Redevelopment of UNSW Cliffbrook Campus
45-51 Beach Street, Coogee
State Significant Development Submission (SSD 8126)

Preliminary Construction Traffic Management Plan

Prepared for:

University of New South Wales

2/05/2017

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Client: University of New South Wales

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1 Introduction

1.1 Background

This preliminary Construction Traffic Management Plan (CTMP) has been prepared on behalf of the University of New South Wales (UNSW) to accompany a State Significant Development application for the proposed redevelopment of the UNSW Cliffbrook Campus at 45-51 Beach Street, Coogee.

The proposed development, which is referred to as the Clifbrook Campus Redevelopment (CCR) Project, will include:

- Retention of the Cliffbrook House building and other heritage items;
- Demolition of two existing buildings on the site; and
- Construction of new participant accommodation and teaching space building over an excavated basement car park.

1.2 Purpose of this Preliminary CTMP

It is acknowledged that an approval for the proposed development will include a condition of consent requiring the preparation of a detailed CTMP for the proposed works. The preparation of a detailed CTMP is most appropriately prepared following approval and prior to Construction Certification. This allows building contractors to be engaged in the development of the detailed CTMP.

Notwithstanding the above, this preliminary CTMP has been prepared to assist the Department of Planning and Environment (DoPE) in the consideration of the likely implications during construction and how such implications can be mitigated and managed.

As such this preliminary CTMP is provided in order to understand the potential for impacts arising from the construction activities of the subject development and to recommended appropriate mitigation measures. This report provides an outline of the proposed construction methodology and details management measures to ensure the safety of the public and workers in the form of a traffic management plan and traffic control plan.

1.3 Principles for Construction Traffic Management

The principles for traffic management during demolition, excavation and construction phases of the development are to:

- Minimise disruptions to the surrounding road network;
- Ensure the safety of the public and workers;
- Provide appropriate access to the site for demolition, excavation and construction traffic;
- Restrict vehicle activities to designated construction vehicle routes through the area;
- Provide a convenient and appropriate environment for pedestrians;
- Minimise effects on pedestrian movements and amenity;
- Maintain existing on-street parking in the vicinity of the site where practical;
- Maintain access to other properties adjacent to the construction site;
- Maintain safety for workers; and
- Carry out construction activity in accordance with approved hours of works.

1.4 References

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

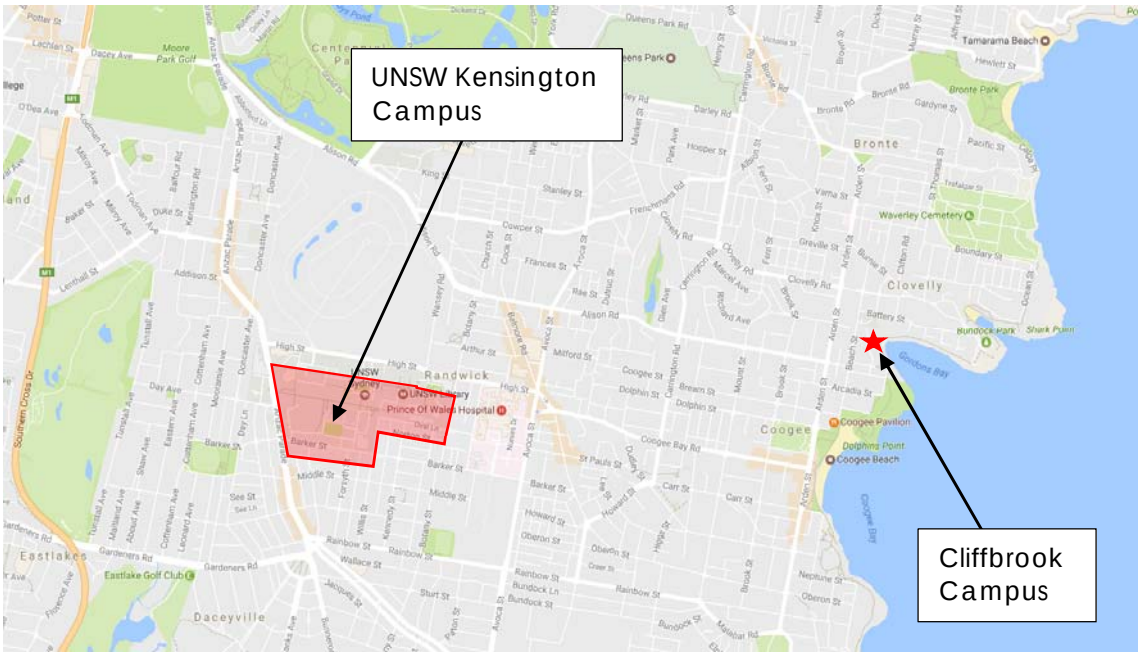
- An inspection of the site and its surrounds;
- Roads and Maritime Services Guide to Traffic Generating Development (2002);
- Roads and Maritime Services Traffic Control at Work Sites Version 4 (2010);
- Australian Standards AS1742.3-2009 Traffic Control for Works on Roads (2009);
- Australian Standards AS2890.2-2002 Parking Facilities - Off Street Commercial Vehicle Facilities (2002); and
- Other documents as referenced in this report.

