



**Concept  
Construction Traffic  
Management Plan -  
SSDA;**

**Mosman High School**

For SINSW  
31 March 2021

**parking;  
traffic;  
civil design;  
wayfinding;  
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## Document Control

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## Contents

<b>1.</b>	<b>Introduction</b>	<b>1</b>
1.1	Project description	1
1.2	Purpose of this report	2
1.3	Structure of this Report	2
<b>2.</b>	<b>Background</b>	<b>3</b>
<b>3.</b>	<b>Development proposal</b>	<b>4</b>
<b>4.</b>	<b>Existing Transport Facilities</b>	<b>6</b>
4.1	Road hierarchy	6
4.2	Key intersections	9
4.3	Public Transport	10
4.3.1	Bus services	11
4.3.2	Ferry Services	12
4.4	Active Transport	12
4.4.1	Walking	13
4.4.2	Cycling	14
<b>5.</b>	<b>Concept Construction Traffic Management Plan (CCTMP)</b>	<b>15</b>
5.1	Objective	15
5.2	Hours of work	15
5.3	General requirements	15
5.4	Construction staging	16
5.5	Construction Vehicle Types	17
5.6	Construction Vehicles Routes	17
5.7	Work Zone	20
5.8	Stop Line Relocation	21
5.9	Parking Controls	22
5.9.1	Taxi Zone Relocation	22
5.9.2	Parking Spaces on Military Road and Avenue Road	23
5.10	Traffic Control Measures	24
5.10.1	Work Zone	24
5.10.2	Belmont Road / Gladstone Avenue Intersection	24
5.11	Pedestrian Management	25
5.12	Cumulative Effect of Adjacent Developments	26
5.13	Special Deliveries	26
5.14	Staff Parking	26
5.15	Work Site Security	26
5.16	Staff Induction	26
5.17	Emergency Vehicle Access	27
5.18	Access to Adjoining Properties	27
5.19	Occupational Health and Safety	27
5.20	Method of Communicating Traffic Changes	27
5.21	Contact Details for On-Site Enquiries and Site Access	27
5.22	Maintenance of Roads and Footpaths	27
<b>6.</b>	<b>Summary</b>	<b>28</b>

Attachment 1	Swept Path Assessment	29
Figure 1	– Site location (Source: HERE WeGo Maps)	1
Figure 2	– Local land use map (Source: NSW Planning Viewer)	3
Figure 3	– Proposed SSDA site layout (Source: Multiplex)	5
Figure 4	– Road Hierarchy (Source: RMS Road Hierarchy Review)	6
Figure 5	– Military Road (Southbound towards Raglan Street)	7
Figure 6	– Belmont Road (Westbound towards Gladstone Avenue)	7
Figure 7	– Gladstone Avenue (Northbound towards Belmont Road)	8
Figure 8	– Avenue Road (Eastbound towards Military Road)	8
Figure 9	– Key Intersections	9
Figure 10	– Public Transport Accessibility Map	10
Figure 11	– Bus network map (Source: Transport for NSW, 2018)	11
Figure 12	– Mosman High School walking catchment 400 m – 800 m	12
Figure 13	– Surrounding pedestrian infrastructure	13
Figure 14	– Cycling Infrastructure within Mosman (Source: RMS Cycleway Finder, 2019)	14
Figure 15	– Construction Plan	17
Figure 16	– Entry Routes	18
Figure 17	– Exit Routes	19
Figure 18	– Work zone	20
Figure 19	– Stop line relocation	21
Figure 20	– Parking controls on Belmont Road	22
Figure 21	– Parking controls on Military Road	23
Figure 22	– Parking controls on Avenue Road	24
Figure 23	– Pedestrian Access	25
Table 1	– Summary of Bus Services	11



## 1. Introduction

### 1.1 Project description

School Infrastructure New South Wales (SINSW) is proposing an expansion of Mosman High School (MHS) which involves the uplift of the current capacity of 1,116 Year 7 – 12 students to 1,200 students by 2031. The increased capacity will be achieved through the construction of a new school building including associated core infrastructure, new outdoor play areas, roof top play areas and associated landscaping works.

Mosman High School is located at 745 Military Road, Mosman NSW 2088 (see Figure 1). The school lies within the Mosman Local Government Area (LGA) and is bounded by Belmont Road to the north, Military Road to the east, Avenue Road to the west and Gladstone Avenue to the west. There are several pedestrian access gates along each frontage and the existing car park access is located on Gladstone Avenue.

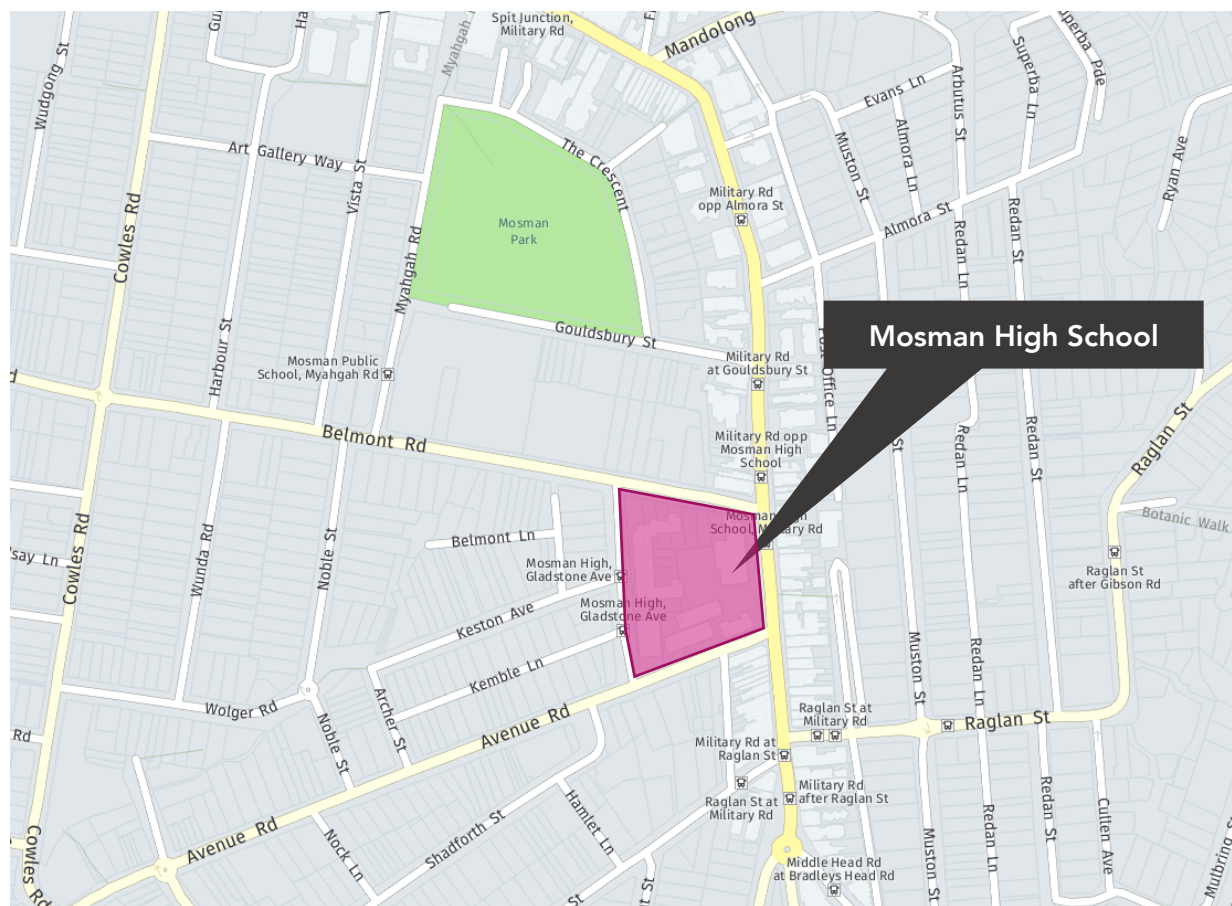


Figure 1 – Site location (Source: HERE WeGo Maps)

## 1.2 Purpose of this report

The Concept Construction Traffic Management Plan (CCTMP) addresses the construction activity associated with the construction of the development, including:

- Location of any proposed Work Zone, Site Boundary, and any site office, crane locations, material and waste storage area and other components as necessary;
- Haulage routes;
- Construction vehicle access arrangements;
- A heavy vehicle swept path assessment, demonstrating feasibility of any site access, in addition to haulage routes if required;
- Estimated construction hours;
- Estimated number of construction vehicle movements;
- Estimated construction program;
- Mitigation of any potential impacts to general traffic, cyclists, pedestrians and bus services within the vicinity of the site from construction vehicles during the construction of the proposed works;
- Development of a concept traffic management plan (TMP), outlining the construction access to the development and a description of likely traffic control measures required.

## 1.3 Structure of this Report

This report has been prepared to present the traffic and pedestrian management arrangements (including Traffic Control Plans) associated with the redevelopment of the Mosman High School.

This report presents the following considerations in relation to the CCTMP:

Section 2	Background;
Section 3	A description of the project;
Section 4	A description of the road network and transport facilities serving the development site;
Section 5	Management of construction vehicles and non-site traffic; and
Section 6	Summary



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### 3. Development proposal

The development proposal for the Mosman High School involves the expansion of the School to accommodate an increased capacity of 84 students (from the current 1,116 student capacity to 1,200 students) by 2031.

It is also anticipated that the current catchment area for students will be more enforced in the future, meaning that students from outside the official area will not be accepted at MHS.

The following CCTMP will cover the scope of the SSDA (Construction Sstage 2 – Main Works), which includes:

- Demolition of Building B, Building C and part Building E;
- Removal of existing sports court and surrounding retaining walls and nominated trees;
- Construction of a new part 3/ part 4 storey building plus lift overrun and net enclosure to rooftop multi-court (Building G) on the corner of Military Road and Belmont Road providing:
  - administration and staff facilities;
  - multipurpose gym/hall;
  - library;
  - canteen facilities;
  - general and senior learning units;
  - science learning unit;
  - health / PE and performing arts unit; and
  - learning and admin support unit.
- Associated landscaping works including new outdoor play areas, a rooftop play space and rooftop multi-purpose court; and
- Relocation of the main pedestrian entrance from Military Road to Belmont Road.

The proposed site layout plan for the SSDA phase of MHS is illustrated in Figure 3.



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## 4. Existing Transport Facilities

### 4.1 Road hierarchy

MHS is served primarily by Military Road on the eastern frontage which is a Regional Road between Spit Road and the Taronga Zoo Wharf, but transitions into a State Road at the intersection of Military Road/Spit Road. Military Road provides the main connection between Mosman and the Sydney CBD and the northern beaches. A network of Council-managed Local Roads provide access to the school and the greater suburb of Mosman. The surrounding road network is illustrated in Figure 4.

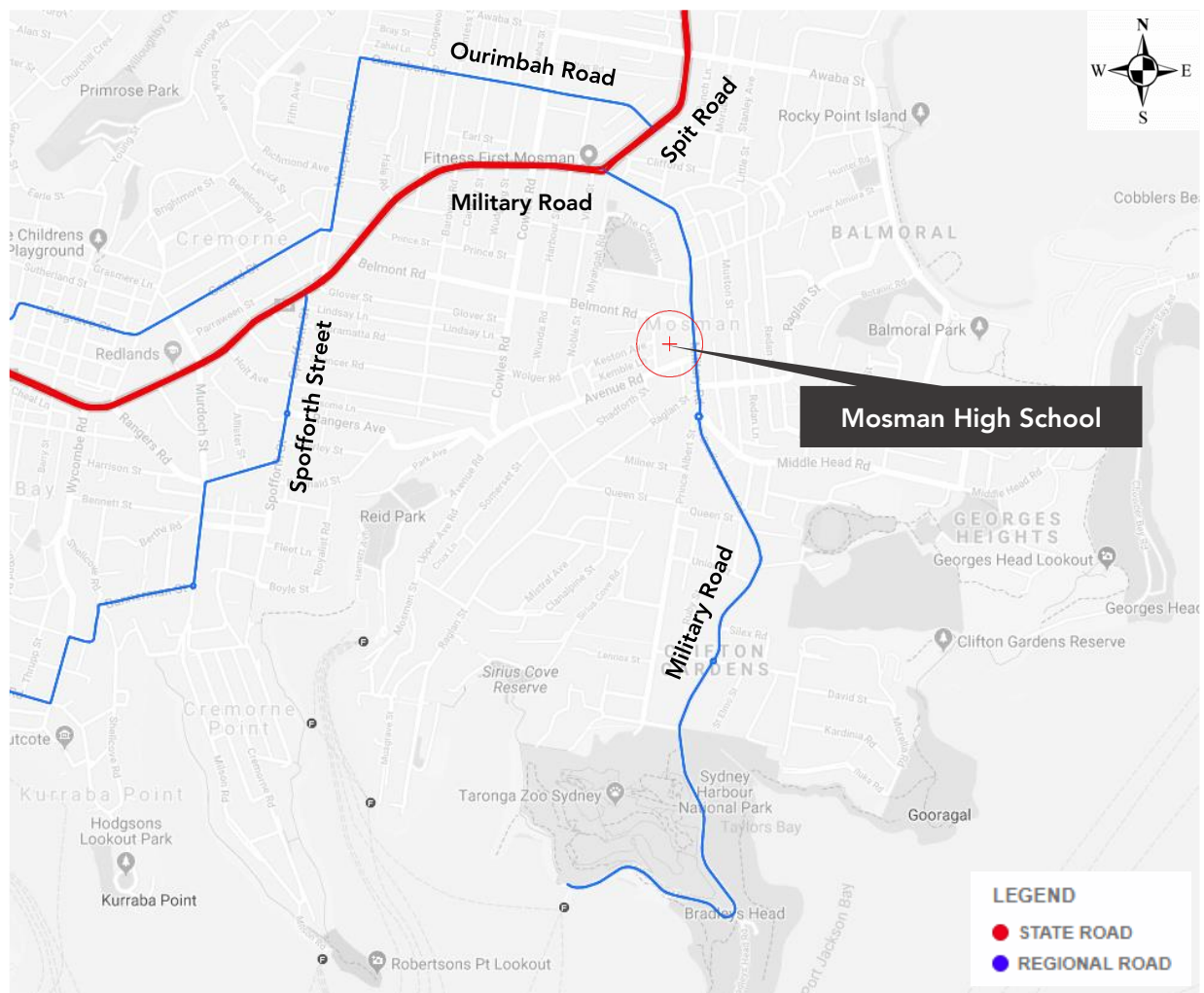


Figure 4 – Road Hierarchy (Source: RMS Road Hierarchy Review)

The NSW administrative road hierarchy comprises the following road classifications, which align with the generic road hierarchy as follows:

State Roads	- Freeways and Primary Arterials (RMS Managed)
Regional Roads	- Secondary or Sub Arterials (Council Managed, partly funded by the State)
Local Roads	- Collector and Local Access Roads (Council Managed)

### Military Road

Road Classification	Regional Road (within vicinity of MHS); Military Road becomes a State Road at intersection of Spit Road/Military Road
Alignment	North - South (within the vicinity of MHS)
Number of Lanes	1 lane in each direction with parking lanes on either side of the carriageway
Carriageway Type	Undivided
Carriageway Width	13 metres
Speed Limit	50 km/h
School Zone	Yes
Parking Controls	Time-restricted parking on both sides of the carriageway
Forms Site Frontage	Yes



Figure 5 – Military Road (Southbound towards Raglan Street)

### Belmont Road

Road Classification	Local Road
Alignment	East - West
Number of Lanes	1 lane in each direction with parking lanes on either side of the carriageway
Carriageway Type	Undivided
Carriageway Width	12.5 metres
Speed Limit	50 km/h
School Zone	Yes
Parking Controls	Time-restricted parking on both sides of the carriageway
Forms Site Frontage	Yes



Figure 6 – Belmont Road (Westbound towards Gladstone Avenue)



### Gladstone Avenue

Road Classification	Local Road
Alignment	North - South
Number of Lanes	1 lane in each direction with parking lanes on either side of the carriageway
Carriageway Type	Undivided
Carriageway Width	12.5m
Speed Limit	50 km/h
School Zone	Yes
Parking Controls	'No Parking, 8:00am – 9:30am & 2:30pm-4:00pm School Days Only' and Bus Zone on the eastern side; unrestricted parking towards the northern end of Gladstone Avenue
Forms Site Frontage	Yes



Figure 7 – Gladstone Avenue (Northbound towards Belmont Road)

### Avenue Road

Road Classification	Local Road
Alignment	East - West
Number of Lanes	1 lane in each direction with parking lanes on either side of the carriageway
Carriageway Type	Undivided
Carriageway Width	12.5m
Speed Limit	50 km/h
School Zone	Yes
Parking Controls	Time-restricted parking on both sides of the carriageway
Forms Site Frontage	Yes



Figure 8 – Avenue Road (Eastbound towards Military Road)

## 4.2 Key intersections

The key intersections in the vicinity of the site and their characteristics are listed below and shown in Figure 9:

- Military Road / Belmont Road (East): signalised 3-arm intersection;
- Military Road / Belmont Road (West): signalised 3-arm intersection;
- Belmont Road / Gladstone Avenue: non-signalised T section intersection;
- Avenue Road / Gladstone Avenue: non-signalised T section intersection;
- Military Road / Avenue Road: non-signalised T section intersection;
- Military Road / Spit Road: signalised 3-arm intersection;
- Military Road / Middle Head Road /  
Bradleys Head Road / Prince Albert Street: Roundabout Intersection.

