

# Construction Traffic & Pedestrian Management Plan

## Cumberland Cluster

SSD-41372302

Prepared for Roberts Co.

5 December 2023

221973

## Revision Register

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## Section 2 Introduction

### 2.1 Project Information

Taylor Thomson Whitting (TTW) has been engaged by Roberts Co. to provide a Construction Traffic & Pedestrian CTMP Management Plan at Carlingford West Public School (CWPS) and Cumberland High School (CHS) located in Carlingford and within the Parramatta Local Government Area (LGA). The proposed development will provide the following characteristics:

#### Carlingford West Public School

- Construction of new buildings and facilities within the existing primary school site.
- General learning spaces.
- On-site parking lot with kiss and ride area.
- Integrated landscaping and signage.

#### Cumberland High School

- New on-site buildings, containing main library, special education learning units and home base units.
- On-site parking lot with kiss and ride area.

The purpose of this CTPMP is to outline the measures that will be implemented to manage construction traffic and pedestrian movements during the construction phase of the project. This plan aims to ensure the safety of all personnel, visitors, and members of the public who may be affected by construction activities. This plan covers the management of construction traffic and pedestrian movements within and nearby the boundaries of site. It includes measures to manage the movement of construction vehicles, the provision of pedestrian access, and the management of public access to the site.

### 2.2 Consent Conditions

This CTPMP has been prepared to fulfil the Conditions of Consent summarised in Table 1.

**Table 1: Conditions of Consent**

Condition	Condition Requirements	Reference
<b>B19</b>	Prior to the commencement of any construction, a Construction Traffic and Pedestrian Management Plan must be prepared in consultation with Council and TfNSW, to achieve the objective of ensuring safety and efficiency of the road network, and a copy provided to the Planning Secretary and TfNSW for information. The Construction Traffic and Pedestrian Management Plan must include, but not be limited to, the following:	This document
<b>(a)</b>	Detail:	
	(i) Measures to ensure road safety and network efficiency during construction in consideration of potential impacts on general traffic, cyclists and pedestrians and bus services	Section 6
	(ii) Measures to ensure the safety of vehicles and pedestrians accessing adjoining properties where shared vehicle and pedestrian access occurs	<i>Not applicable. This development does not include any shared access points.</i>
	(iii) Number of heavy vehicles, heavy vehicle routes, access and parking arrangements	Section 4.2 Section 5.3 Section 5.9

Condition	Condition Requirements	Reference
(b)	(iv) The swept path of the longest construction vehicle entering and exiting the site in association with the new work, as well as manoeuvrability through the site, in accordance with the latest version of AS 2890.2	Appendix B
	(v) Arrangements to ensure that construction vehicles enter and leave the site in a forward direction unless in specific exceptional circumstances under the supervision of accredited traffic controller(s)	Section 5.4 Section 5.8
	(vi) Arrangements to ensure that heavy vehicles will not be scheduled: <ul style="list-style-type: none"> <li>• Within 30 minutes before the commencement of the school day;</li> <li>• Within 10 minutes after the commencement of the school; and</li> </ul>	Section 5.3
	A Driver Code of Conduct must be prepared and communicated by the Applicant to heavy vehicle drivers and must address the following: <ul style="list-style-type: none"> <li>(i) Minimise the impacts of earthworks and construction on the local and regional road network</li> <li>(ii) Minimise conflicts with other road users</li> <li>(iii) Minimise road traffic noise; and</li> <li>(iv) ensure truck drivers use specified routes</li> </ul>	Section 5.9
B23	<p><b>Construction Parking</b></p> <p>Prior to the commencement of the relevant stage, the Applicant must Submit a Construction Worker Transportation Strategy to the Certifier. The Strategy must detail the provision of sufficient parking facilities on and off-site or other travel arrangements for construction workers in order to minimise demand for parking in nearby public and residential streets or public parking facilities. A copy of the strategy must be made publicly available on the Applicant's website in accordance with condition A25. This condition cannot be staged.</p>	Section 5.9
B28	<p><b>Construction &amp; Demolition Waste Management</b></p> <p>Prior to the commencement of the removal of any waste material from the site, the Applicant must notify the TfNSW Traffic Management Centre of the truck route(s) to be followed by trucks transporting waste material from the site.</p>	<p>Truck routes are identified in Section 5.3 of this report.</p> <p>Waste management procedures are included within the Waste Management Plan Ref: CC_Elephants Foot_C&amp;D WMP_1</p>
C4	<p><b>Construction Hours</b></p> <p>Construction, including the delivery of materials to and from the site, may only be carried out between the following hours:</p>	Section 4.4
(a)	between 7am and 6pm, Mondays to Fridays inclusive; and	Section 4.4
(b)	between 8am and 1pm, Saturdays No work may be carried out on Sundays or public holidays	
C5	Notwithstanding condition C4, provided noise levels do not exceed the existing background noise level plus 5dB, works may also be undertaken during the following hours:	Section 4.4
(a)	between 6pm and 7pm, Mondays to Fridays inclusive	Section 4.4
(b)	between 1pm and 4pm, Saturdays	

## 2.3 Authority Consultation

This sub-plan has been prepared in consultation with Parramatta Council (Council) and Transport for New South Wales (TfNSW). Consultation events and outcomes are identified in Table 2. Details of all consultation records will be included within Appendix A.