2 Existing Conditions

2.1 Site Location

The CCR Project site is located at 45-51 Beach Street, Coogee. The site has road frontages to Beach Street and Battery Street (see Figure 2.1 and Figure 2.2).

Figure 2.1: Cliffbrook Campus Site Locality



Source: www.maps.google.com

2.2 Road Network

Both Beach Street and Battery Street are local roads under the control of Randwick City Council.

At the site, Beach Street has a sealed road width of 12.5 metres and provides two travel lanes in each directions and kerb side parking on both sides of the street.

Battery Street has a sealed road width of 6 metres with two way flows permitted and parking along the southern side of the street. The road width is generally insufficient to allow two cars to pass each other adjacent to a parked car.

Figure 2.2: Cliffbrook Campus Site Location

Source: www.maps.six.nsw.gov.au

2.3 Surrounding Land Uses

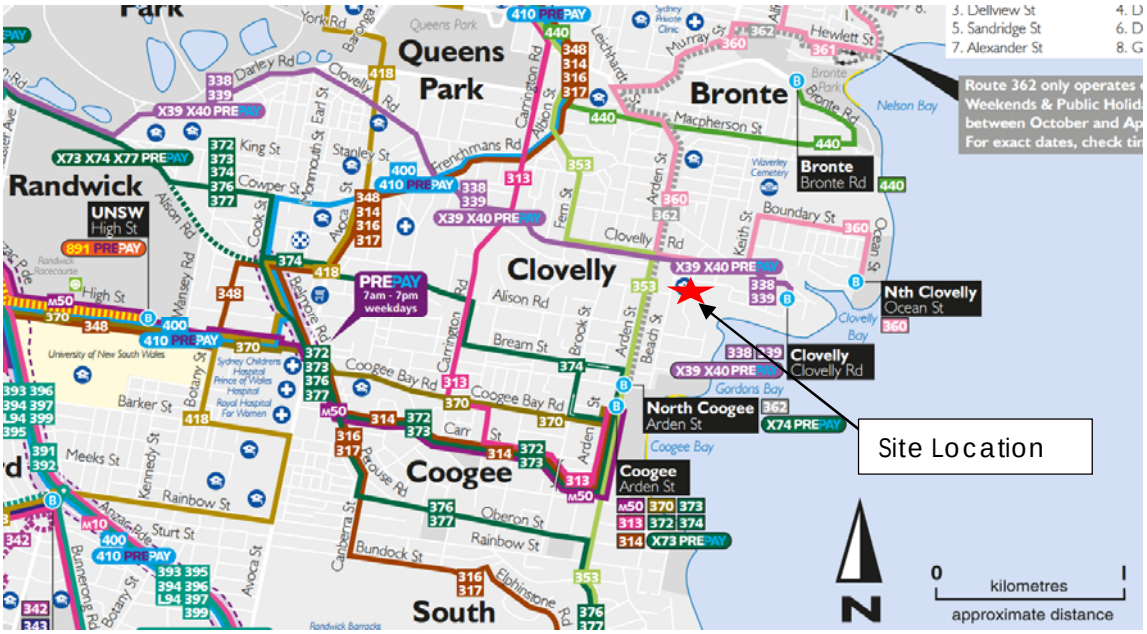
The land uses surrounding the site are residential. The site is located within close proximity to Gordons Bay beach which attracts significant visitors during summer period, particularly on sunny weekends.