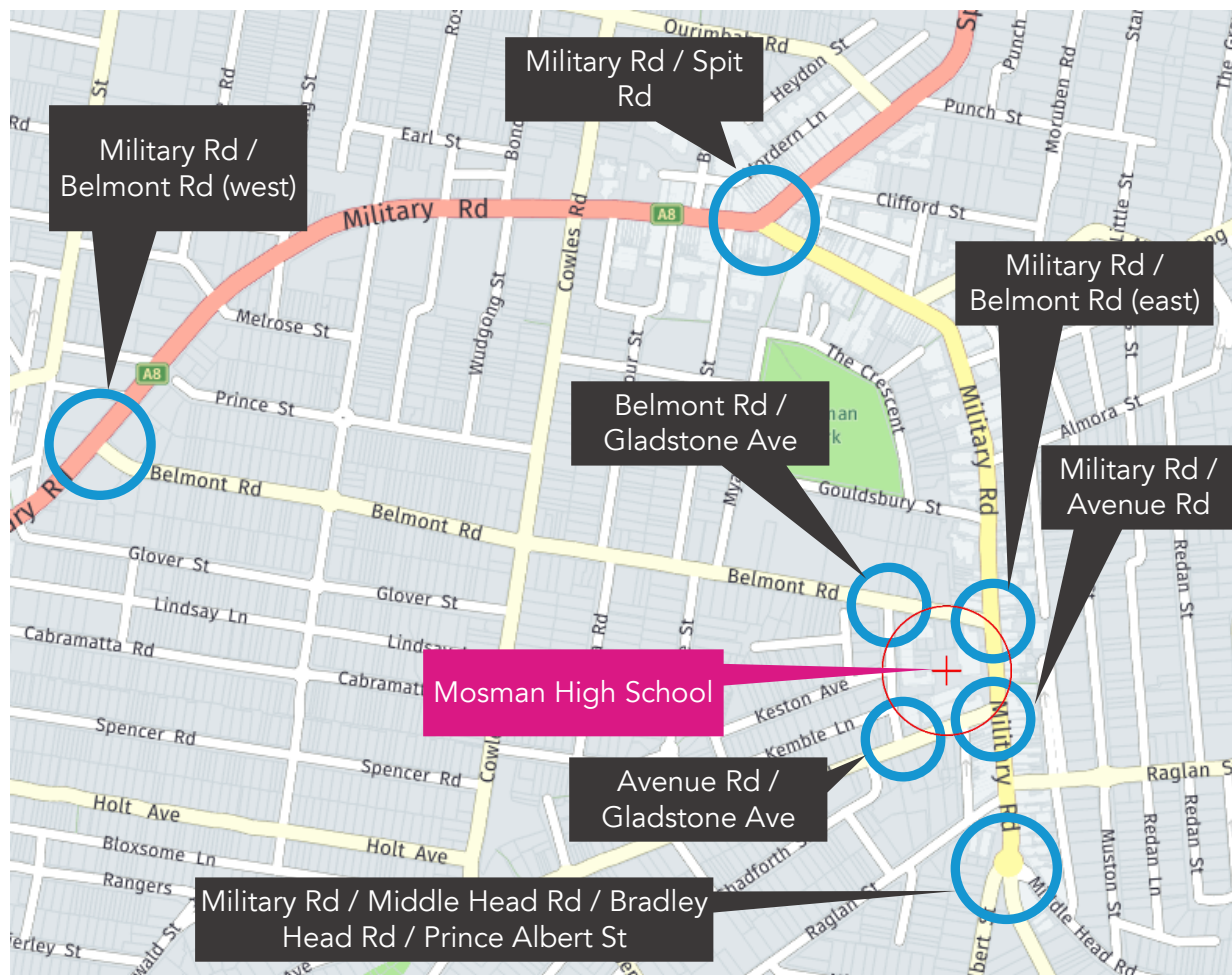


Figure 9 – Key Intersections



### 4.3 Public Transport

A review of the public transport network within the vicinity of MHS has been undertaken to determine accessibility via public transport modes.

Within the radius of 400m walking distance from the school, there are many local bus services operating along Military Road. They provide connectivity within the suburb of Mosman and to the Sydney CBD and the northern beaches.

The available public transport options such as buses and trains within comfortable walking distance are shown in Figure 10.

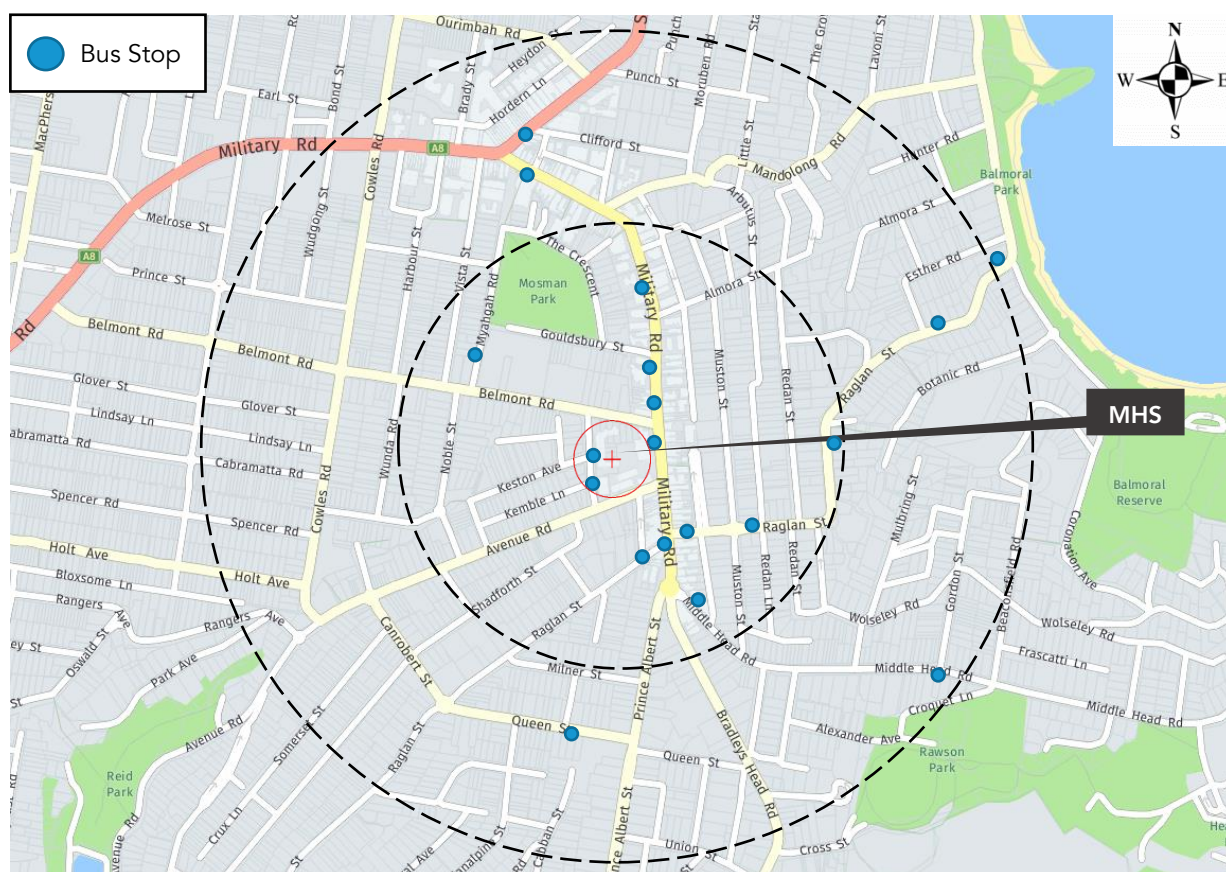


Figure 10 – Public Transport Accessibility Map

The review indicates that the public transport mode which is most easily accessible is via bus, with numerous services operating along Military Road providing connectivity to the Sydney CBD and the northern beaches. The closest public bus stop is located immediately adjacent to the school on Military Road.

### 4.3.1 Bus services

A map of the existing bus network is illustrated in Figure 11.

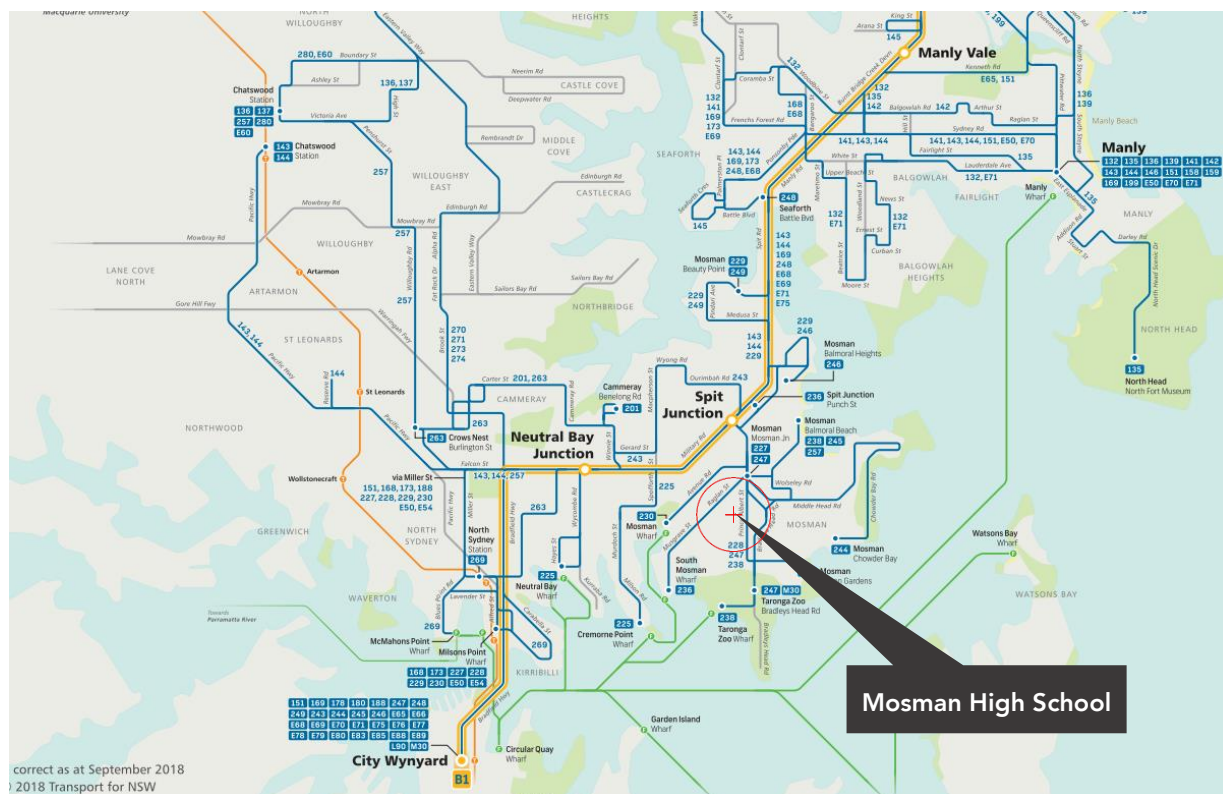


Figure 11 – Bus network map (Source: Transport for NSW, 2018)

A summary of the existing bus services operating within the vicinity of MHS is outlined in Table 1.

Table 1 – Summary of Bus Services

Route No.	Frequency (approximate)	Coverage	Walking Distance to Bus Stop
227	Services every 30 minutes from 6:30am to 9:30am as well as from 4:30pm to 8:30pm on weekdays	Milsons Point to Mosman Junction	30m
228	Services every 30 minutes from 7:30am to 9:30am and from 3:30pm to 6:30pm on weekdays	Milsons Point to Clifton Gardens	30m
230	Every 30 minutes on weekdays and weekends	Milsons Point to Mosman Wharf	30m
236	Every 30 minutes on weekdays and weekends	South Mosman Wharf to Spit Junction	30m
244	Hourly on weekdays and weekends	City Wynyard to Chowder Bay Mosman	30m
245	Hourly on weekdays Every 30 minutes on weekends	City Wynyard to Balmoral	30m
247	Every 30 minutes on weekdays and weekends	City Wynyard to Taronga Zoo	30m
257	Every 20 to 30 minutes on weekdays Every 30 minutes on weekends	Chatswood to Balmoral	30m
M30	Every 15 minutes on weekdays Every 20 minutes on weekends	Taronga Zoo to Sydenham	30m

Based on the frequency of services and the number of routes operating within the vicinity of MHS, the school is considered to be well connected via bus.

#### 4.3.2 Ferry Services

It is noted that ferry services also operate in the locality with the nearest ferry wharf being the Taronga Zoo Wharf. The wharf is located approximately 1.6km walking distance from MHS. Although this is outside of the comfortable walking catchment of 800m, it is anticipated that some students and staff may utilise this as a method of travel to and from the school, particularly in combination with bus services connecting the wharf and the school.

### 4.4 Active Transport

The vicinity of the School has been assessed for the potential for attractive walking and cycling opportunities for students and staff. When defining accessibility, the NSW Planning Guidelines for Walking and Cycling (2004) suggests that a 400m – 800m catchment represents a comfortable walking distance to public transport or local amenity access.

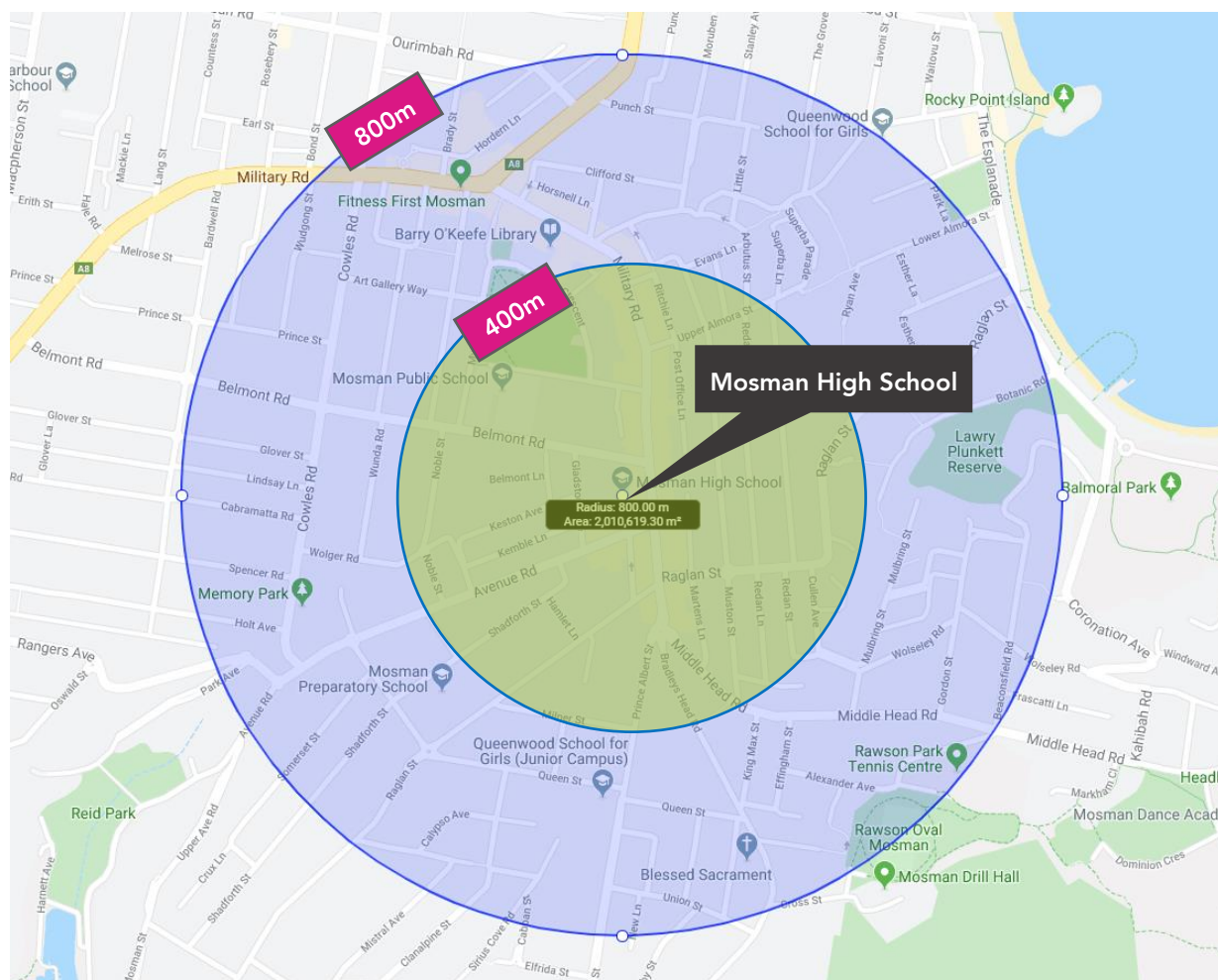


Figure 12 – Mosman High School walking catchment 400 m – 800 m



#### 4.4.1 Walking

The pedestrian network in the locality of the School has been assessed to provide a reasonably high level of amenity within the vicinity of the school with raised pedestrian crossings adjacent to the intersections of Military Road/Avenue Road and Belmont Road/Gladstone Avenue. Signalised pedestrian crossings are provided on each of the approach arms of the Military Road/Belmont Road intersection, which facilitates pedestrian movement across Military Road.