**Table 2: Consultation Summary**

Agency	Consultation History	Key Items	Comment & Reference
TfNSW	A draft revision of this Plan was provided to TfNSW by TTW on 13 <sup>th</sup> November 2023.	<p>A response was received from TfNSW on 20<sup>th</sup> November 2023, stating:</p> <p><i>The following amendments (or clarifications) to be made to the CTMP before we can endorse the document:</i></p> <p><i>Page 41 – The left turn swept path from Baker Street into Dunmore Avenue appears to cross over into the path of the eastbound vehicles. Please clarify if this is the case and any measures to mitigate this concern.</i></p> <p><i>Page 42 – The left turn swept path for southbound vehicles on Baker Street to head east on Pennant Hills Road appears will conflict with the opposing westbound right turn. Please clarify if this is the case and any measures to mitigate this concern.</i></p>	<p>TfNSW's comment has been taken into consideration and 'No Stopping' restrictions are proposed to ensure two-way passing is maintained along Dunmore Avenue.</p> <p>Section 5.3 and Appendix B, Drawing 221973-TTW-00-SK-TR-20004-[C].</p> <p>TfNSW comment has been taken into consideration and the swept path has been updated which demonstrates no conflict.</p> <p>Appendix B, Drawing 221973-TTW-00-SK-TR-20005-[C].</p>
Council	A draft revision of this Plan was provided to Council by TTW on 13 <sup>th</sup> November 2023.	<p>A response was received from Council on 23<sup>rd</sup> November 2023, highlighting amendments to the following items:</p> <p><b>Construction Vehicle Routes</b></p> <p>Dunmore Street Midblock: The swept path plans for Dunmore Street are to be revised such that at 20m AV is not encroaching into the parking lanes. Should two-way movement not be possible, the CTPMSP is to be revised to have traffic control in place to manage the conflict between oncoming vehicles. Alternatively, an application can be made to Council to install a No Stopping restriction in Dunmore Street to allow for the safe passage of the design vehicle noting that this will be applicable to fees in accordance with Council's schedule of Fees and Charges and approval of the restriction by the Parramatta Traffic Committee for items considered under Delegated Authority.</p>	<p>Council's comment has been taken into consideration and TTW are consulting with Council extend 'No Stopping' time restrictions along the southern kerbside of Dunmore Ave to ensure two-way passing is maintained along Dunmore Avenue.</p> <p>Section 5.3 and Appendix B, Drawing 221973-TTW-00-SK-TR-20003-[B].</p>

Agency	Consultation History	Key Items	Comment & Reference
		<p>Dunmore Street at Baker Street: The swept path plan shows the 20m encroaching in to the parking lane and the oncoming lane. The applicant is not permitted to occupy or close any parking spaces without separate approval of a Temporary Road/Footpath Occupancy permit from Council and payment of the relevant fees as per Council's fees and charges.                      A TGS/TCP is to be included within the CTPMSP to control traffic to allow for this movements.</p>	<p>Council's comment has been taken into consideration and TTW are consulting with Council to implement 'No Stopping' restrictions at the intersection of Baker St / Dunmore Ave.</p> <p>Section 5.3 and Appendix B, Drawing 221973-TTW-00-SK-TR-20004-[C].</p>
		<p>Baker Street at Pennant Hills Road: The swept path for the left turn from Baker Street into Pennant Hills Road for a 20m AV is conflicting with the right turning movements from Pennant Hills Road and is encroaching over the kerb line which is hazardous for pedestrians which is not acceptable.</p>	<p>Council's comment has been taken into consideration and the swept path has been updated which demonstrates no conflict.</p> <p>Appendix B, Drawing 221973-TTW-00-SK-TR-20005-[C].</p>
<p><b>Council</b></p>	<p>A draft revision of this Plan was provided to Council by TTW on 13<sup>th</sup> November 2023.</p>	<p>Bettington Road at Felton Road West: The swept paths for the 20m AV show the buffer zone encroaching beyond the give way lines, inner annulus of the roundabout, kerb returns and the pedestrian refuge islands which is not acceptable and compromises the safety of this intersection. Accordingly, it is considered that this vehicle is too large for this movement and alternatives are to be explored. It is to be noted that swept paths done by Council showed significantly more encroachment for a similarly sized 19m AV at this intersection. Accordingly, clarification is sought as to what speed is being assumed that the truck is travelling at this intersection as well as other locations.</p>	<p>Council's comment has been taken into consideration and the updated swept path analysis determined that the largest truck which can use the existing roundabout is approximately a 16 metre semi trailer truck.</p> <p>Section 5.3 and Appendix B, Drawing 221973-TTW-00-SK-TR-20010-[A].</p>



