Institute Road to the east to connect to new road approved under Part 5.
- Widening of Institute Road on approach to Darcy Road to provide two traffic lanes (55m long second lane) for intersection improvements.
- Landscaping works including creation of park and new pathway connections.

The Principal Contractor would be responsible for developing a detailed construction staging plan. However, it is anticipated that the works would be undertaken in the following key stages.

Demolition/ Site Preparation Works

The first stage of works would incorporate the demolition and clearing of existing structures/ pavements on the site. This stage would also incorporate site setup works including installation of site accommodation and construction traffic management measures. To facilitate construction vehicles entering and exiting the site in a forward direction, a RMS accredited traffic controller should be employed at designated entry/ exit points.

Excavation Works

Following completion of demolition works, excavation works will be undertaken on the site associated with the lower ground level of the car park. Construction vehicles will enter and exit the site in a forward direction and should be guided and managed by a RMS accredited traffic controller at each designated entry/exit point.

Construction Works

The proposed development incorporates the construction of a seven storey multi-storey car park with associated ancillary facilities. The car park would accommodate 1,254 car spaces for use by staff and visitors, including 12 disabled parking spaces. The proposal also includes the construction of a pedestrian bridge connecting the car park and the oral health (dental) building.

Road works within the Campus are proposed to provide vehicular and pedestrian access to the new car park while maintaining access to existing hospital buildings. The road works proposed include the following:

- construction of two access points onto Institute Road (one entry, one exit)
- reconstruction of the existing car park access from the intersection of Darcy Road and Dental Access
- widening and upgrade works within Institute Road to accommodate right turn slip lanes and a pedestrian crossing facility.

The works also include provisions for diverting/ augmenting storm water and other services as needed to accommodate the proposed MSCP.

4. Construction Traffic Management

4.1 Overall Principles of Construction Traffic Management

The overall principles of traffic management during the construction activity include:

- provide an appropriate and convenient environment for pedestrians
- minimise the impact on pedestrian movements
- maintain appropriate capacity for pedestrians at all times on footpaths around the site
- maintain appropriate public transport access
- maintain current levels of parking within the Campus
- maintain permanent access to/ from the emergency hospital access point for ambulances
- restrict construction vehicle movements to designated routes to/ from the site
- manage and control construction vehicle activity in the vicinity of the site
- minimise impacts to general traffic in the vicinity of the site.

4.2 General Requirements

In accordance with Road and Maritime Services (RMS) requirements, all vehicles transporting loose materials will be required to have the entire load covered and/or secured to prevent any large items, excess dust or debris being deposited onto the roadway during travel to and from the site. All subcontractors and suppliers must be inducted by the Principal Contractor(s) to ensure that the procedures are met for all vehicles entering and exiting the construction sites. The Principal Contractor(s) will monitor the roads leading to and from the site and take all necessary steps to clean any debris deposited by construction vehicles.

Vehicles operating to, and from and within the site shall do so in a manner, which does not create unreasonable or unnecessary noise or vibration.

No tracked vehicles will be permitted on any paved roads. Public roads and access points will not be obstructed by any materials, vehicles, refuse skips or the like, under any circumstances.

4.3 Work Hours

All construction activity would be restricted to the standard hours of construction as follows:

- 7:00am to 6:00pm Monday to Friday
- 8:00am to 1:00pm Saturdays
- no work on Sundays or public holidays.

Where out-of-hours works are required, approval will need to be sought from the Department of Planning and Environment.

4.4 Construction Worker Parking

Given that parking is in high demand within the Westmead Hospital staff parking areas, construction workers should be encouraged to car pool and/ or make use of the available public transport for travel to and from the site. Some parking may be possible on-site, within the nominated construction compounds, which should be clearly separated from existing staff parking areas. No workers are to park outside of any site compound or work areas at any time.

4.5 Construction Traffic Volumes

Traffic generated by the construction works includes construction worker light vehicles (including utility vans), as well as heavy vehicles for periodic delivery and removal of materials, including plant and equipment. Vehicle types and sizes would vary depending on the required use, but include medium and large rigid vehicles and articulated vehicles for import of bulk materials or minor spoil removal, as well as concrete trucks.

Although the level of construction vehicle activity is unknown at this stage, the volumes are expected to be up to 60 vehicles per day (120 one-way trips).

Overall the construction works could not be expected to significantly impact intersection operation external to the site. This includes the Darcy Road/ Mons Road/ Institute Road intersection and Mons Road more broadly. This also assumes that construction vehicle activity outside typical weekday AM and PM peak hours.

Any works on weekends would not present significant traffic related impacts, with no known specific restrictions limiting access and/ or the work hours as specified.