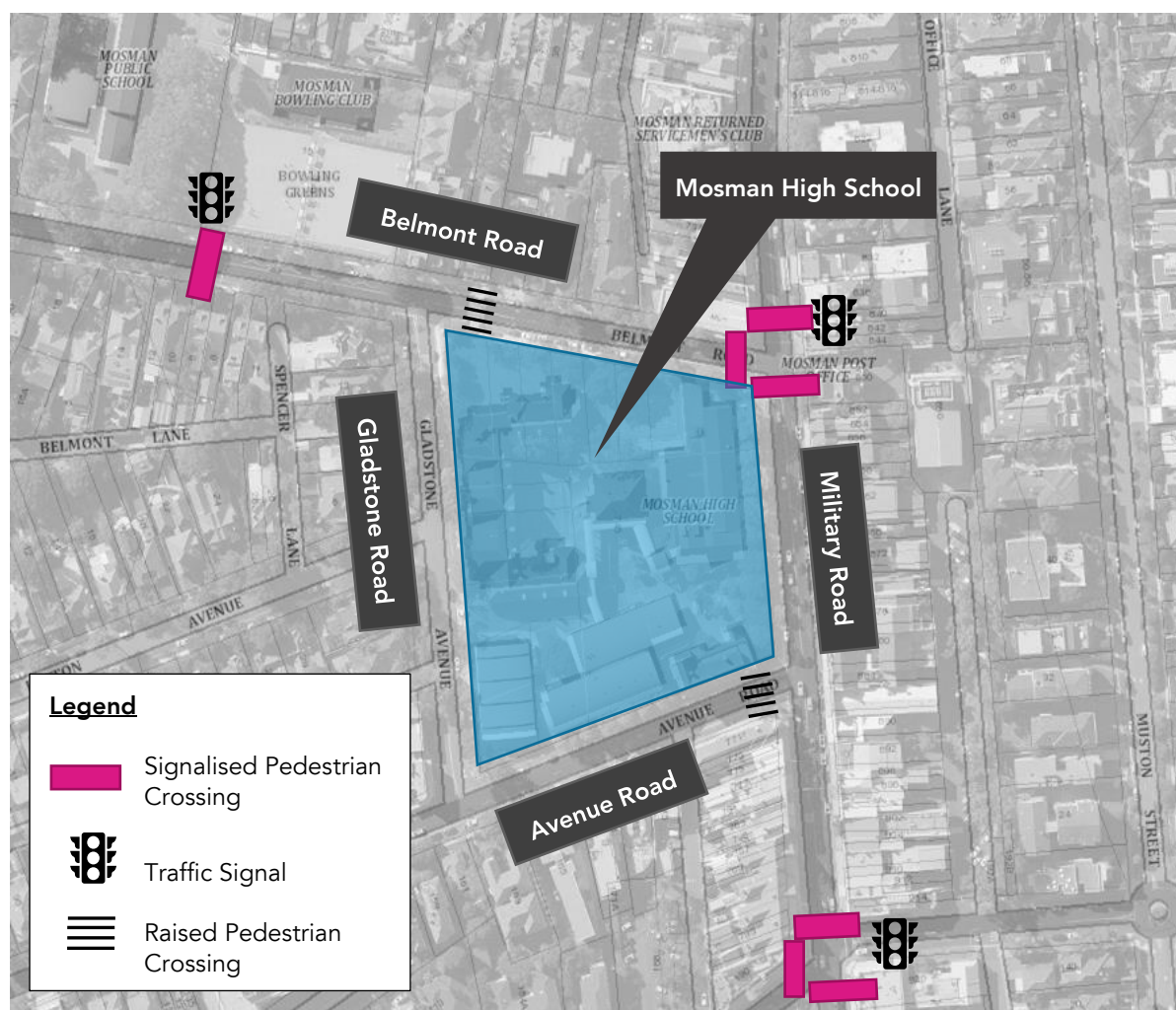


Figure 13 – Surrounding pedestrian infrastructure

#### 4.4.2 Cycling

The surrounding locality within the vicinity of MHS comprises predominantly of on-road marked cycle routes as shown in Figure 14. The on-road cycle paths extend across the Mosman LGA, providing connection to Spit Junction, Clifton Gardens, Balmoral and Georges Heights.

It is acknowledged, however, that Military Road extends along a downward slope towards the Taronga Zoo Wharf, which may mean that cycling as a mode of transport would be influenced by the residential location of students and staff and their ability to ride across steep terrain in some areas. Nonetheless, the cycling connections provided makes this a feasible mode of transport to and from the school.

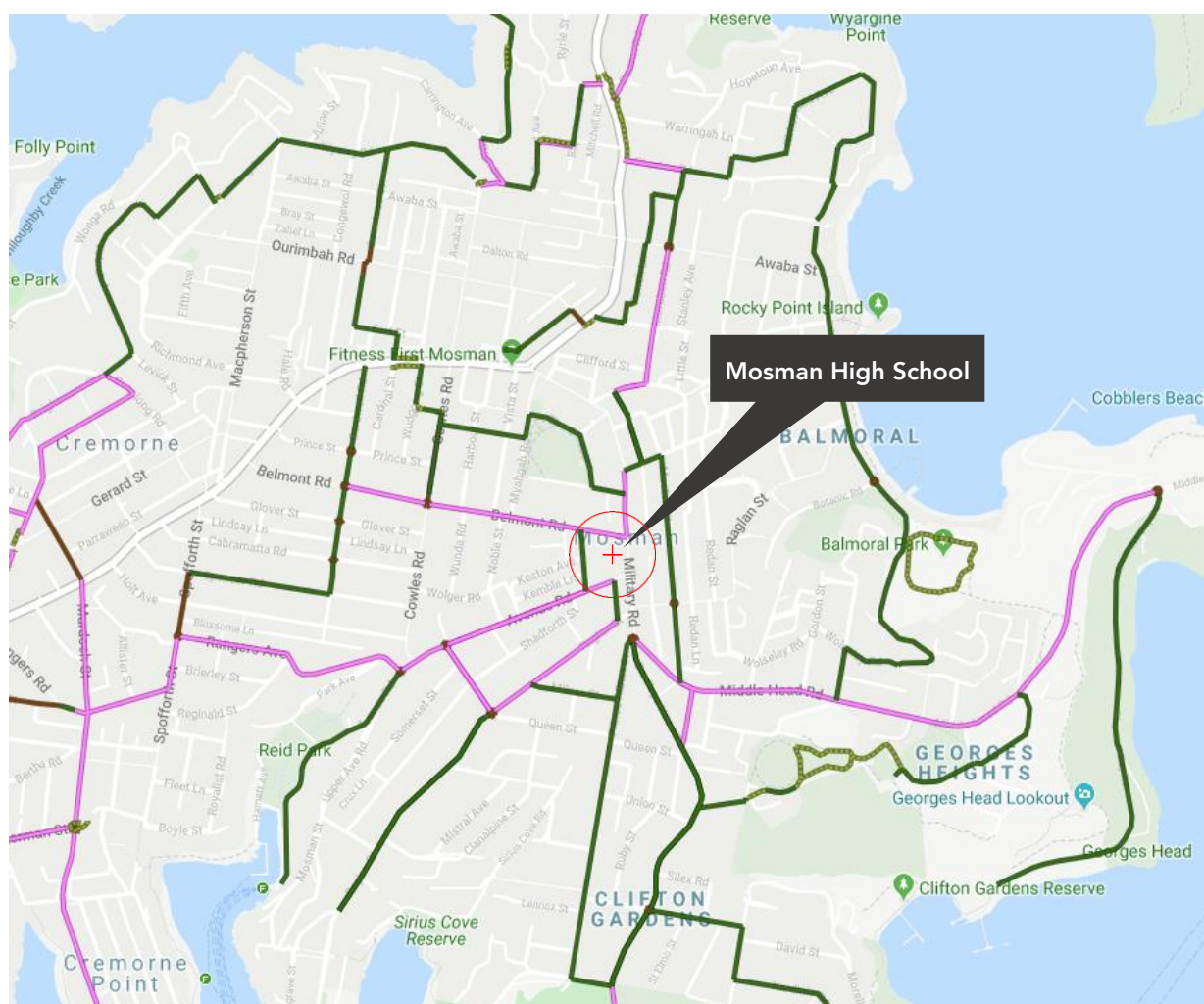


Figure 14 – Cycling Infrastructure within Mosman (Source: RMS Cycleway Finder, 2019)



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## 5. Concept Construction Traffic Management Plan (CCTMP)

### 5.1 Objective

The traffic management plan associated with the construction activity aims to ensure the safety of all workers and road users within the vicinity of the construction site and following are the primary objectives:

- To minimise the impact of the construction vehicle traffic on the overall operation of the road network;
- To ensure continuous, safe and efficient movement of traffic for both the general public and construction workers;
- Installation of appropriate advance warning signs to inform users of the changed traffic conditions;
- To provide a description of the construction vehicles and the volume of these construction vehicles accessing the construction site;
- To provide information regarding the changed access arrangement and also a description of the proposed external routes for vehicles including the construction vehicles accessing the site; and
- Establishment of a safe pedestrian environment in the vicinity of the site.

### 5.2 Hours of work

All works associated with the project will be restricted to the time periods by the Conditions of Consent. At this stage these hours are not known and therefore we have assumed the following working hours associated with the construction activity:

- Monday to Friday 7:00am to 6:00pm;
- Saturday 8:00am to 1:00pm; and
- Sunday, Public Holidays No works to be undertaken without prior approval.

### 5.3 General requirements

In accordance with Transport for NSW (TfNSW) requirements, all vehicles transporting loose materials will have to be entirely load covered and / or secured to prevent any large items, excess dust or dirt particles depositing onto the roadway during the travel to and from the site. All subcontractors must be inducted by the lead contractor to ensure that the procedures are met for all vehicles entering and exiting the construction site. The lead contractors will monitor the roads leading to and from the site and take all necessary steps to rectify any road deposits caused by site vehicles.

Vehicles operating to, 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 or required on any paved roads. Public roads and access points will not be obstructed by any materials, refuse skips or the like, under any circumstances. No construction vehicles are permitted to double park, or park on the public road.

Spoil shall be exported from site as progressively as the works occur. Spoil shall not be stockpiled and exported from the site in bulk.

The applicant / contractor is required to follow and abide by the specific standard requirements for construction management as set out by Mosman Municipal Council.

## 5.4 Construction staging

The overall project is proposed to be split into two stages, Stage 1 – Early Works and Stage 2 – Main Works. The Early Works are expected to take approximately 5 months and will consist of enabling works in order to maintain school operations upon the commencement of the Main Works. Early works were recently approved under Part 5 of the EP&A Act by School Infrastructure NSW as ‘development without consent’ under ISEPP. Other works are proposed as ‘Exempt Development’ under ISEPP.

This CCTMP covers work of Stage 2 only.

The anticipated total construction timeframe is approximately 20 months, with Stage 2 – Main Works expected to take approximately 15 months to complete.

The exact dates for construction works are to be confirmed (TBC) at construction stage. It is anticipated that that approximately up to 25 construction vehicles per day would need to access the construction.

As discussed in Section 3, the SSDA phase (Stage 2 – Main Works) will include the following:

- Demolition of Building B, Building C and part Building E;
- Removal of existing sports court and surrounding retaining walls and nominated trees;
- Construction of a new part 3/ part 4 storey building plus lift overrun and net enclosure to rooftop multi-court (Building G) on the corner of Military Road and Belmont Road providing:
  - administration and staff facilities;
  - multipurpose gym/hall;
  - library;
  - canteen facilities;
  - general and senior learning units;
  - science learning unit;
  - health / PE and performing arts unit; and
  - learning and admin support unit.
- Associated landscaping works including new outdoor play areas, a rooftop play space and rooftop multi-purpose court; and
- Relocation of the main pedestrian entrance from Military Road to Belmont Road.

The abovementioned construction works are to be completed within one phase. The plan for the proposed phase is shown in Figure 15.

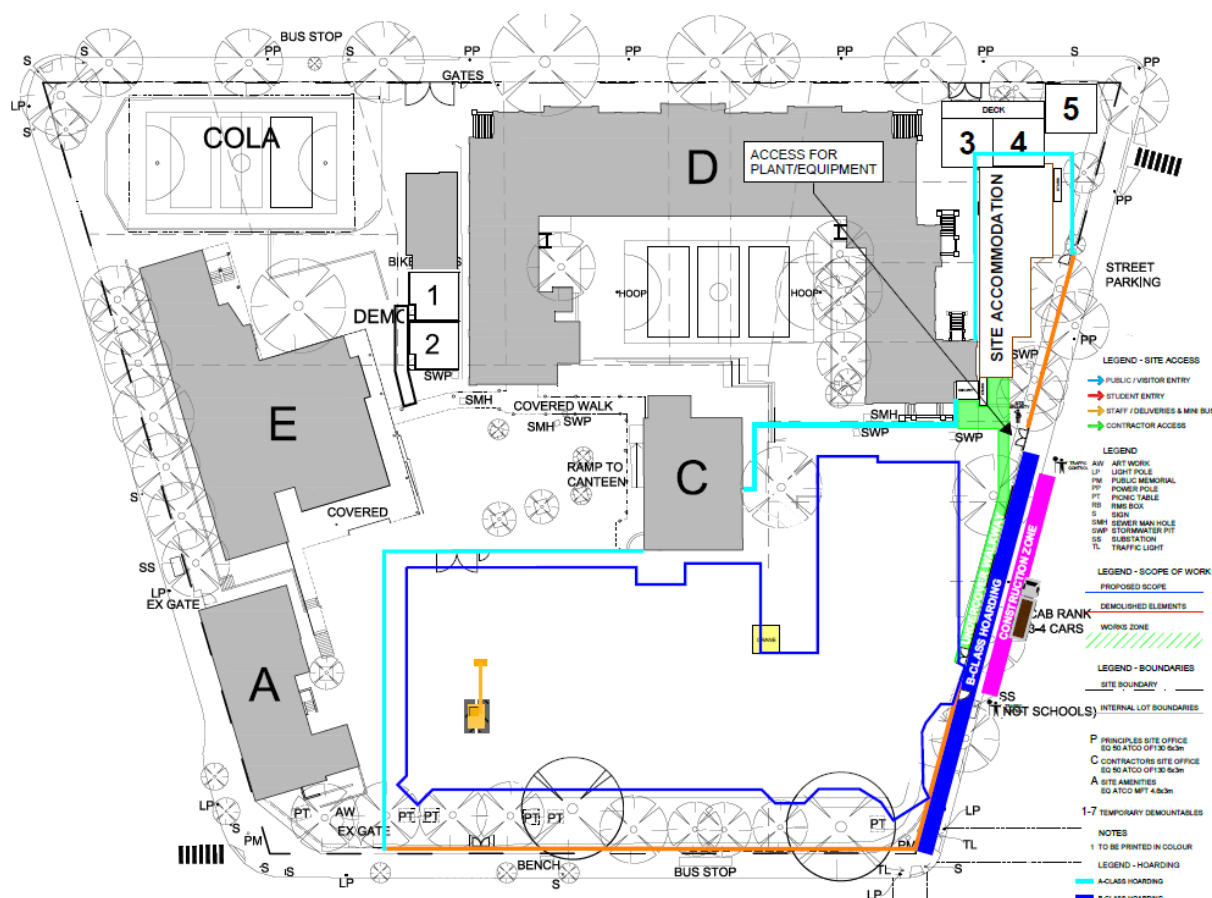


Figure 15 – Construction Plan

## 5.5 Construction Vehicle Types

The construction during the SSDA stage will involve vehicles limited up to a 19 m Articulated Vehicle (AV) for all phases. Larger vehicles will be dealt with separately, with the submission of required permits to and subsequent approval by Mosman Municipal Council.

## 5.6 Construction Vehicles Routes

The site is located in Mosman and the proposed construction vehicle routes have regard for the surrounding traffic arrangements in the vicinity of the site. No queuing or marshalling of trucks is permitted on any public road and all loading and unloading of materials will be undertaken within the site or a work zone.

The work zone for the construction is proposed to be located along Belmont Road, details of which are described in Section 5.7.

All vehicle routes to and from site are constrained to existing public roads that have the physical geometry to accommodate the turning movements.

In order to reach the proposed work zone, there are three entry routes and two exit routes:

- Entry Route 1: arrive via Belmont Road, loop around the school before reaching Belmont Road.
- Entry Route 2: arrive via Military Road, turn right at the Spit Junction, turn right at Belmont Road.
- Entry Route 3: arrive via Military Road, undertake a U-turn at the Military Road / Middle Head Road / Bradleys Head Road/ Prince Albert Street roundabout, turn left into Belmont Road.
- Exit Route 1: leave via Belmont Road.
- Exit Route 2: loop around the school before leaving via Military Road.

The vehicles routes are shown in Figure 16 and Figure 17.

When entering and exiting the site the vehicles need to use the surrounding road network and intersections. For this reason, a swept path assessment has been undertaken to confirm that all required vehicle movements are possible and if required, what management measures will be required.

Swept paths showing a 19m long AV and a 12.5m long HRV for all entry and exit routes are shown in **Attachment 1**.