2.4 Public Transport

While the site is within close proximity to public transport routes, neither Beach Street nor Battery Street are designated bus routes (see Figure 2.3).

The closest bus stops are located on Clovelly Road at the intersection of Beach Street (150 metres from the Cliffbrook site's main gates) and on Arden Street near Alison Road (350 metres from the site's main gates).

Figure 2.3: Bus Routes



Source: www.transport.nsw.com.au

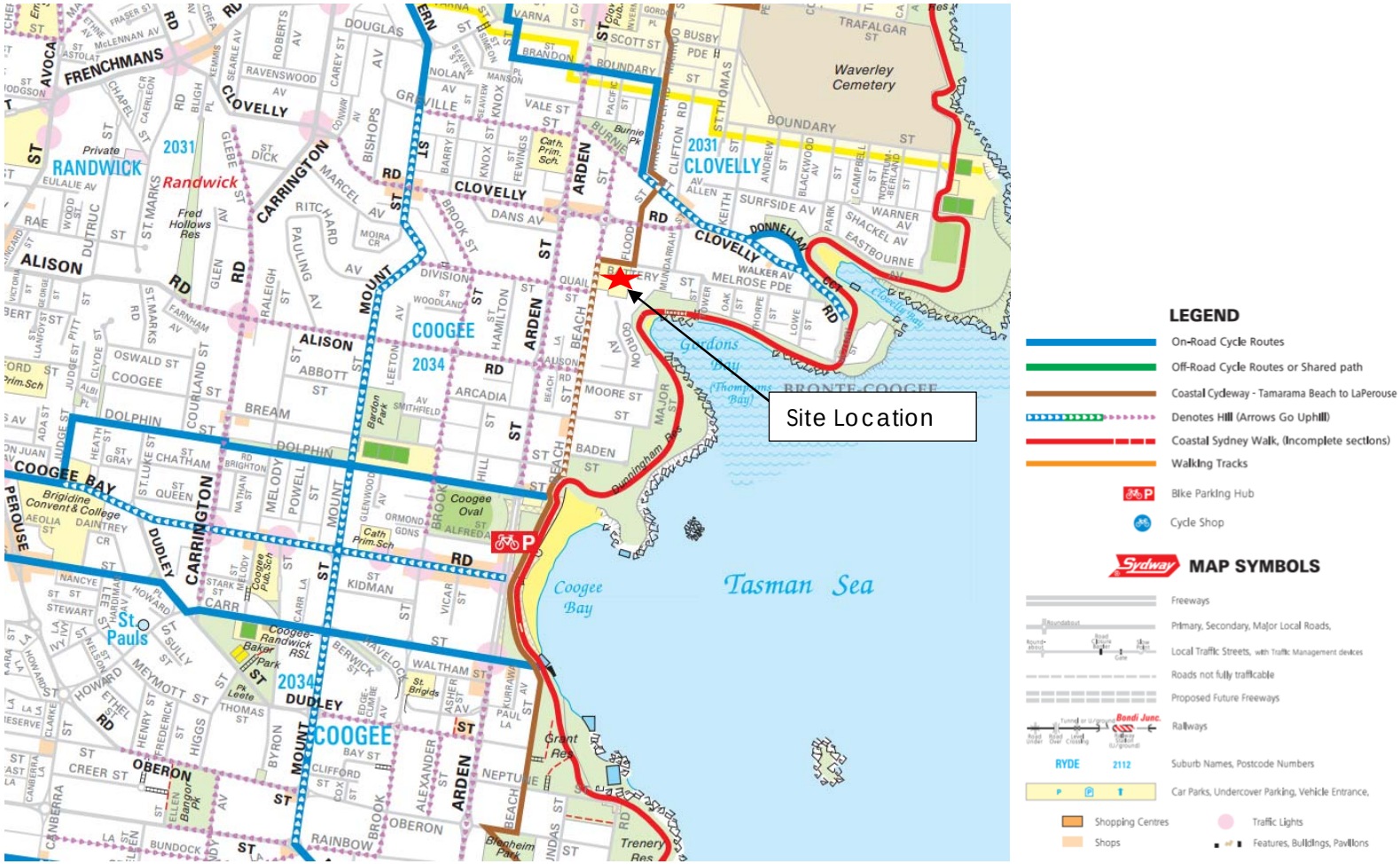
2.5 Pedestrian and Cycle Facilities

There are paved footpaths along both sides of Beach Street and both sides of Battery Street within the vicinity of the CCR Project site.