All works within the site and associated vehicle movements will be restricted to the permitted working hours of the site.

4.6 Site Access

Access to this site would be to/ from Institute Road or via the signalised intersection of Darcy Road and Dental Access. No direct access is to be from Darcy Road. It is recommended that separate access points should be provided for entry and exit to the site, to limit potential conflicts between pedestrians and vehicles. All construction vehicles existing via Institute Road would be required to exit to the west.

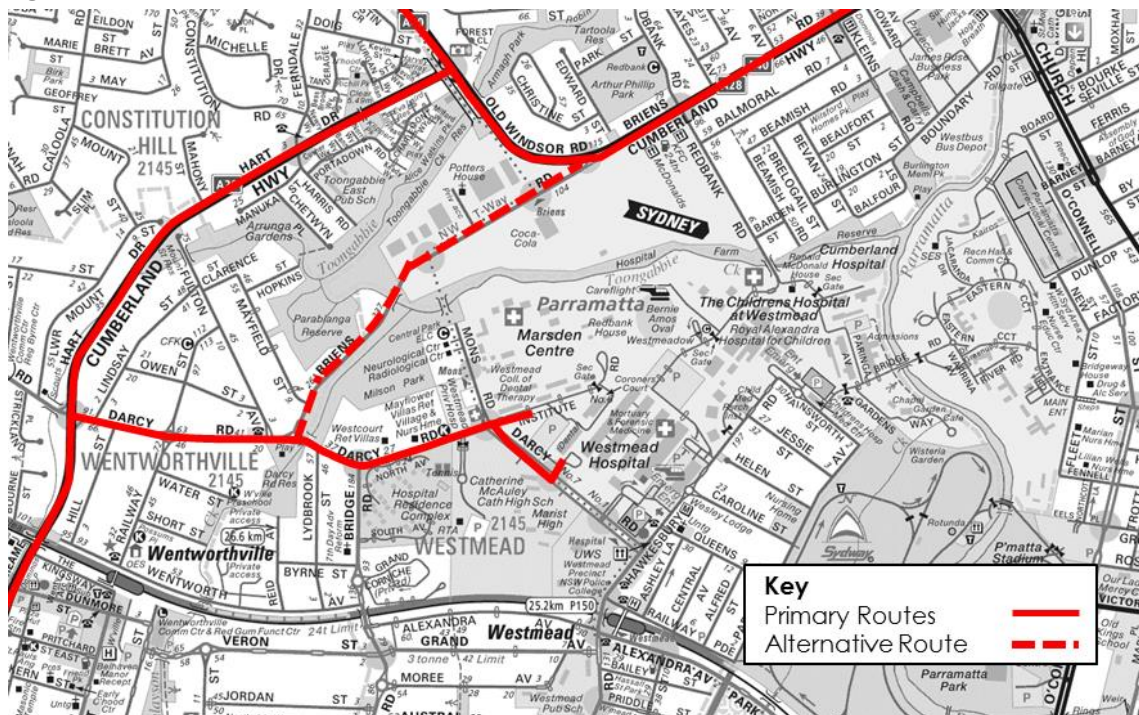
4.7 Construction Vehicle Routes

Generally, construction vehicles will have origins and destinations from a wide variety of locations throughout Sydney. However, all construction vehicles are to be restricted to the State and Regional Road network, where possible. No construction vehicles are to use Darcy Road south of the Dental Access to access the site.

As such, likely construction vehicle routes have been developed with the aim to provide the shortest distances to/from the arterial road network, whilst minimising the impact of construction traffic on streets in the vicinity of the site. Alternative routes would not be used without specific prior approval from the appropriate stakeholders.

Truck drivers will be advised of the designated truck routes to/ from the site. The truck routes are detailed below and shown in Figure 4.1.

Figure 4.1: Construction Traffic Routes



Basemap source: Sydney

It is understood that Heath Infrastructure is currently in consultation with Transport for NSW and RMS for about the possibility of constructing vehicles using Mons Road and the T-way connection to Briens Road to access the site. The Principal Contractor is to confirm the potential usage of the route as part of these CTMP.

It is anticipated that queuing or marshallng of trucks should be able to be accommodated within the works site. However, if required, the layover of trucks on public roads may be possible at the following locations:

- Along eastern kerb of Briens Road. Parking in this location is unrestricted, with relatively low demand south of the Toongabbie Creek Bridge. The layover area is also north of the residential properties which are all located further south of the bridge. This layover is only to be used between 10:00am and 3:00pm on weekdays.
- Along the westbound carriageway of the Great Western Highway between Coleman Street and the Old Prospect Road T-Way. There is no limitation on the use of this layover.