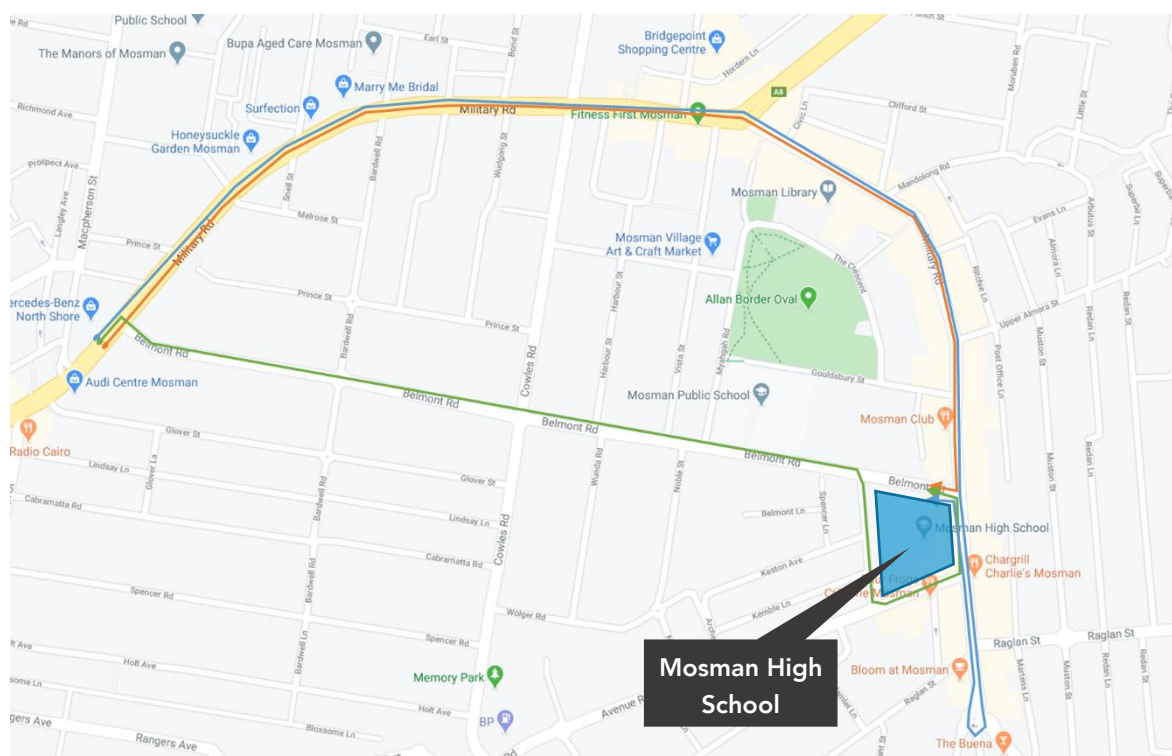


Figure 16 – Entry Routes

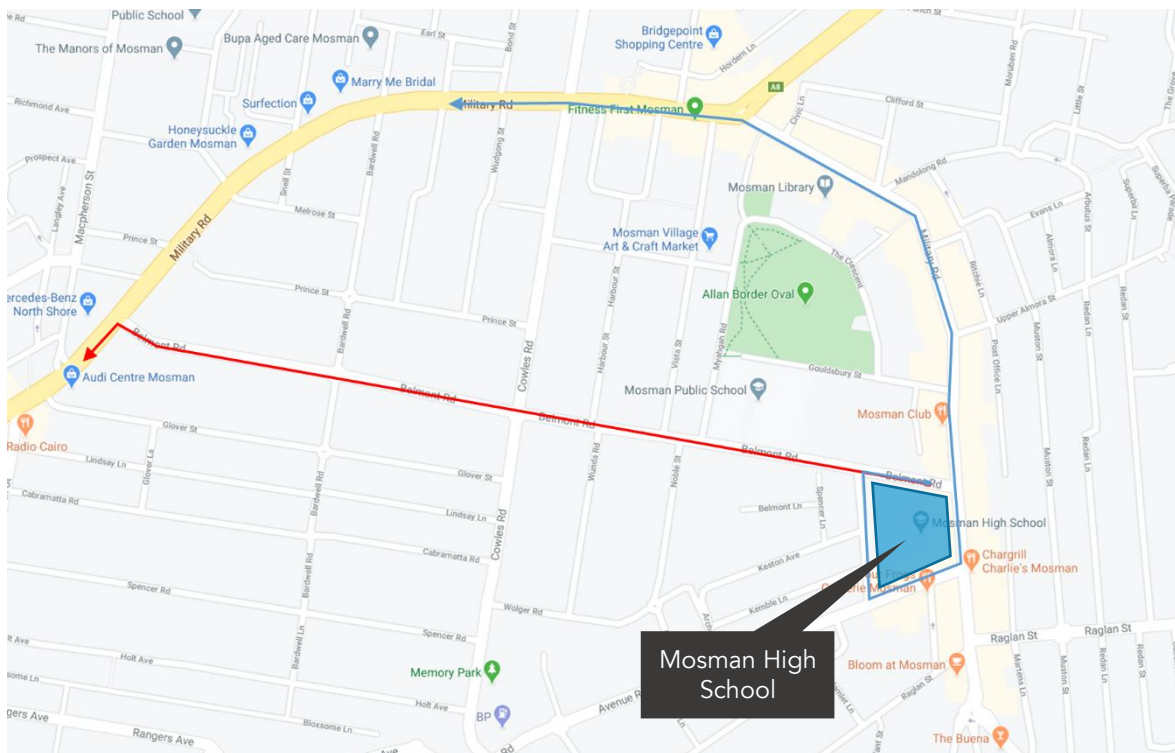


Figure 17 – Exit Routes

Various management measures will be required, and these vary depending on the route and the size of vehicle used. A brief summary is presented in the form of dot-points below, with references provided to more detailed descriptions of the individual measures in the following sections.

The following management measures are required for an AV for the individual routes:

- Entry Route 1: arrive via Belmont Road, loop around the school before reaching Belmont Road.
  - Remove 1 parking space along Avenue Road (refer to Section 5.9.2)
  - Remove 1 car parking and motorbike parking spaces along Military Road (refer to Section 5.9.2)
  - Relocate stop line at Belmont Road (refer to Section 5.8)
  - Relocate taxi rank (refer to Section 5.9.1)
- Entry Route 2: arrive via Military Road, turn right at the Spit Junction, turn right at Belmont Road.
  - Relocate taxi rank (refer to Section 5.9.1)
- Entry Route 3: arrive via Military Road, undertake a U-turn at the Military Road / Middle Head Road / Bradleys Head Road/ Prince Albert Street roundabout, turn left into Belmont Road.
  - Relocate stop line at Belmont Road (refer to Section 5.8)
  - Relocate taxi rank (refer to Section 5.9.1)
- Exit Route 1: leave via Belmont Road.
  - N/A
- Exit Route 2: loop around the school before leaving via Military Road.



- Traffic controllers at Belmont Road / Gladstone Avenue (refer to Section 5.10.2)
- Remove 1 parking space along Avenue Road (refer to Section 5.9.2)
- Remove 1 car parking and motorbike parking spaces (refer to Section 5.9.2)

HRVs require only one management measure (traffic controllers, refer to Section 5.10.2) when turning left from Belmont Road into Gladstone Avenue at the exit route 2.

## 5.7 Work Zone

Throughout the entire SSDA stage, a work zone will be required on Belmont Road which will be approximately 45m long to allow 19m AV access. Approximately nine existing 2P car spaces need to be temporarily removed to service the work zone. It is also proposed to temporarily relocate the existing taxi zone located at the eastern end of Belmont Road to the western side of the work zone (refer to Section 5.9.1). 12m of the taxi zone closest to the intersection will be converted to have 'no stopping' restrictions. A contractor's entrance will be added to allow access into the site from the work zone.

Traffic controllers will be present at both ends of the work zone to guide construction vehicles in and out of the work zone.

A traffic control plan will be prepared to inform drivers of turning vehicles (refer to Section 5.10.1).

Appropriate signage shall be provided to inform road users of the restrictions. The work zone should be restricted to times of construction work hours.

Figure 18 shows the location of the SSDA work zone.

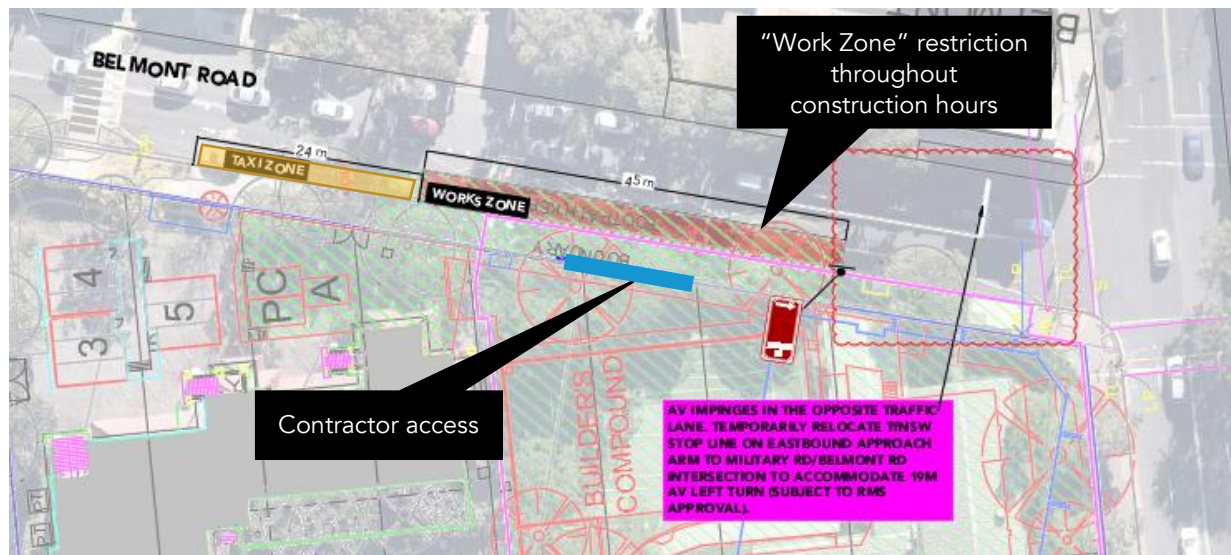


Figure 18 – Work zone

## 5.8 Stop Line Relocation

As shown in Figure 19, construction vehicles turning left from Military Road into Belmont Road will impinge into the opposite traffic lane. Due to the fact that the left turn will occur during the red phase for vehicles travelling eastbound along Belmont, there is a conflict between waiting light vehicles on a red signal and the construction vehicles turning left. Therefore, the stop line needs to be relocated westbound to allow for the turning movement swept path.

This relocation needs to be applied to and approved by TfNSW prior to the establishing of the work zone.

The required changes to the stop line are shown in Figure 19.

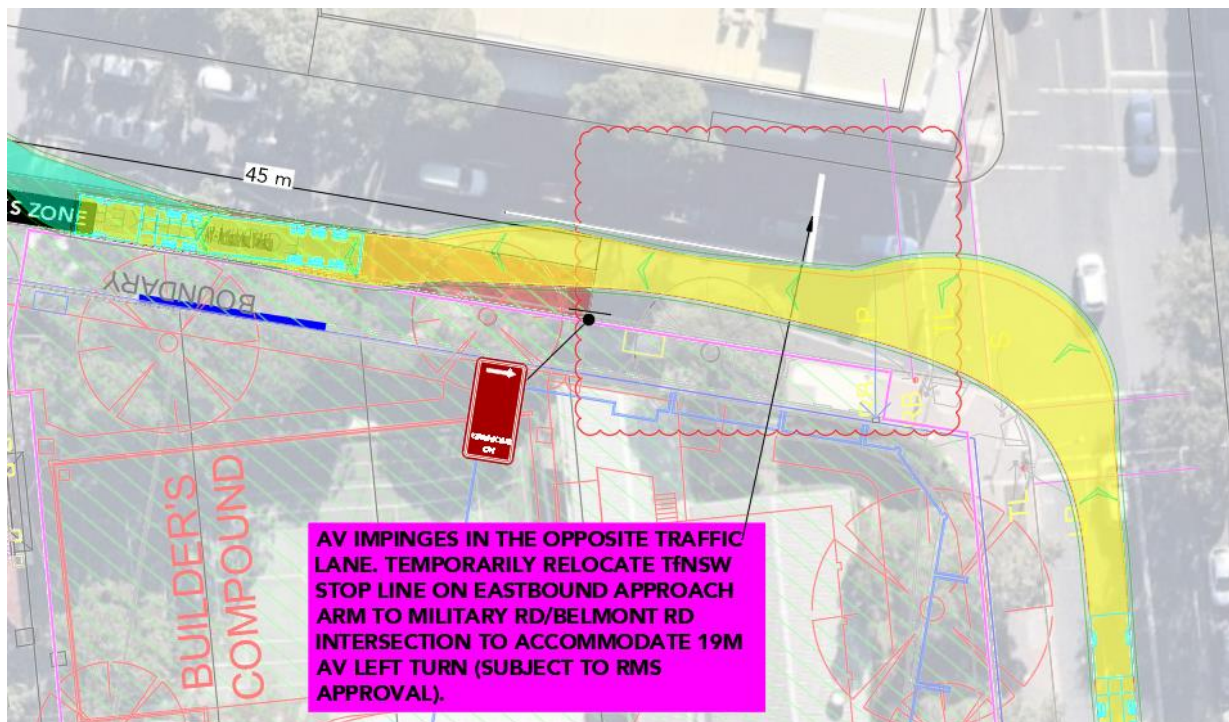


Figure 19 – Stop line relocation

## 5.9 Parking Controls

### 5.9.1 Taxi Zone Relocation

As discussed in Section 5.7, a total of approximately nine car spaces will be temporarily removed due to the work zone and it is proposed to relocate the taxi zone on Belmont Road. The “Work Zone” restriction needs to be in place throughout the construction hours, even if construction vehicles are not arriving or leaving.

Currently, there is a total of nine 2P parking spaces and a taxi zone that can accommodate three taxis along the southern edge of Belmont Road.

The proposed “Work Zone” will require the conversion of eight parking spaces, comprising six existing 2P parking bays and two Taxi Zone spaces on the southern side of Belmont Road to ‘Work Zone 7am – 7pm Mon-Fri, 7am – 5pm Sat’ in line with the permitted construction hours outlined in Section 5.2. The three Taxi Zone spaces will be relocated to the western side of the Work Zone while the remaining space on the eastern side will be converted to “No Stopping”.

Figure 20 shows the proposed parking controls on Belmont Road.



Figure 20 – Parking controls on Belmont Road



### 5.9.2 Parking Spaces on Military Road and Avenue Road

One car parking space and motorcycle spaces on Military Road, as well as one car parking space on Avenue Road will need to be temporarily removed to cater for the turning path of an AV.

Figure 21 and Figure 22 show the parking spaces which will need to be temporarily removed on Military Road and Avenue Road.

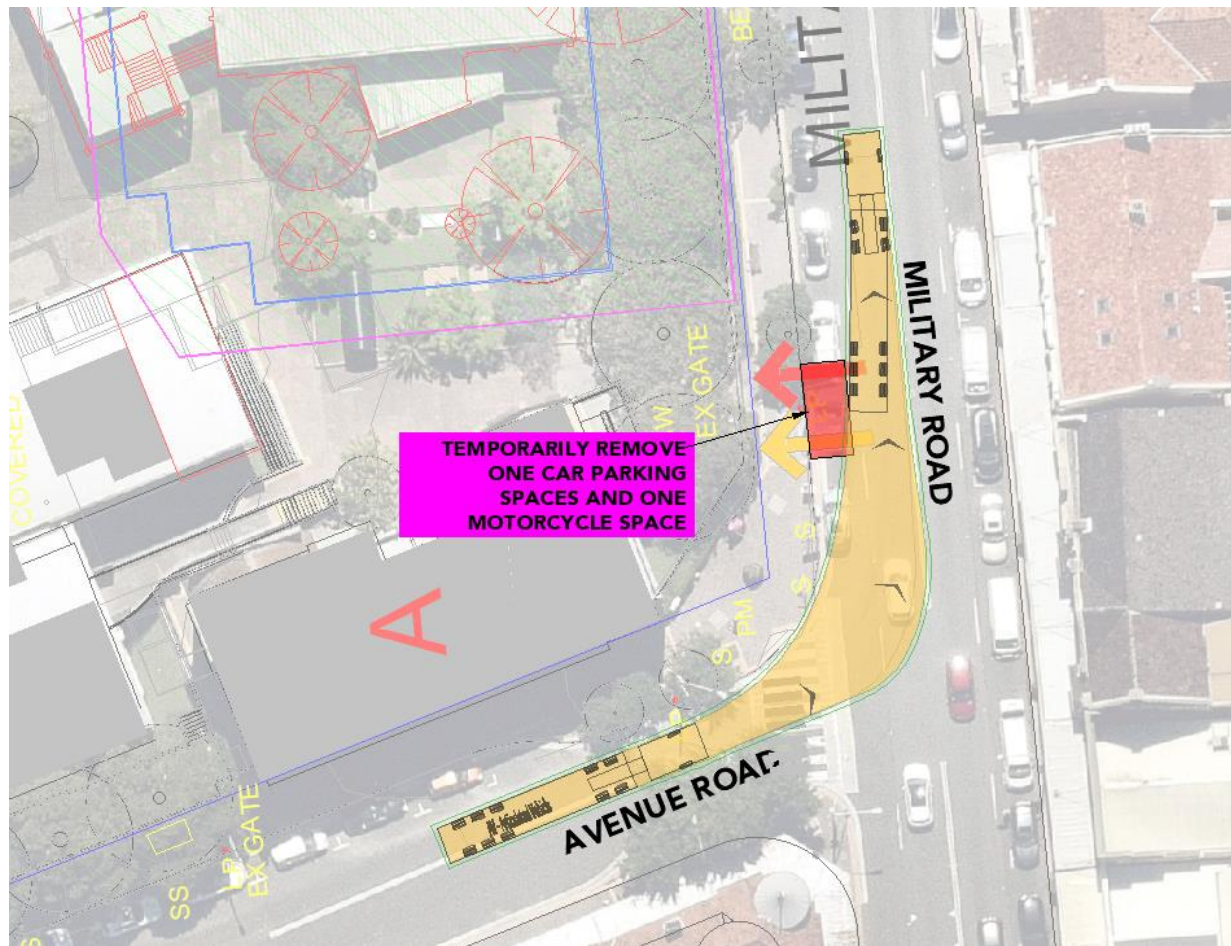


Figure 21 – Parking controls on Military Road

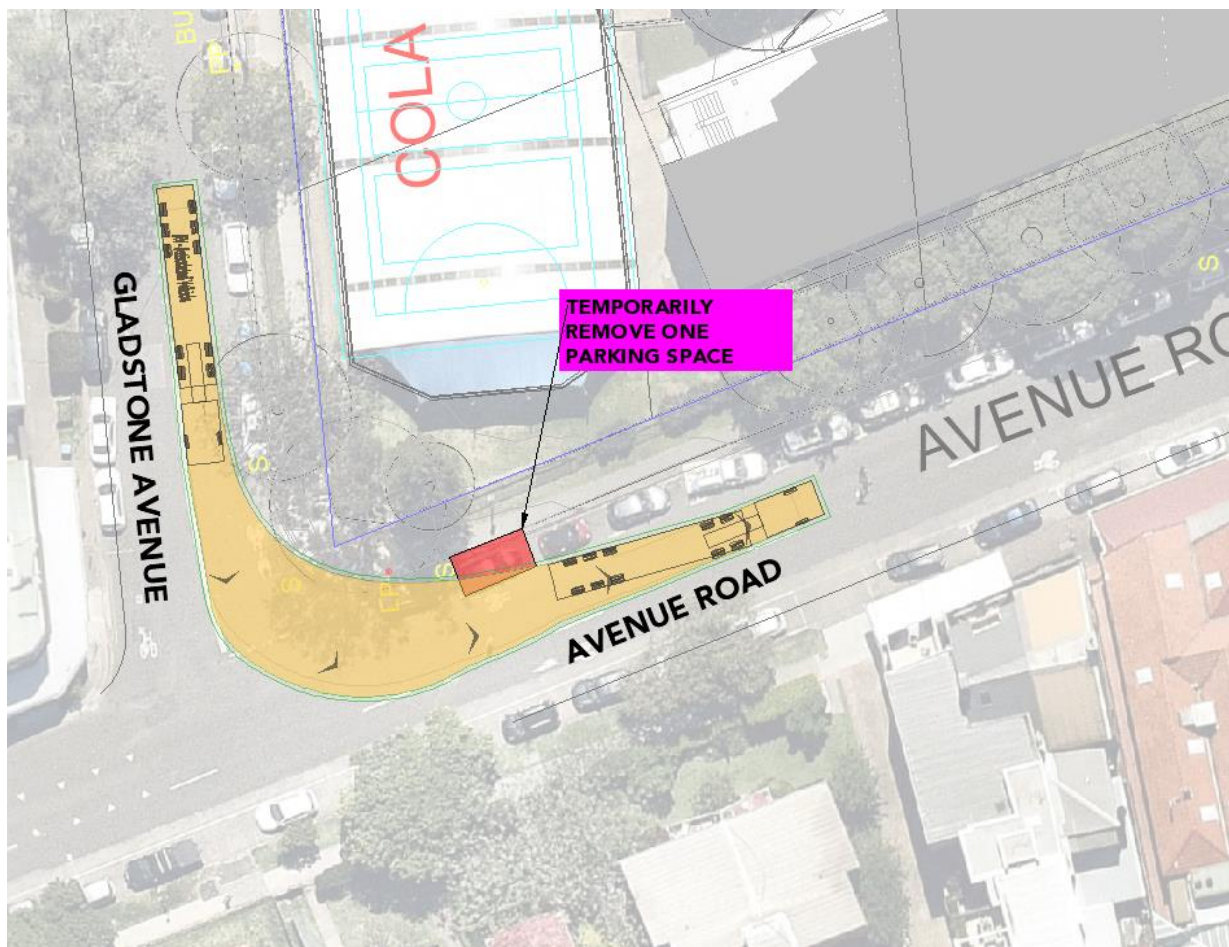


Figure 22 – Parking controls on Avenue Road

## 5.10 Traffic Control Measures

The Traffic Control Plan (TCP) outlines the proposed traffic management plan to inform road users of the changed traffic conditions in the vicinity of the works site. The TCPs have been set out in accordance with the RMS Traffic Control at Works Site.