Both Beach Street and Battery Street form part of the designated "on road" cycle route which makes up the Coastal Cycleway running from Tamarama Beach to La Perouse (see Figure 2.4).

Pedestrian and cyclist flows along the footpaths at the Cliffbrook site frontages were observed to be low.

Figure 2.4: Cycle Routes



Source: www.randwick.nsw.gov.au

3 Proposed Construction Methodology

This section describes the proposed construction works program, site access, construction vehicle type and number, and the construction personnel number based on the information provided by the UNSW.

It is notes that the during construction activities on the Cliffbrook site, no other UNSW related activities will occur simultaneously. That is the site will be solely a construction site with no other pedestrian or vehicle access permitted onto or through the (construction) site.

The construction works essentially involves three phases, namely:

- Site Establishment and Demolition;
- Excavation; and
- Construction.

The activities of each phase are described below.

3.1 Site Establishment Demolition Phase

The proposed demolition works would include:

- Erection of appropriate site security fencing along the site boundaries where required to restrict non authorised access.
- Demolition and removal of 2 existing buildings;
- Material to be removed primarily with bogie trucks (9 metres long) and truck (bogie) and dog trailers trucks.
- Loading of trucks for demolition material removal will occur principally from on-site loading areas. Use of on street loading zones for loading of demolition material is not envisaged to be required.
- Duration of works estimated to be 8 weeks.

3.2 Excavation Phase

The proposed excavation works to be undertaken would include:

- Excavation of a single basement level.
- Loading of trucks for excavation material removal will occur from an on-site loading bay.

- Material to be removed primarily with bogie trucks (9 metres long) and truck (bogie) and dog trailers trucks.
- Duration of works estimated to be 5 weeks.

3.3 Construction Phase

Construction activities will include:

- Construction of a new building over a new basement car park;
- Material to be delivered primarily with heavy rigid vehicles (HRV – 12.5m long). Some long load vehicles may be required for infrequent delivery of special materials such as steel beams.
- Duration of works estimated to be 12 months.

3.4 Overall Construction Duration

The demolition stage is expected to commence by late 2017 and the excavation and construction stage is estimated to be completed by early 2019.

This is an expected duration of works of 15 months.

3.5 Construction Work Hours

Construction works would be undertaken in accordance with the development consent conditions.

The typical working hours are expected to be:

- Monday – Friday: 7am – 6pm;
- Saturday: 7am – 5pm; and
- Sunday and public holiday: No Work.

Any works outside these times would be subject to a separate application to the relevant approval authority as determined by the Conditions of Consent. Such works may include delivery of cranes, large plant or equipment required to the site.

3.6 Hoarding and Fencing

The site is currently bounded by existing sandstone walls along Beach Street and Battery Street which will be retained and act as secure fencing for the construction site.

Any other openings would be secured with fencing and hoardings to keep the site secure and to protect pedestrians passing the site as required.

3.7 Site Vehicle Access Arrangements

Throughout demolition, excavation and construction phases all construction vehicular access would be via the existing access driveway at Beach Street.

The existing vehicle access will require traffic controllers to enable two way movements of vehicle into and out of the site access gate. Traffic controllers would also manage pedestrian flows along the footpath across the access driveway during periods of relatively high construction traffic activity (ie. concrete pours and bulk excavation) and when deemed appropriate for safety.

3.8 Work Zones

As there will generally be sufficient on site area for vehicle loading and unloading, no work zones are envisaged for the construction activities associated with the proposed redevelopment.

Should a short term temporary work zone be required, a separate application would be made to the relevant approval authority.

3.9 Expected Number of Construction Vehicles

Construction vehicles likely to be generated by the proposed construction activities include:

- Bogie trucks for removal of demolition and excavated material;
- Heavy rigid vehicles for delivery of bulk building materials;
- Infrequent use of semi-trailers and dog trailer trucks for special deliveries;
- Concrete pumper and agitator vehicles during building works; and
- small to medium sized trucks for other deliveries.