The Principal Contractor would be required to liaise with and obtain approval from the relevant authority (Council, RMS) if the use of on-street marshallng areas is required.

4.8 On-street Works Zones

It is anticipated that no on-street Works Zones would be required during works.

If the Principal Contractor requires the use of a Works Zone they would be required to liaise with and obtain approval from the relevant authority (Council, RMS).

4.9 Special Deliveries

It is not anticipated that any special deliveries will be required; however, if any vehicle larger than 19.0 metres in length is required to access the site, access will only be granted following an approval from the relevant authorities (Council, RMS).

4.10 Traffic Control Plan

Notwithstanding the limited impacts of construction on traffic operation of the surrounding network, a Traffic Control Plan (TCP) would need to be prepared to appropriately manage the use of the designated construction routes and site interfaces, and submitted to Council and/ or RMS if required by a Section 138 permit under the Roads Act. A TCP would also be required to obtain any appropriate Road Occupancy Licences and Road Opening Permits required by RMS and/or Council.

As part of implementation of the TCP, standard signage warning approaching vehicles of the construction activity and heavy vehicle movements should be installed. This should include static signage to be in-place in advance of the works. Other possible mitigation measures to minimise traffic impacts during construction generally include:

- Appropriate traffic management, including static signs, manual traffic control and provision of temporary barriers to control the designated work areas and minimise delays.
- Establishment of safe access points to work areas from the adjacent road network including safety measures such as barriers and warnings to pedestrians, maintaining sight distance requirements and signage and the provision of traffic management measures such as those identified above.
- Use of traffic controllers to negotiate pedestrian and construction vehicle priority and access, if required.

The TCP should also outline how potential construction vehicle manoeuvres could be accommodated in and out of the construction site.

4.11 Pedestrian Management

During the construction period, pedestrian movements throughout the campus is to be maintained as much as possible. Where works require the closure of an existing pedestrian route, a suitable alternative is to be provided. Class A hoarding/ fencing would be provided between pedestrian paths and any work site.

It is noted that the shared path on the eastern side of Darcy Road is to be kept open at all times. An appropriate alternative path is to be provided if works require the temporary closure of the path.

4.12 Car Parking

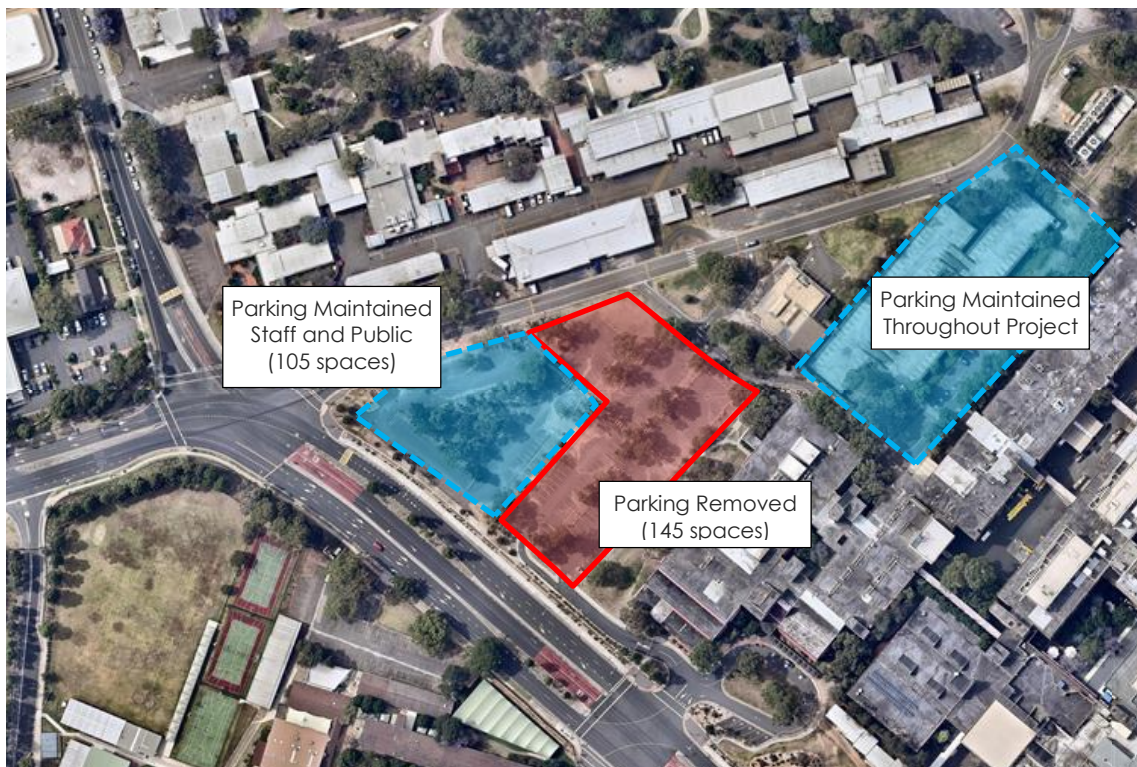
The Principal Contractor is responsible for staging the works, in consultation with the Early and Enabling Works Contractor (A W Edwards), to ensure that the existing on-site parking supply is maintained during construction and to ensure that there is no significant impact to the surrounding available public parking. This would include staging the closure of existing on-site parking with the opening of new car parks and /or providing temporary on-site car parks, as required.