Any vehicles exceeding the maximum vehicle type will require specific TCPs. These specific TCPs will be provided by the traffic management contractor prior to commencement of works and submitted to Council / TfNSW for approval.

### 5.10.1 Work Zone

Signage will be required to inform road users of turning trucks. Therefore, a TCP 195 will be incorporated on both approaches of the work zone.

The specific TCP will be provided by the traffic management contractor prior to commencement of works and submitted to Council / TfNSW for approval.

### 5.10.2 Belmont Road / Gladstone Avenue Intersection

When required, the TCP 77 will be required to prepare other road users to stop on the northbound approach on Gladstone Avenue.



The specific TCP will be provided by the traffic management contractor prior to commencement of works and submitted to Council / TfNSW for approval.

## 5.11 Pedestrian Management

Access for students, staff and visitors will be maintained at all times, and the locations are shown in Figure 23.

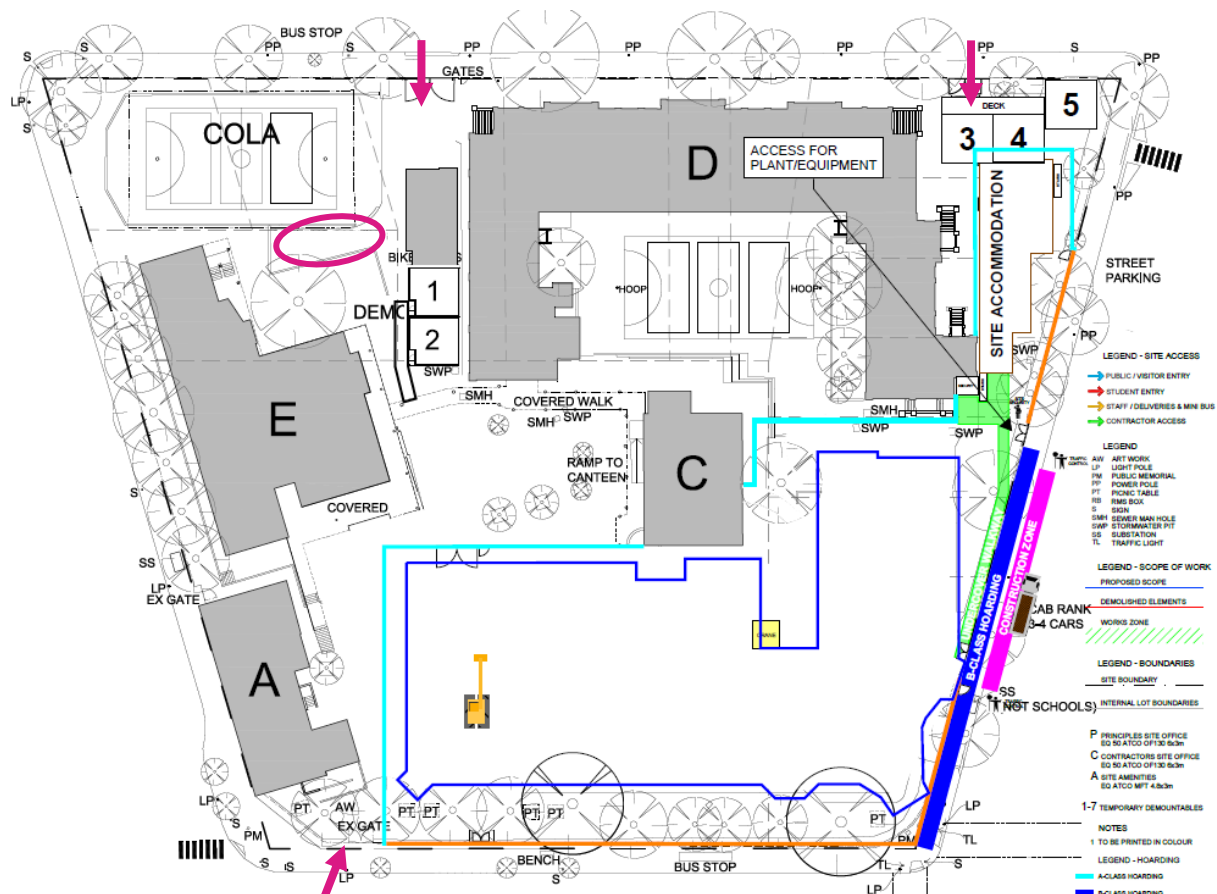


Figure 23 – Pedestrian Access

Access off Belmont Road will be closed for public and instead used as a contractor access. The existing car park will be utilised as temporary classrooms during the construction, and access to those demountables will be provided via the existing gate. The gate off Gladstone Avenue will remain in use as it currently is, with the addition of public entry exit. The northern and currently main access off Military Road will be closed, but instead the southern gate will be opened and temporarily used for students and staff to enter the school.

Cyclists can enter through the gates off Military Road and Gladstone Avenue. It is proposed that bicycle facilities are temporarily located within the existing bus bay (refer to the magenta circle in Figure 23).

The entire site (and any remote work areas when applicable) and during all phases will be physically separated from the School via A-Class or ATF type fencing. The extents of fencing will be modified during the works as required to suit the works occurring at each project phase. The access points to the site will be securely locked even when the construction / demolition activities are not occurring.

There will also be a B class overhead hoarding, which will be provided along the work zone on Belmont Avenue to allow safe pedestrian through movements without the requirement to block off the footpath.

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Exact location of the hoarding and fencing will be agreed at construction stage.

### **5.12 Cumulative Effect of Adjacent Developments**

During the construction stage, liaison with adjacent developments (if any) will be undertaken to mitigate the cumulative effect of the concurrent works. This will include the coordination of truck movements to prevent the combined impact of construction activities.

### **5.13 Special Deliveries**

Whilst not anticipated, any oversized vehicle that is required to travel to the site will be dealt with separately, with the submission of required permits to and subsequent approval by Mosman Municipal Council prior to any delivery.

### **5.14 Staff Parking**

School staff parking will be temporarily unavailable for the entirety of the redevelopment of the site. School staff will be advised to carpool wherever possible and utilise public transport as discussed in Section 4.3.

Construction workers can park their cars within the locality of the school as the Traffic Impact Assessment has addressed the availability of parking off-site. Nevertheless, site personnel will be advised to carpool and site personnel will be informed of the public transport options available in the vicinity of the site (refer to Section 4.3) and advised to utilise these facilities.

### **5.15 Work Site Security**

To provide security to the works site and protection to the general public, it is proposed that the entire site (and any remote work areas when applicable) will be physically separated from the School via A-Class or ATF type temporary fencing. The extents of fencing will be modified during the works as required to suit the works occurring at each project stage.

The work zone along Belmont Road will be secured by B-Class hoarding, so that the footpath can remain open throughout the construction.

Prior to commencement of works the contractor will facilitate a Safety Workshop where the school and their stakeholders shall be invited to identify site specific safety and security initiatives.

All access points are to be securely locked when construction activities are not in progress. The exact location of this fence is to be agreed on site, prior to commencement of the works.

Exact location of the hoarding and fencing will be agreed at construction stage.

### **5.16 Staff Induction**

All staff and subcontractors engaged on site will be required to undergo a site induction. The induction will include permitted access routes to and from the construction site for all vehicles, as well as standard environmental, OH&S, driver protocols and emergency procedures. Additionally, the lead contractor will discuss TMP requirements regularly as a part of toolbox talks and advise workers of public transport and car-pooling opportunities.

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### **5.17 Emergency Vehicle Access**

The proposed traffic control arrangements do not propose the closure of any local roads. Any emergency vehicles requiring access to the project site will do so via the site access along Belmont Road or Military Road.

A detailed Emergency Management Plan will be further developed by the contractor prior to site establishment works.

### **5.18 Access to Adjoining Properties**

Access to all adjoining properties will be maintained throughout the works. The adjacent landowners will be notified of works via letter box distribution and road signage to advised of anticipated truck movements in operation with access to adjoining properties being maintained at all times.

### **5.19 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 an appropriate accreditation in accordance with Section 8 of Traffic Control at Worksites.

The comprehensive Work Health & Safety Management Plan will be provided by the contractor and shall be constantly reviewed as the design and construction methodology progress.

### **5.20 Method of Communicating Traffic Changes**

During construction, the contractor shall each morning, prior to work commencing, ensure all signage is erected in accordance with the TCP and clearly visible. Each evening, upon completion of work, the contractor is to ensure signage is either covered or removed as required.

Any variation to the layout of the TCP on site is to be recorded and certified by authorised TfNSW accredited personnel. The associated TCP road signage will inform drivers of works activities in the area including truck movements in operation.

### **5.21 Contact Details for On-Site Enquiries and Site Access**

The principal contractor is yet to be appointed and contact details of a Site Manager will be provided at a later stage.

### **5.22 Maintenance of Roads and Footpaths**

The roads and footpaths along the route of travel will be kept in a serviceable state at all times. Any damage arising as a result of the proposed truck movements will be treated / repaired by the principal contractor at no cost to Council.

## **6. Summary**

This concept CTMP has been prepared to outline the construction traffic measures to improve site safety to the public and workers during the construction process.

With the measures described in the concept CTMP in place, the construction activity is anticipated to have minimal disruption to the daily activities within the vicinity of the site.

It is envisaged that this document will be reviewed during the construction stage and amended if required, due to changes in design, TfNSW, Councils or any other authority requirements.



## **Attachment 1      Swept Path Assessment**

## 1. Work Zone Along Belmont Road

### 1.1 Construction Vehicle Routes

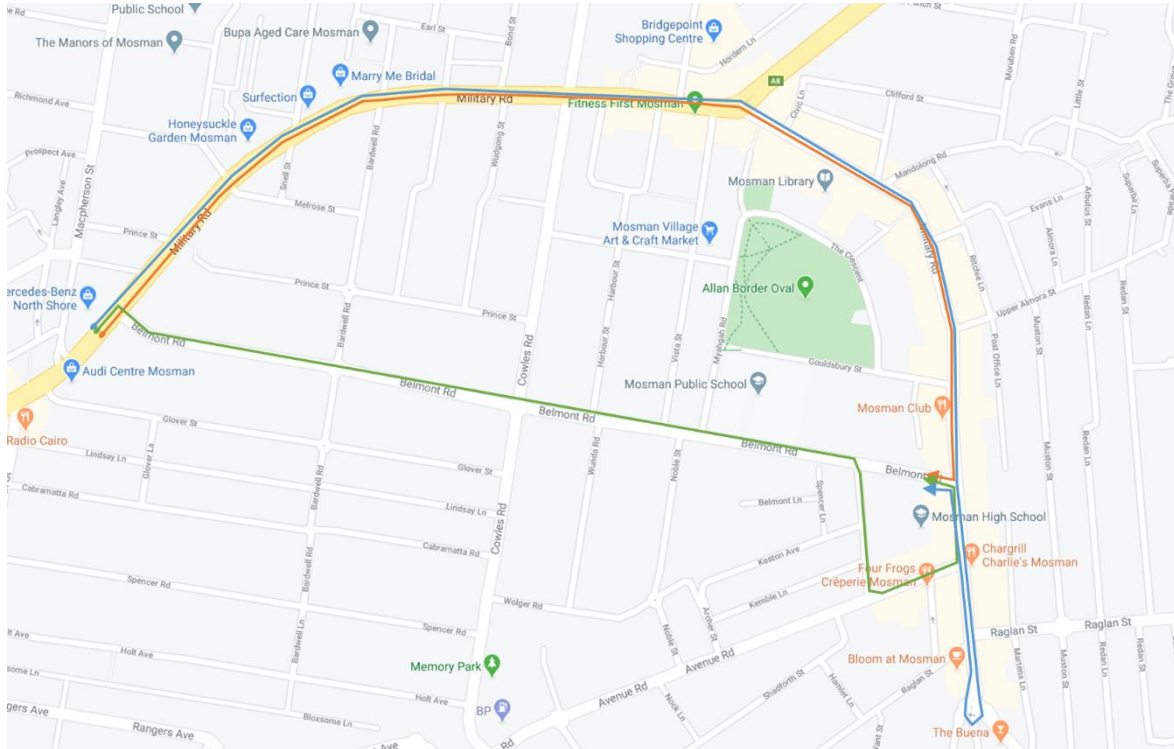


Figure 1 - Entry Routes

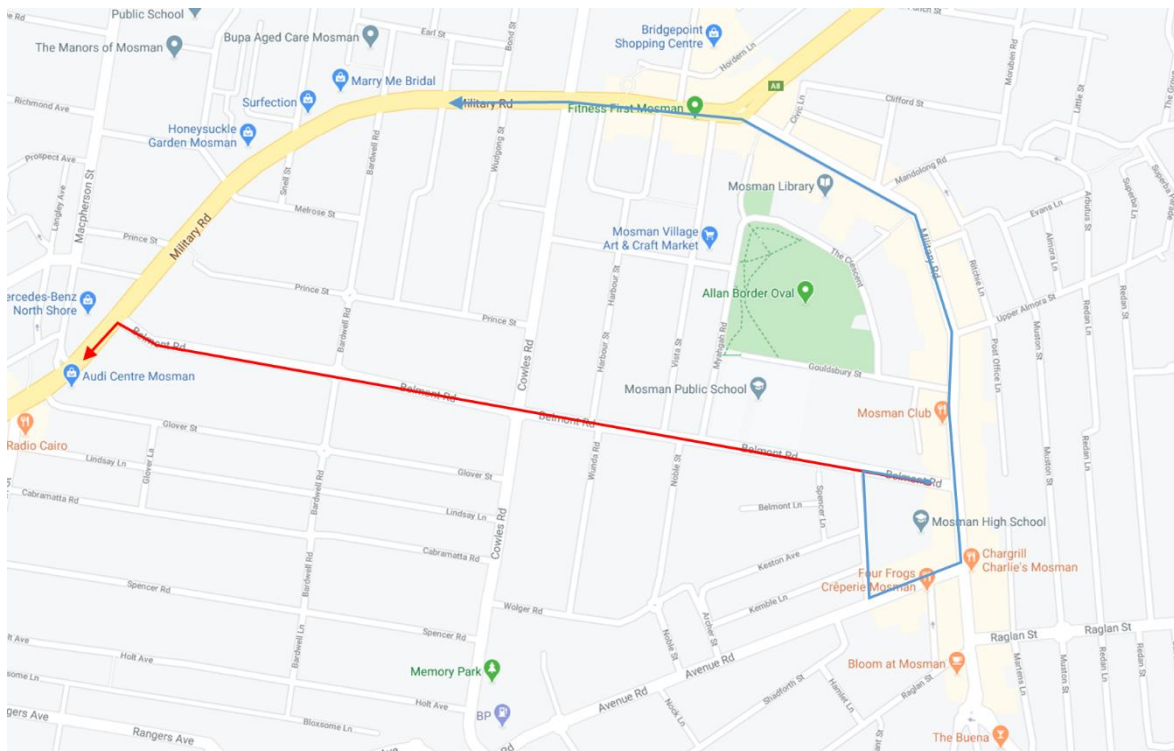


Figure 2 - Exit Route

## 1.2 AV Swept Paths

A 19m long and 2.5m wide Articulated Vehicle (AV) is used for the swept path analysis.