At this stage the use of oversized and over mass vehicles is not foreseen. Nevertheless, if it is required at a later stage, approval for each occasion would be sought from the relevant approval authority.

During the demolition phase, it is estimated up to some 5 truck movements per hour would be taking demolition material from the site.

During the excavation phase, the average peak movements of 5-10 movements per hour have been estimated to take excavation material from the site.

During the construction phase, peak activity would occur during concrete pours with a number of concrete trucks per day requiring to delivery concrete mix to the site. The number of concrete trucks per day will be estimated when a detailed construction methodology is available.

Throughout the construction period, a number of small to medium sized trucks would be required for material delivery and this would be quantified when a detailed construction methodology is available.

It is noted that the estimated number of truck movements will be confirmed and may change subject to the final building contractor's construction methodology.

Notwithstanding the above, it is expected that the peak truck generation during each of the three construction phases would be in the order of 5-10 truck movements per hour.

3.10 Expected Number of Construction Personnel

The number of construction personnel on site per day will vary depending upon the stage of development. However, it is estimated that in the order of some 50 construction personnel could be on site at any one time during peak activity.

While a limited amount of on site car parking will be available for construction personnel, workers will be encouraged to use public transport when travelling to and from the site. It is noted that there are several bus routes within 400 metres walking distance of the site, including routes along Clovelly Road which are within 150 metres of the site.

It is recommended that an onsite tool drop off and storage facility is included in the construction site management such that construction personnel can drop tools to the site by vehicle and then store them on site for the duration of works, thus enabling them to travel on public transport without needing to transport heavy tools each day.

4 Construction Traffic Management

This section describes the proposed construction vehicle travel routes, site access arrangement, and the traffic management plan in response to the construction methodology and the impacts that the construction may impose on the surrounding road network.

4.1 Construction Vehicle Travel Routes

Considering the location of the site, construction vehicles would have origins and destinations from various locations throughout Sydney but would generally access the site from the west.

The design of the travel routes has taken into consideration of all construction vehicles being restricted to the state and regional road network as much as possible to minimise the impact of construction traffic on Council roads.

However, some local roads will need to be used to access the site.

The proposed construction routes shown in Figure 4.1 minimises the extent of construction vehicles on local roads. The proposed construction routes would principally utilise the following major local collector roads to access the regional road network:

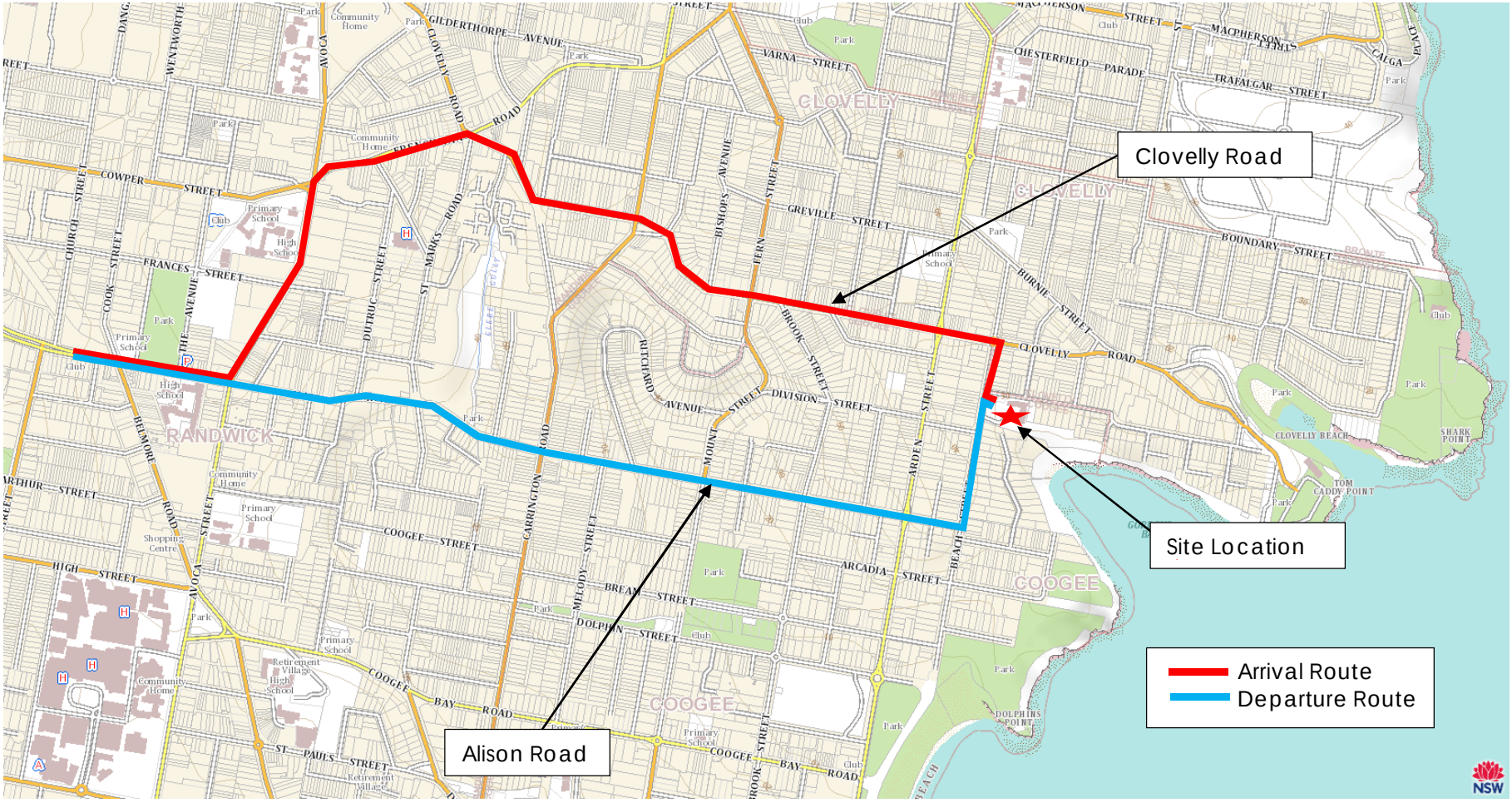
- Alison Road;
- Clovelly Road; and
- Frenchmans Road.

4.2 Construction Vehicle Access / Egress Considerations

All construction vehicle loading and unloading is proposed to be undertaken within the construction site.

Traffic controllers would be notified by two-way radio whenever there is a construction vehicle approaching the site access. Construction vehicles would be called onto the site when required. Construction vehicles would not be permitted to park or stand in Beach Street or other surrounding local streets while waiting to access the on site construction loading / unloading areas.

Figure 4.1: Proposed Construction Traffic Routes



Source: www.maps.six.gov.au

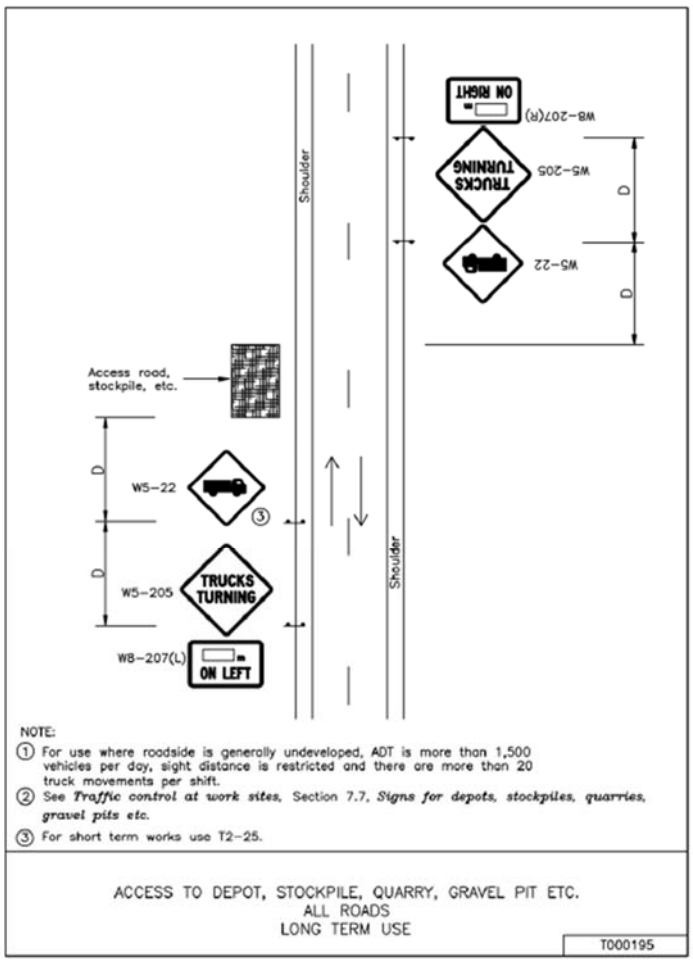
On approach to the site, qualified traffic controllers would be in place to manage and control traffic movements (including on-road bicycle movements).