It is understood that Health Infrastructures is currently developing a Campus wide car parking staging strategy to ensure that on-site parking supply is not impacted by the various construction projects currently being undertaken within the site. The strategy includes the potential to use valet parking services within select car parks to increase the capacity during certain stages.

Preliminary staging indicates that the closure of existing car parking spaces on the MSCP site could be done at the following times:

- March 2016: removal of 65 staff and 80 public parking spaces
maintain 105 staff and public parking spaces
(shown in Figure 4.2)
- June 2016: removal of all remaining parking spaces on the MSCP site.

Figure 4.2: Car Parking – March 2016 to Jun 2016



Basemap source: Sydney

4.13 Public Transport

Given the infrequent heavy vehicle movements associated with the construction works, the overall impact to existing public transport services is expected to be negligible. This includes the impact on bus services along Darcy Road, Mons Road (including the T-Way) and in the vicinity of the site.

4.14 Emergency Vehicles and Heavy Vehicles

During construction, the Principal Contractor will ensure that there is no disruption to emergency vehicles on public and internal Hospital roads.

Emergency access to the subject site will be available through the site access points on Institute Road.

Emergency protocols on the site should include a requirement for any traffic controllers to assist with emergency access from the street. All truck movements to the site and/or incident point would be suspended and cleared.

Consequently, any potential impacts on emergency access would be effectively managed throughout the works.

The contractor is to Liaise with the police and emergency services agencies throughout the construction period and a 24-hour contact would be made available for 'out-of-hours' emergencies and access.

4.15 Existing and Future Developments

A W Edwards has been contracted to construct the Early and Enabling Works package immediately to the north of Institute Road. These works are expected to be carried out between October 2015 and July 2017. It is the Principal Contractors responsibility to liaise with A W Edwards to coordinate installed traffic management and wayfinding measures.

4.16 Traffic Movements in Adjoining Areas

No adverse effects are expected from the movement of heavy vehicles through adjacent council areas.

5. Contractor Requirements

5.1 Construction Traffic Management Plan

Prior to the commencement of construction, a CTMP is to be prepared by the Principal Contractor. The CTMP will address the following:

- consultation with the consent Authorities and relevant approvals
- the likely construction vehicle numbers and frequency
- approach and departure routes
- anticipated special out of hours or escorted deliveries
- parking access arrangements during construction
- construction work zone locations
- site entry and exit points
- proposed traffic control signage
- proposed traffic management at critical locations i.e. entrance to main Hospital
- provision of acceptable pedestrian management measures.

The Principal Contractor will implement, update and maintain the CTMP throughout the construction period and until completion.

5.2 Staff Induction

All workers and subcontractors engaged on-site would be required to undergo a site induction. The induction should include permitted access routes to and from the construction site for all vehicles, as well as standard environmental, WHS, driver protocols and emergency procedures. Additionally, the Principal Contractor will organise regular scheduled site inductions as required)

Any workers required to undertake works or traffic control within the public domain would be suitably trained and covered by adequate and appropriate insurances. All traffic control personnel would be required to hold RMS accreditation in accordance with Section 8 of Traffic Control at Work Sites.

5.3 Contact Details of the Site Manager(s)

Contact details should be provided by the Principal Contractor as part of their CTMP for the project.

5.4 Occupational Health and Safety

Any workers required to undertake works or traffic control within the public domain shall be suitably trained and will be covered by adequate and appropriate insurances. All traffic control personnel will be required to hold RMS accreditation in accordance with Section 8 of 'Traffic Control at Worksites'.

5.5 Communications

The Principal Contractor is to prepare a communication plan to manage and provide updated to hospital staff/ visitors and the general public throughout the works. Appropriate site, warning and wayfinding signage are to be provided as necessary.

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