### 1.2.1 Entry Route via Belmont Road

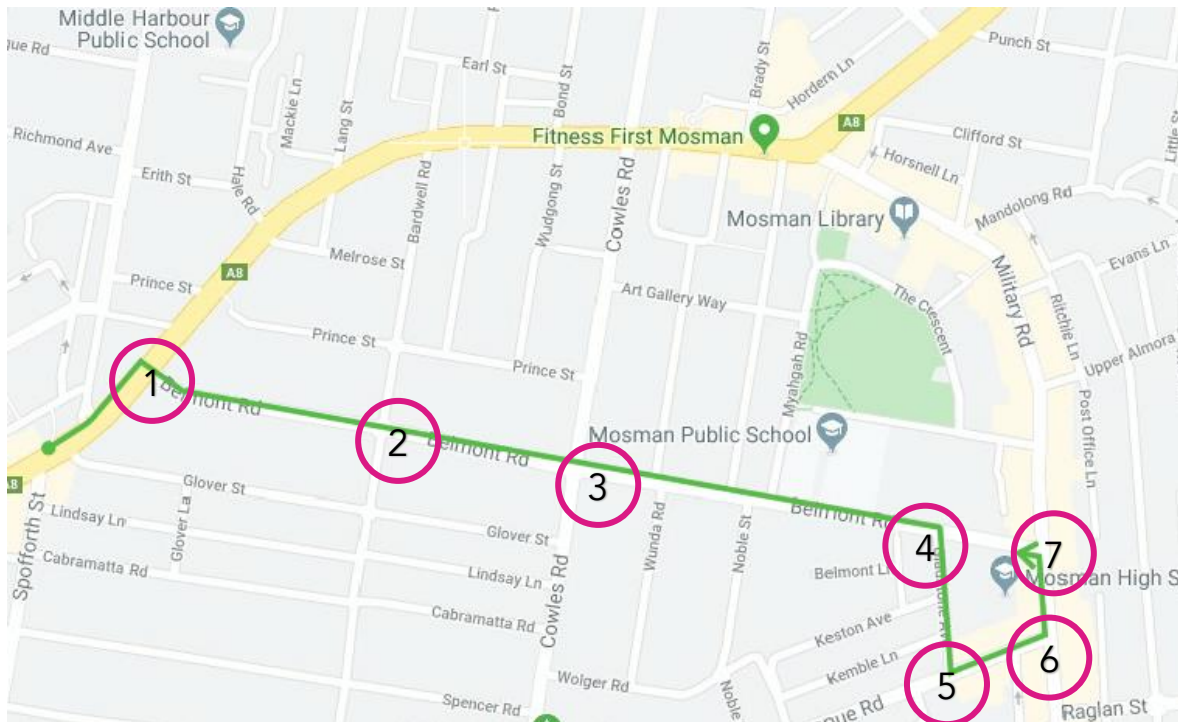
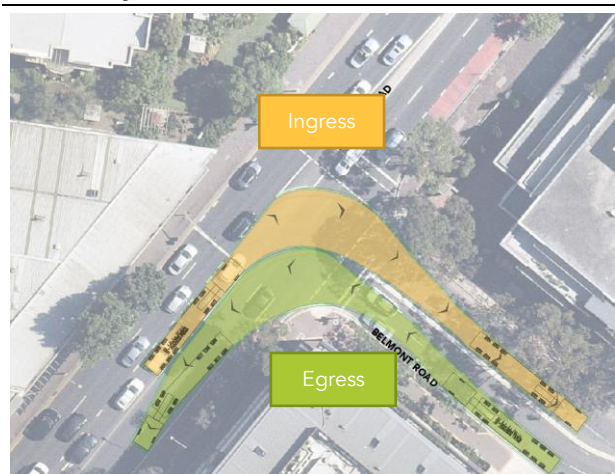


Figure 3 - Entry Route via Belmont Road

#### Entry Route via Belmont Road

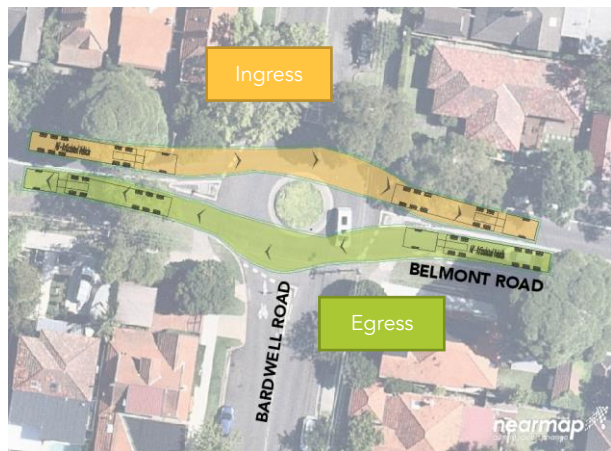
##### 1 – Military Road / Belmont Road



- No traffic control measures required.

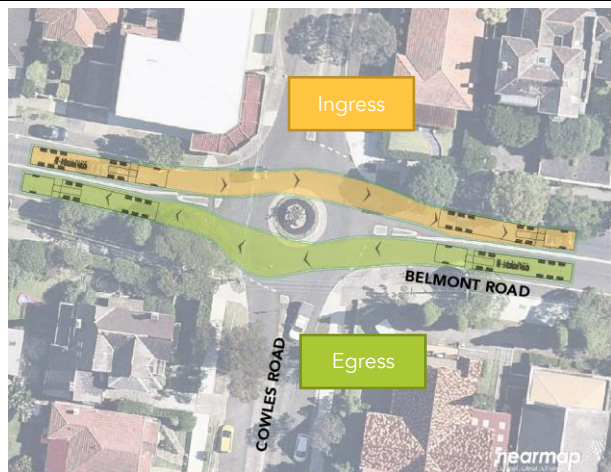
## Entry Route via Belmont Road

### 2 – Belmont Road / Bardwell Road



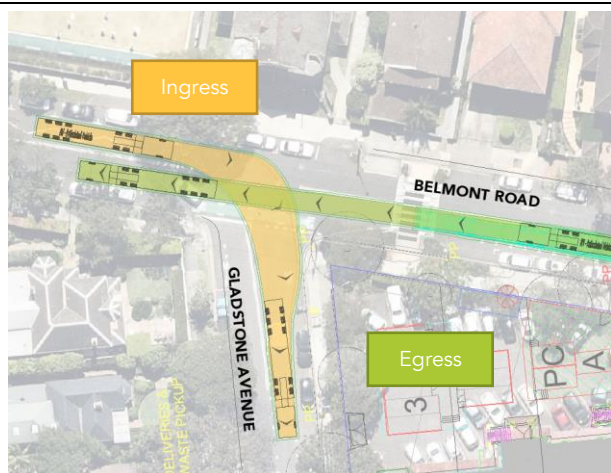
- No traffic control measures required.

### 3 – Belmont Road / Cowles Road



- No traffic control measures required.

### 4 – Belmont Road / Gladstone Avenue

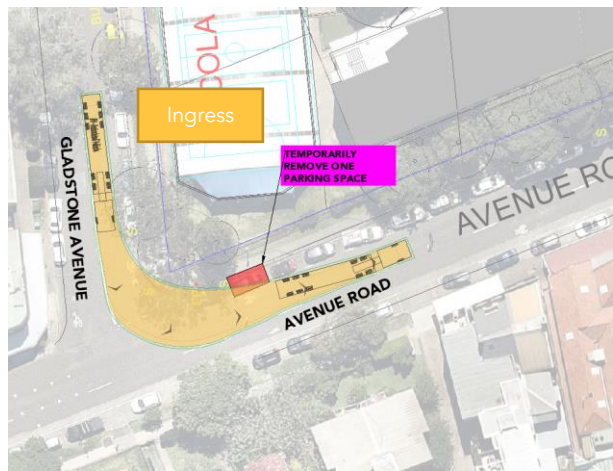


- No traffic control measures required.



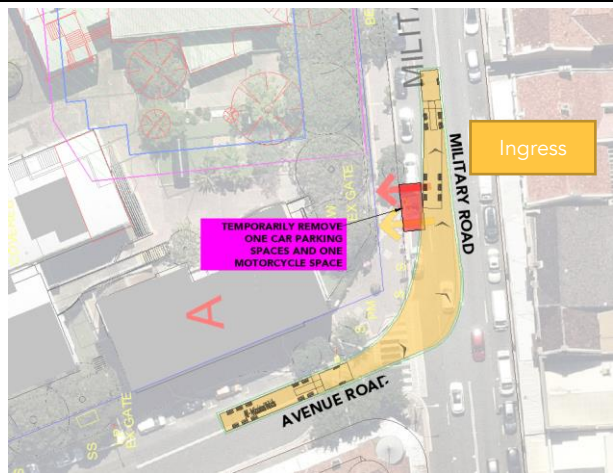
## Entry Route via Belmont Road

### 5 – Gladstone Avenue / Avenue Road



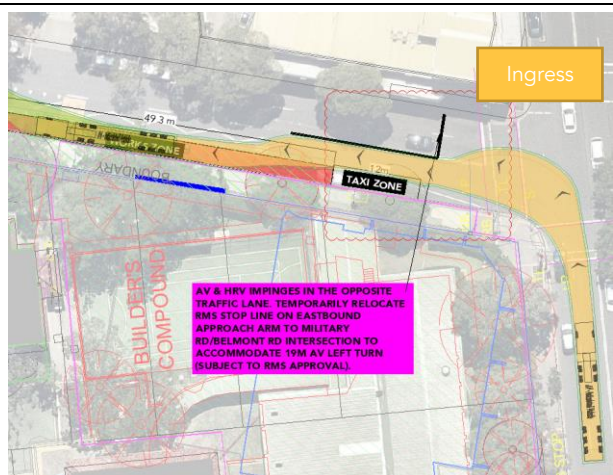
- One parking space will need to be temporarily removed.

### 6 – Military Road / Avenue Road



- One parking space and motorbike spaces will need to be temporarily removed.

### 7 – Military Road / Belmont Road



- AV encroaches the opposite lane when turning into Belmont Road.
- Temporary relocation of the stop line on the eastbound approach is required to accommodate the 19m AV. This is subject to TfNSW approval.

## 1.2.2 Entry Route via Military Road

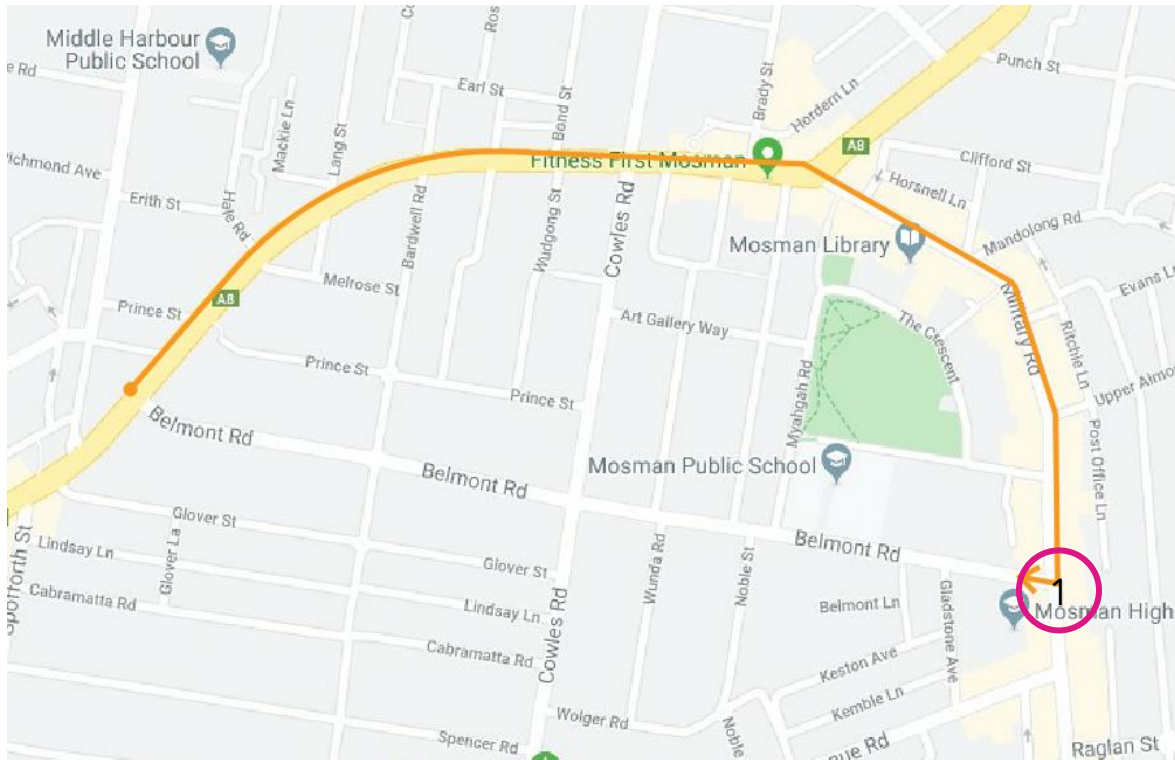
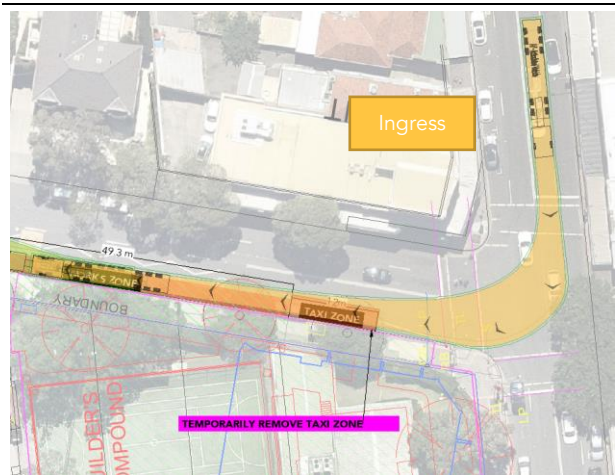


Figure 4 - Entry Route via Military Road

### Entry Route via Military Road

#### 1 – Military Road / Belmont Road



- No traffic control measures required.
- The taxi zone has to be temporarily removed to accommodate the turning movement.

### 1.2.3 Entry Via Military Road using Roundabout

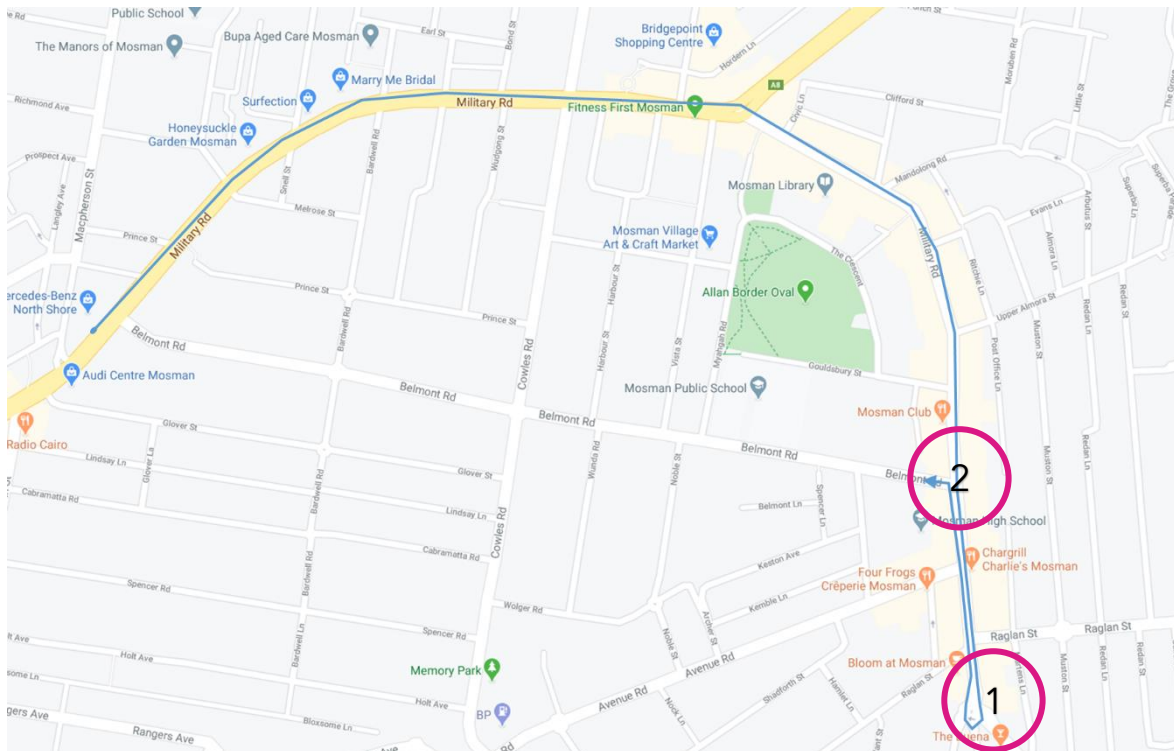


Figure 5 – Entry via Military Road using roundabout south of site

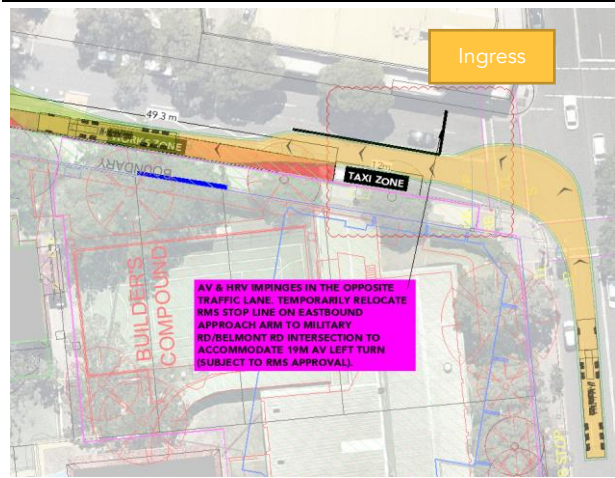
#### Entry Via Military Road using Roundabout

##### 1 – Military Road Roundabout



- No traffic control measures required.

## 2 – Military Road / Belmont Road



- AV encroaches the opposite lane when turning into Belmont Road.
- Temporary relocation of the stop line on the eastbound approach is required to accommodate the 19m AV. This is subject to TfNSW approval.