On occasions general traffic/cyclists would need to be stopped for short periods at critical times during construction to ensure the work is carried out safely. A traffic controller would assist the construction vehicle to enter and leave the site safely via the site access.

Temporary works signage would be provided as required to warn traffic travelling along Beach Street of the potential hazards associated with construction vehicles entering and exiting the site access.

It is envisaged that TCP 195 would be used to advise approaching motorists of the construction activity (see Figure 4.2).

Figure 4.2: Proposed Advance Warning Signage (TCP 195)



Contractors would ensure that construction vehicles exporting loose materials from the site must have their loads fully covered and have the wheels washed before entering Beach Street.

Arrival and departure of construction vehicles would be scheduled to limit the number of construction vehicles on site at the same time.

These construction traffic movements would be scheduled to occur outside peak hours to avoid the busiest periods in the local road network.

4.3 Pedestrian Management

4.3.1 External Pedestrian Flows

During the construction period, pedestrian movements adjacent to the site along Beach Street and Battery Street would be maintained. Hoarding with overhead protection awnings would be provided around the site where required for pedestrian path protection.

Traffic controllers would be utilised when required where pedestrians cross the existing vehicle access to the site which will be used for construction access.

4.3.2 Internal Pedestrian Access

No general pedestrian access will be permitted to, from or through the construction site for the duration of the proposed construction period.

4.4 Construction Personnel Parking

On-street car parking for construction personnel would not be encouraged. While on-site construction personnel car parking would be limited during early stages of construction, all personnel would be encouraged to use public transport to access the site.

A tool drop-off and storage facility would be provided on-site. This would allow construction personnel to drop off and store their tools, allowing them to use public transport to travel to and from the site.

4.5 Public Transport

The construction activities of the proposed CCR project would not adversely impact on the accessibility or operation of bus services on the surrounding road network.

The proposed construction activities would not require the relocation of any existing bus stops or bus routes in order to accommodate the construction activities.

4.6 Emergency Vehicle Access

The construction activities of the proposed CCR project would not adversely impact on the accessibility or operation of emergency services for access to the site or surrounding properties as all existing roads and individual property accesses would remain open and accessible during the construction activities associated with the Cliffbrook site works.

4.7 Compliance with Legislation Requirements

Signage, hoarding and traffic controls would be provided in accordance with Australian Standards and the RMS' Manual for Traffic Control at Work Sites. Signage details, the control of pedestrians within and around the site, and the control of construction vehicles to and from the site would be the responsibility of the site contractor.

Signage must be erected with the standard distances as specified in the RMS Traffic Control at Work Sites Manual. Due diligence should be exercised when erecting traffic signs within the vicinity of the site. Traffic controllers must position signs that are clearly visible to oncoming drivers providing adequate sight distance.

The CTMP and the pedestrian access management designed for the demolition, excavation and construction phases of the construction are considered appropriate to provide for traffic and pedestrian activities. It may be updated when more is known regarding the construction methodology.

4.8 Work, Health and Safety

UNSW or its building contractors should assess the risk and incorporate the CTMP into the work safety method statement.

The CTMP should be regularly monitored and reviewed to ensure it is effective and to take into account any changes at the workplace. All personnel should be familiar with

the CTMP in conjunction with the conditions imposed by the conditions of consent and receive sufficient information, instruction, training and supervision.

4.9 Local Community Information

Prior to the commencement of the site preparation works, it is recommended that UNSW inform the local community regarding the traffic control and management arrangements that will be implemented and the timing / duration of works. It is envisaged that the requirements for community consultation will be set out in the conditions of consent.

Community information should include contact details for the site manager and / or an appropriate UNSW contact person.

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