#### 1.2.4 Exit Route via Belmont Road

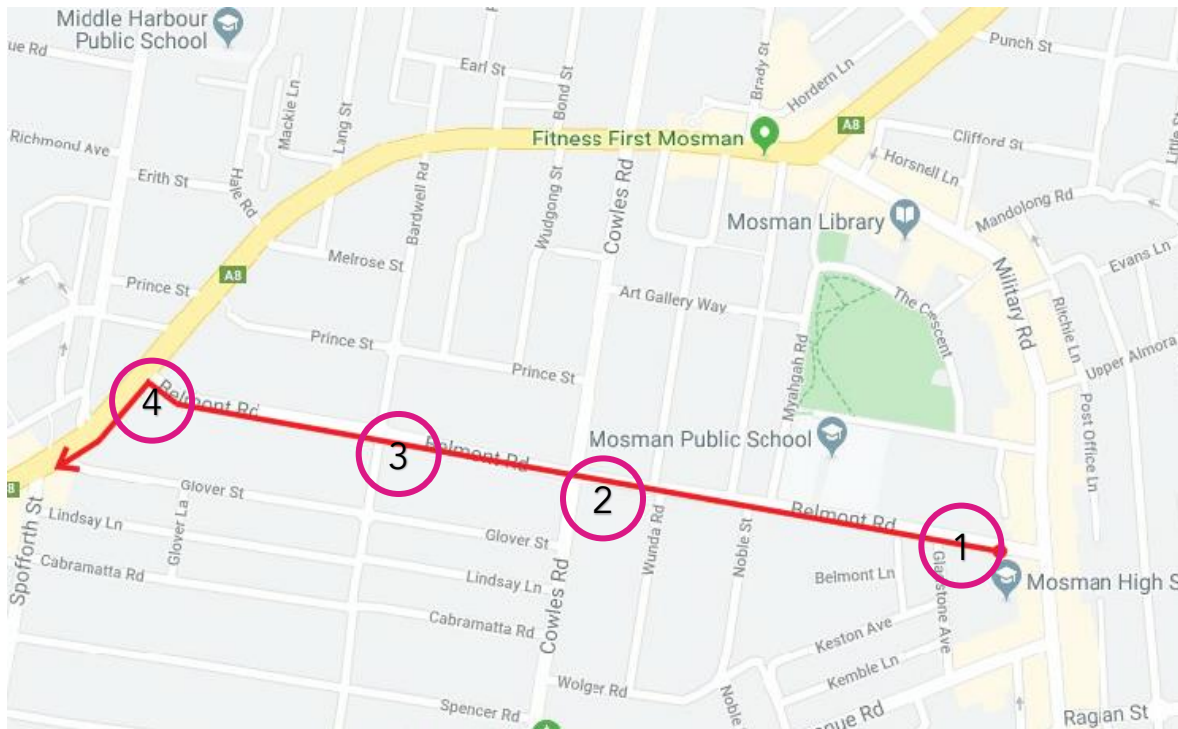
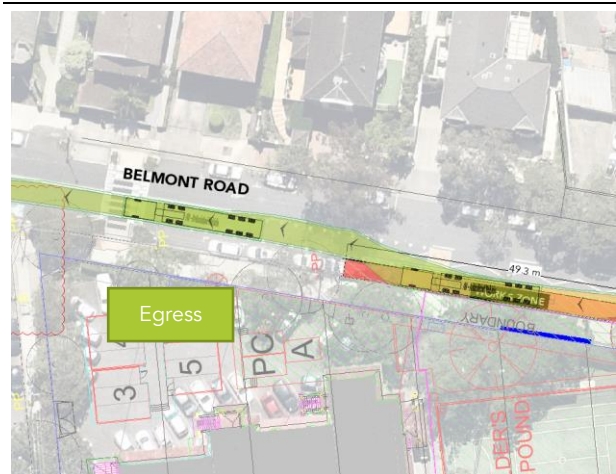


Figure 6 – Exit Route via Belmont Road

#### Exit Route via Belmont Road

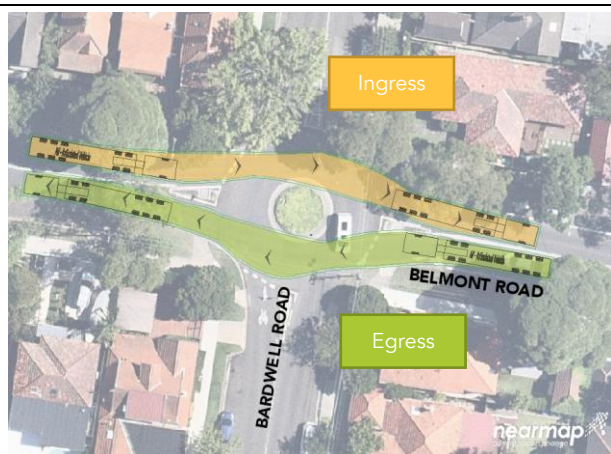
##### 1 – Belmont Road near Gladstone Avenue



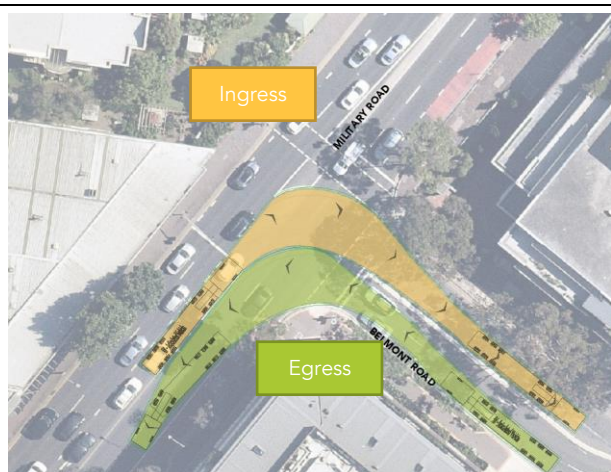
- No traffic control measures required.
- It is to be confirmed that the existing power lines do not encroach the minimum height clearance requirement of 4.5m as per AS2890.2.

**Exit Route via Belmont Road****2 – Belmont Road / Cowles Road**

- No traffic control measures required.

**3 – Belmont Road / Bardwell Road**

- No traffic control measures required.

**4 – Belmont Road / Military Road**

- No traffic control measures required.

## 1.2.5 Exit Route via Military Road

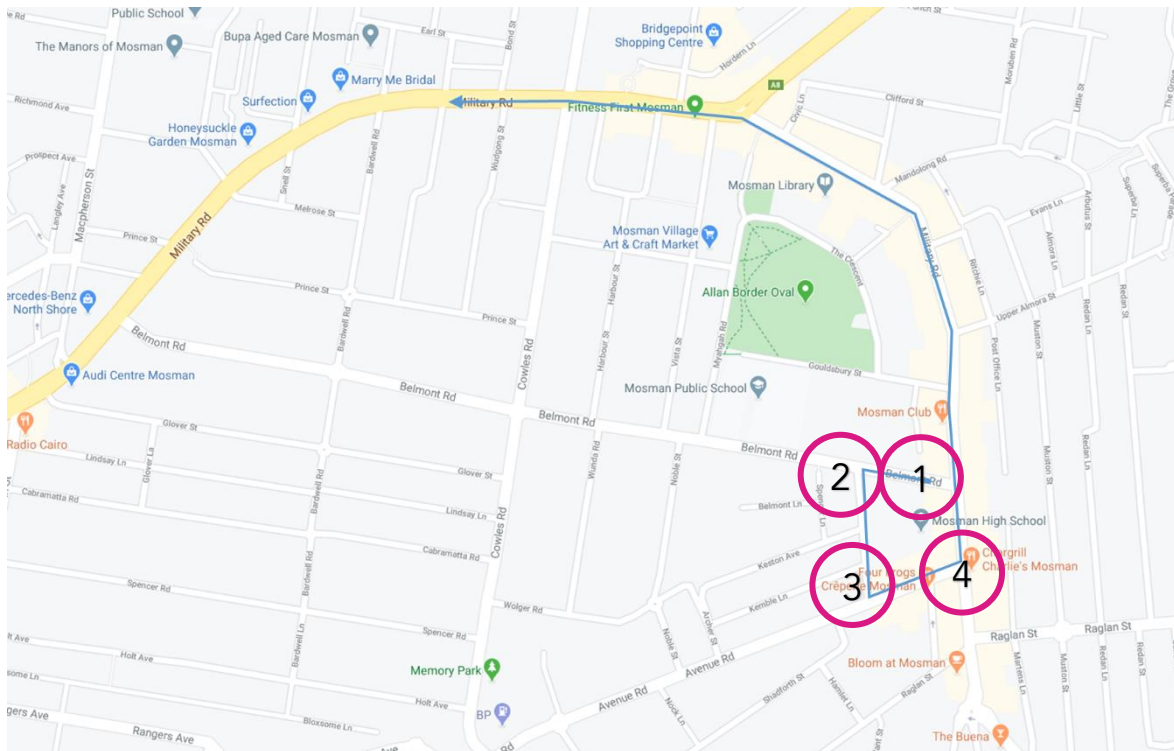
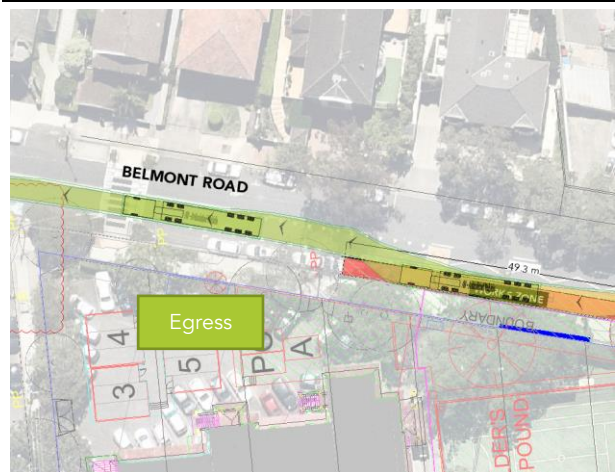


Figure 7 – Exit Route via Military Road

### Exit Route via Military Road

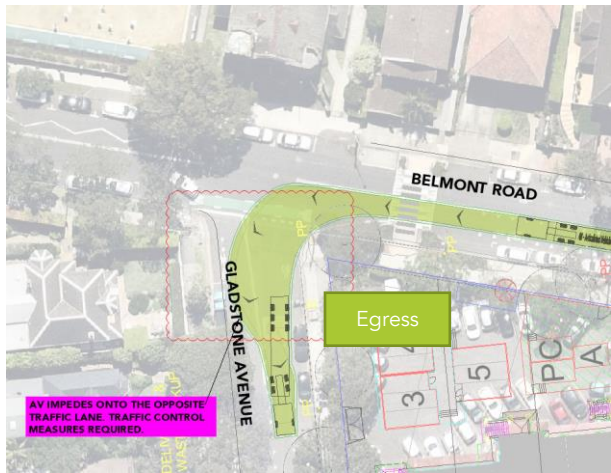
#### 1 – Belmont Road near Gladstone Avenue



- No traffic control measures required.
- It is to be confirmed that the existing power lines do not encroach the minimum height clearance requirement of 4.5m as per AS2890.2.

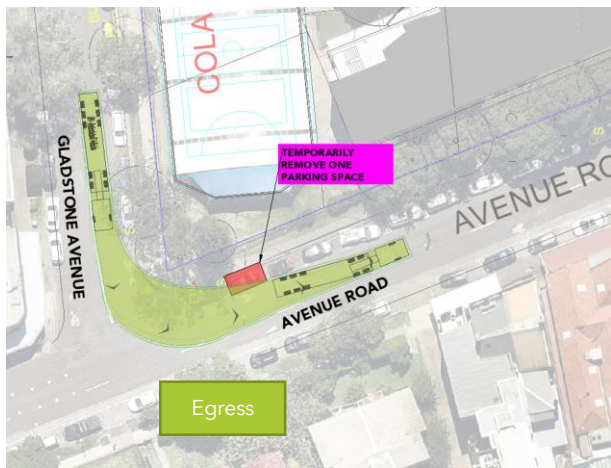


## 2 – Belmont Road near Gladstone Avenue



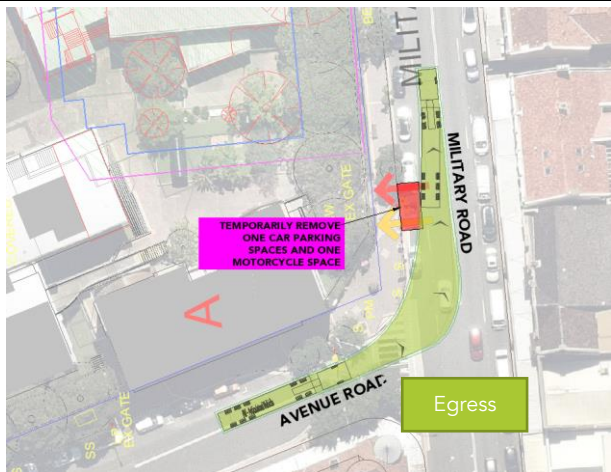
- AV encroaches onto the opposite lane. Traffic control measures in the form of traffic controllers are required.

## 3 – Gladstone Avenue / Avenue Road



- One parking space will need to be temporarily removed.

## 4 – Military Road / Avenue Road



- One parking space and motorbike spaces will need to be temporarily removed.



## 1.3 HRV Swept Paths

A 12.5m long and 2.5m wide Heavy Rigid Vehicle (HRV) is used for the swept path analysis.

### 1.3.1 Entry and Exit Route via Belmont Road

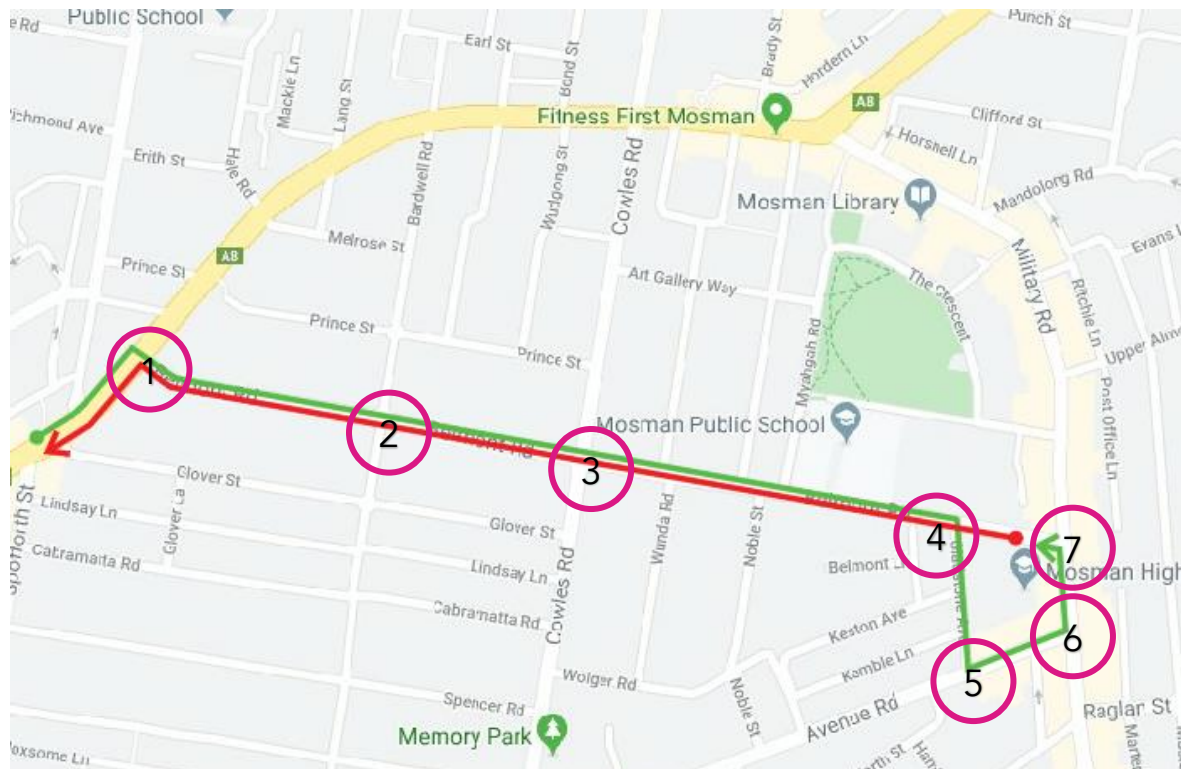
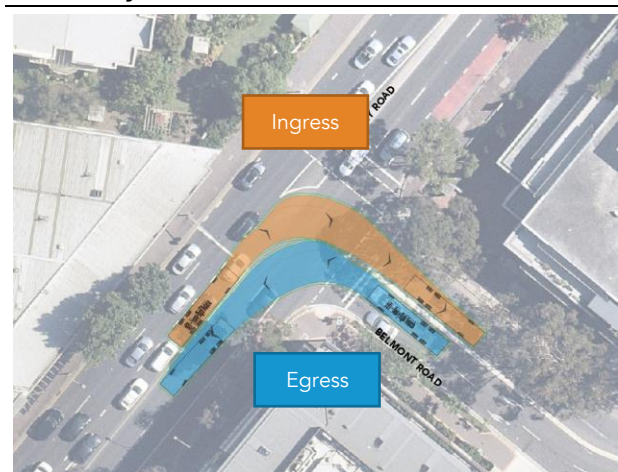


Figure 8 – Entry and Exit Route via Belmont Road

#### Entry and Exit Route via Belmont Road

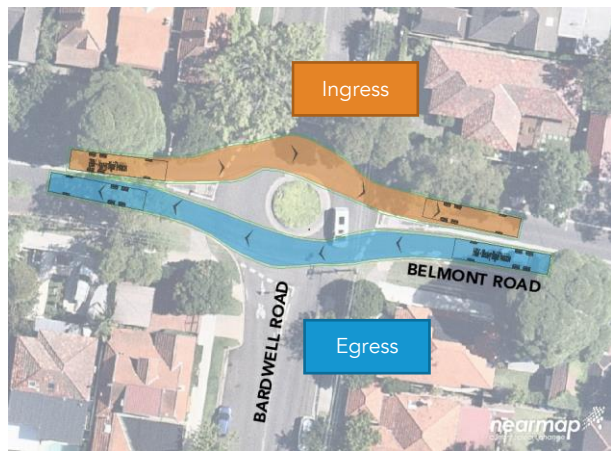
##### 1 – Military Road / Belmont Road



- No traffic control measures required.

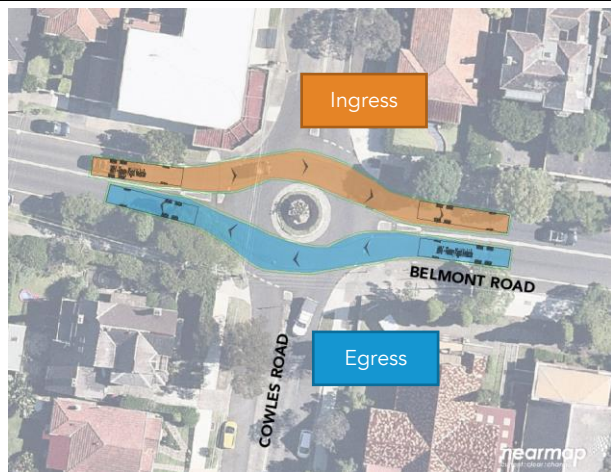
## Entry and Exit Route via Belmont Road

### 2 – Belmont Road / Bardwell Road



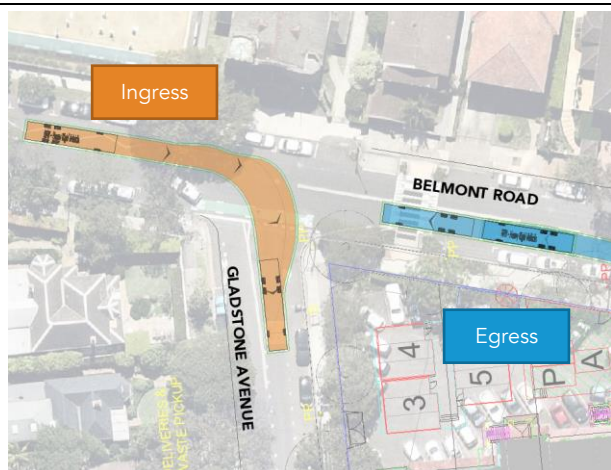
- No traffic control measures required.

### 3 – Belmont Road / Cowles Road



- No traffic control measures required.

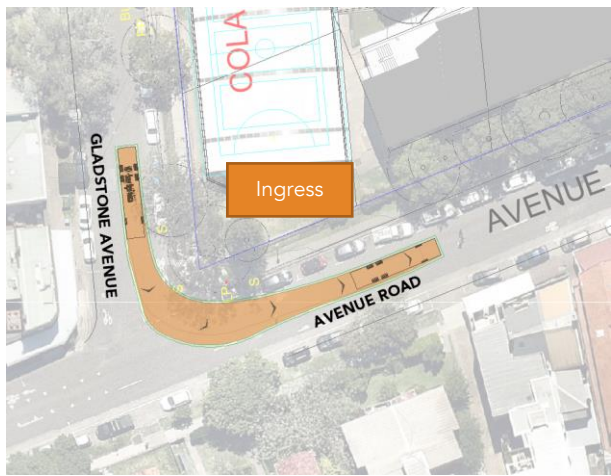
### 4 – Belmont Road / Gladstone Avenue



- No traffic control measures required.

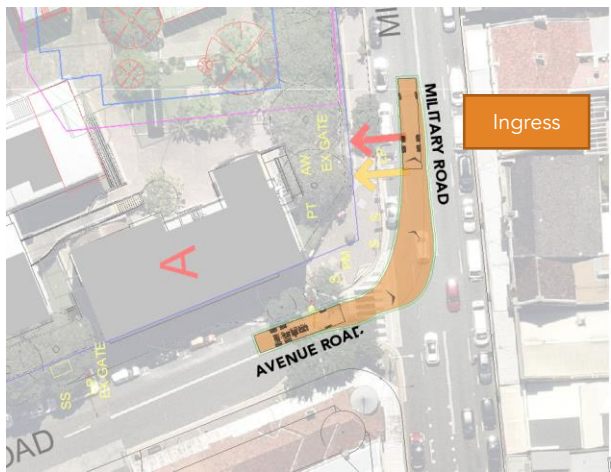
## Entry and Exit Route via Belmont Road

### 5 – Gladstone Avenue / Avenue Road



- No traffic control measures required.

### 6 – Avenue Road / Military Road



- No traffic control measures required.

### 7 – Military Road / Belmont Road



- No traffic control measures required.



### 1.3.2 Entry Route via Military Road

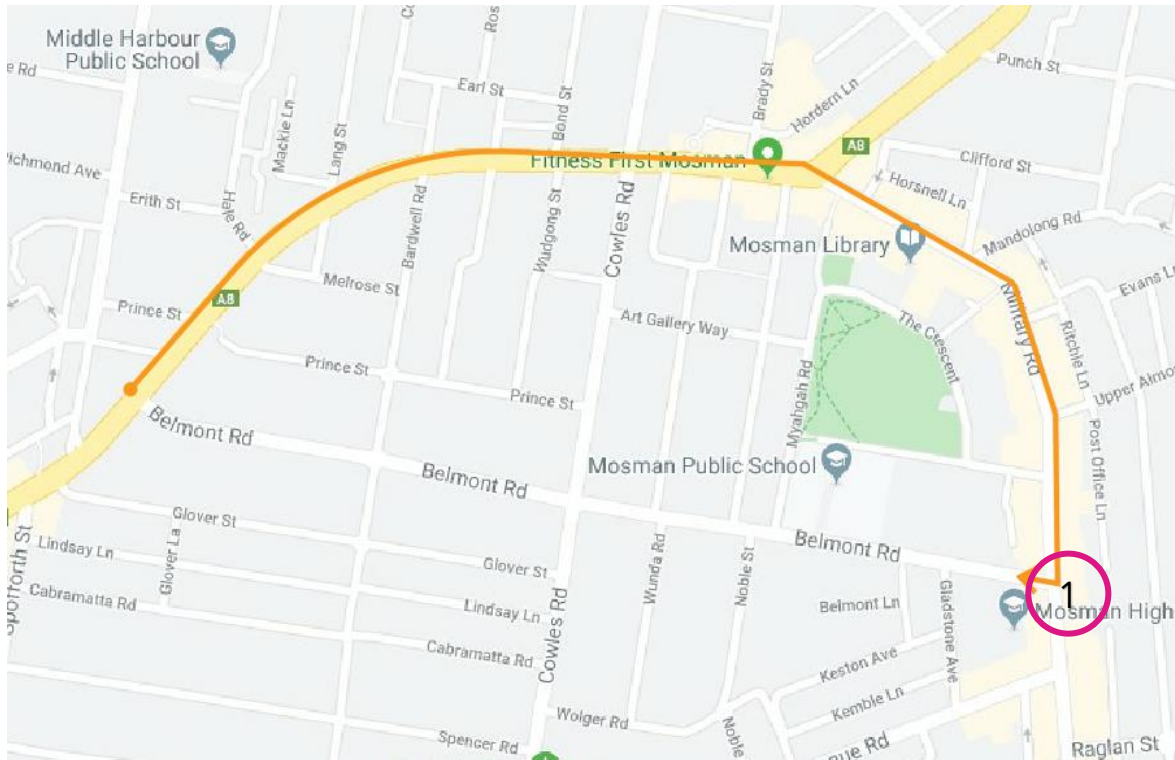
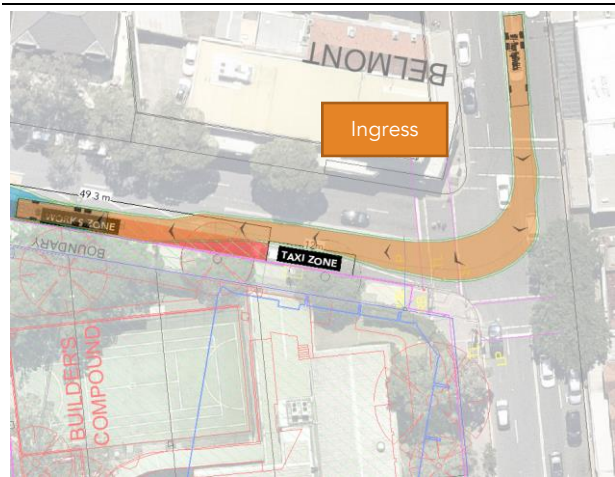


Figure 9 – Entry Route via Military Road

#### Entry Route via Military Road

##### 1 – Military Road / Belmont Road



- No traffic control measures required.



### 1.3.3 Entry Via Military Road using Roundabout

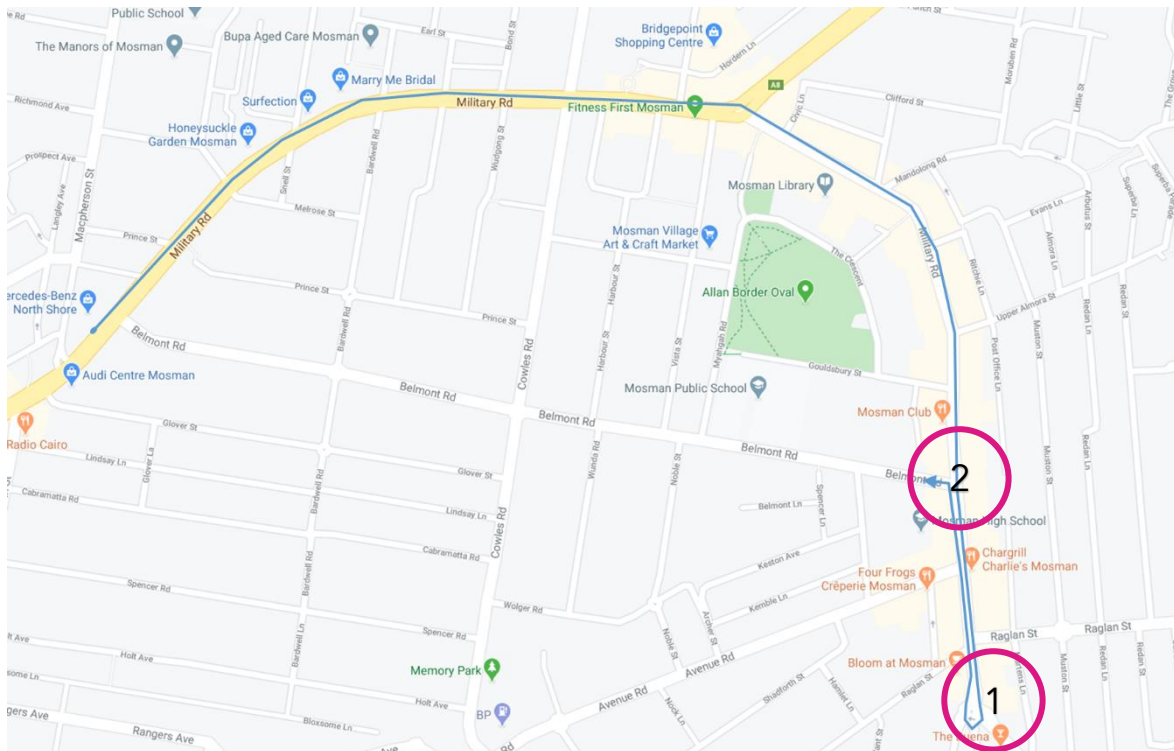


Figure 10 – Entry via Military Road using roundabout south of site

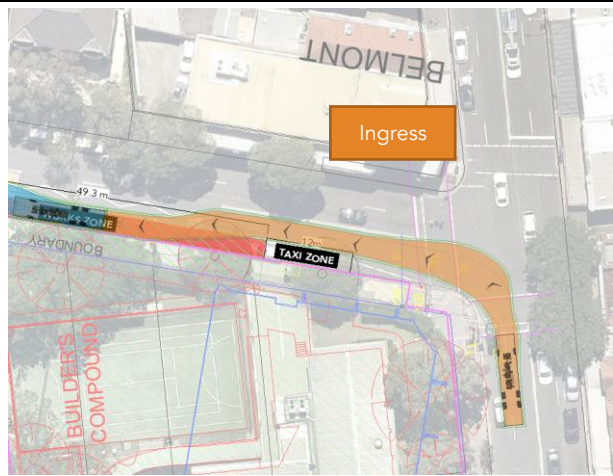
#### Entry Via Military Road using Roundabout

##### 1 – Military Road Roundabout



- No traffic control measures required.

## 2 – Military Road / Belmont Road



- No traffic control measures required.

### 1.3.4 Exit Route via Military Road

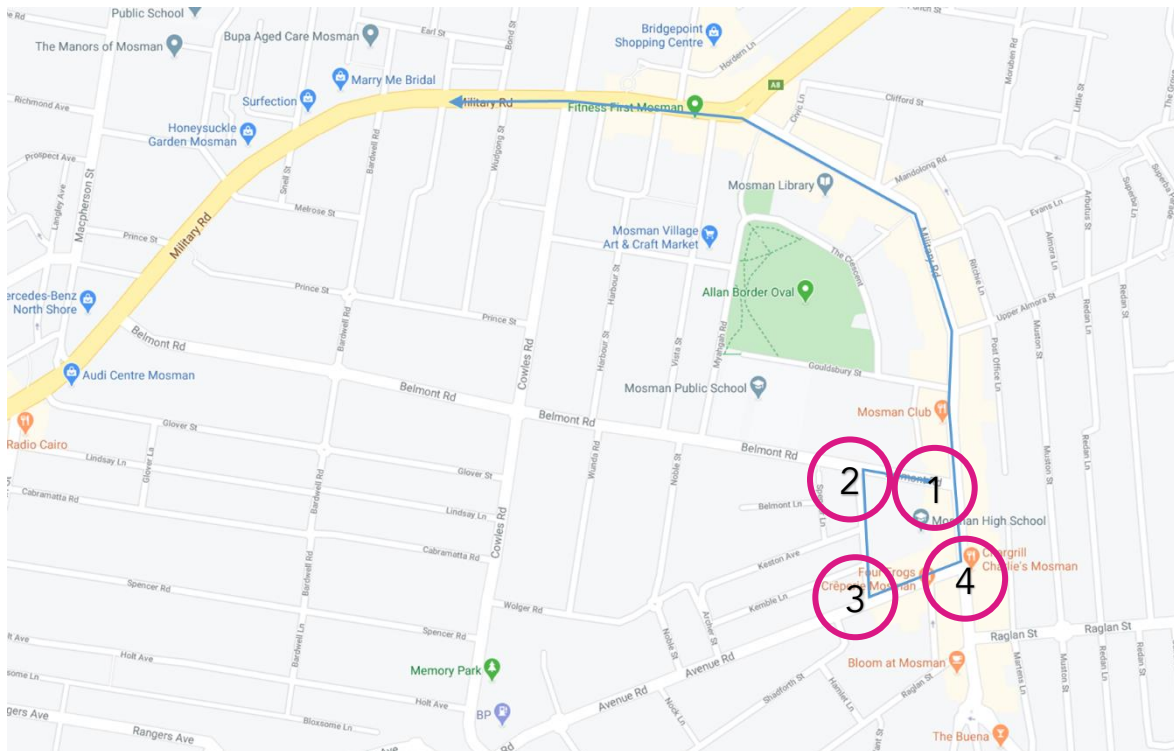
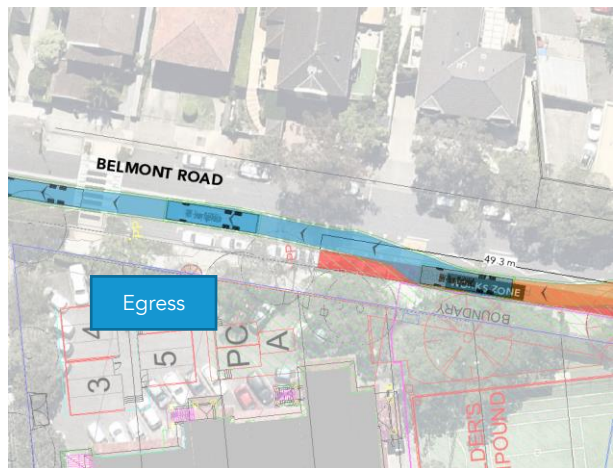


Figure 11 – Exit Route via Military Road

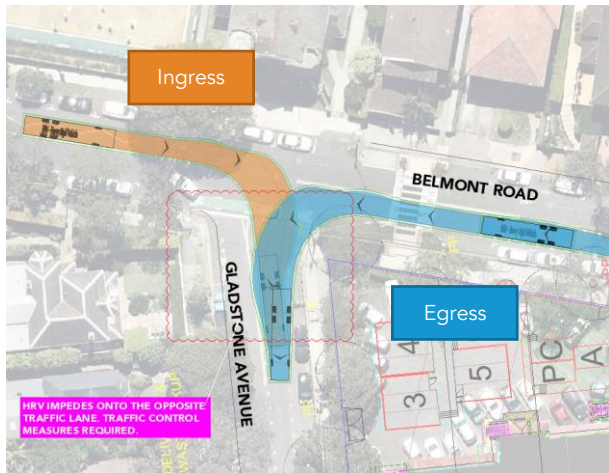
#### Exit Route via Military Road

##### 1 – Belmont Road near Gladstone Avenue



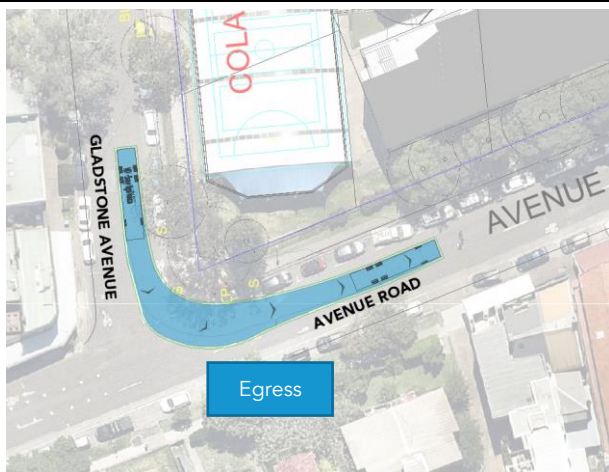
- No traffic control measures required.
- It is to be confirmed that the existing power lines do not encroach the minimum height clearance requirement of 4.5m as per AS2890.2.

## 2 – Belmont Road / Gladstone Avenue



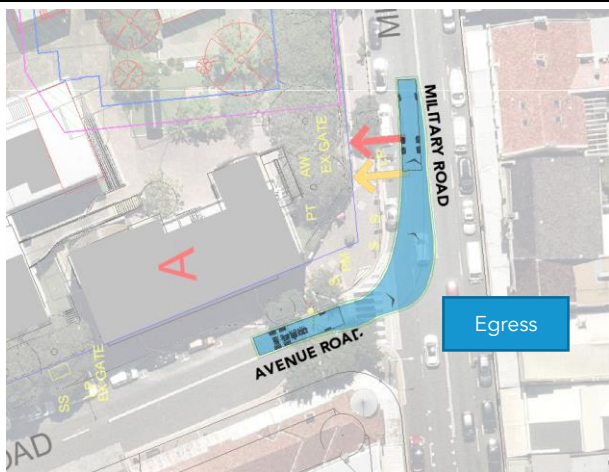
- HRV encroaches onto the opposite lane. Traffic control measures in the form of traffic controllers are required.

## 3 – Gladstone Avenue / Avenue Road



- No traffic control measures required.

## 4 – Avenue Road / Military Road



- No traffic control measures required.