Agency	Consultation History	Key Items	Comment & Reference
		<p><b>Construction Vehicle Volumes and Times</b></p> <p>There is to be strictly no construction vehicle movements into and out of the site during the following times:</p> <ul style="list-style-type: none"> <li>• 30min before the first morning start bell time of either school</li> <li>• 10min after the last morning start bell time of either school</li> <li>• 10min before the first afternoon finishing bell time of either school</li> <li>• 30min after the last afternoon finishing bell time of either school</li> </ul> <p>The CTPMSP must clearly state this and note that this will be strictly enforced.</p> <p>It is to be noted that heavy vehicle movements are considered as serious hazards for children walking to and from school. This risk is particularly emphasised for this location where the construction site access are located near the pedestrian gates meaning a there will be high volumes of children with many of them walking unsupervised. This requirement is not negotiable.</p>	<p>In accordance with Condition B19 (a) (vi) no construction vehicle movements will occur during the morning drop off period. Roberts Co. have also confirmed no construction vehicle movements will occur between 3pm-3:30pm to avoid the school pick-up period.</p> <p>Details are included within Section 5.3.</p>
<p><b>Council</b></p>	<p>A draft revision of this Plan was provided to Council by TTW on 13<sup>th</sup> November 2023.</p>	<p><b>Construction Worker Parking</b></p> <p>In accordance with the CTPMSP, there will be an anticipated 156-195 worker parking demand during the phase 3 and 4, but only 48 parking spaces will be provided on-site. This will have a significant impact on the surrounding road network and the residential amenity of the area. It is noted that the builder will be prioritising on-site parking to those who car pool in an attempt to mitigate impact on on-street parking. However, Council has concerns with the significant shortfall of on-street parking spaces and particularly how this may impact the pickup and drop offs of school children. Accordingly, the CTPMSP is to be updated to include additional provisions to mitigate against this including identifying suitable areas for construction works to park. In this regard, workers should be instructed to park south of Pennant Hills Road or west of Barons Avenue. Further to this, the applicant must survey workers on the first working day of each month to see where they are parking and how many are parking on-street. This information is to then be relayed back to Council to assist in the management of on-street parking</p>	<p>Council's comment has been taken into consideration and Section 5.9 under the Construction Worker Transportation Strategy has been updated to provide additional mitigation measures including identifying suitable areas for construction works to park.</p> <p>Further details have also been provided within Section 6.2.</p> <p>While it is considered impractical for workers to be regularly surveyed. Potential impacts to on-street parking will be mitigated by advising workers of the recommended parking locations regularly.</p>
		<p><b>Other</b></p> <p>The Builder is to set up a hotline for nearby residents and parents of the school children that they can call should they have any complaints, concerns or need assistance regarding issues related to the construction traffic/activity and or construction worker parking.</p>	<p>Council's comment has been taken into consideration and Section 6.9 provide details.</p>

Agency	Consultation History	Key Items	Comment & Reference
		<p>The TGS/TCPs must show a traffic controller at any truck site access to ensure egress and ingress is managed safely and that there is no unauthorised access into the construction site.</p>	<p>Council's comment has been taken into consideration and updated TGS plans are included as Appendix C</p>
		<p>Details are to be provided and shown on plans regarding what measures will be put in place to ensure no children or unauthorised pedestrians access the construction sites. The plans must clearly show where the school pedestrian access are and where the construction access gates are.</p>	<p>Council's comment has been taken into consideration and Section 5.7 has been updated.</p>

## 2.4 References

In preparing this Plan, reference has been made to the following guidelines / standards:

- Transport for NSW Traffic Control at Work Sites Technical Manual, Version 6.1 (TCAWS V6.1).
- Australian Standard AS 2890.2-2002, Part 2: Off-Street Commercial Vehicle Facilities.
- Australian Standard AS 1742.3-2019, Part 3: Traffic Control for Works on Roads.
- Construction Management Plan (Rev 4), Roberts Co (NSW) Pty Ltd. 18 September 2023

## Section 3 Existing Conditions

### 3.1 Site Overview

The sites are located at 57-73 Felton Road Carlingford 2118, and 183 Pennant Hills Road, Carlingford respectively, being 4.2 kilometres West of Epping Railway Station and 5.0 kilometres northeast of Parramatta CBD. More specifically, the sites are located at the ends of Felton Road and the end of Dunmore Avenue.

The sites are comprised of multiple lots each, legally identified as Lot 1-2, DP 235625 for CWPS and Lot 3-5, DP 235625 for CHS. CWPS site is trapezoidal in its configuration and has an approximate site area of 28,500m<sup>2</sup>. CHS site is an odd polygon in its configuration and has an approximate site area of 65,000m<sup>2</sup>.

Vehicle access to the CWPS is provided via an existing vehicle access driveway on Felton Road East, and vehicle access to CHS is provided via Dunmore Avenue, which is located along the eastern boundary of the CHS campus. Figure 1 provides an appreciation of the site's location in local context.

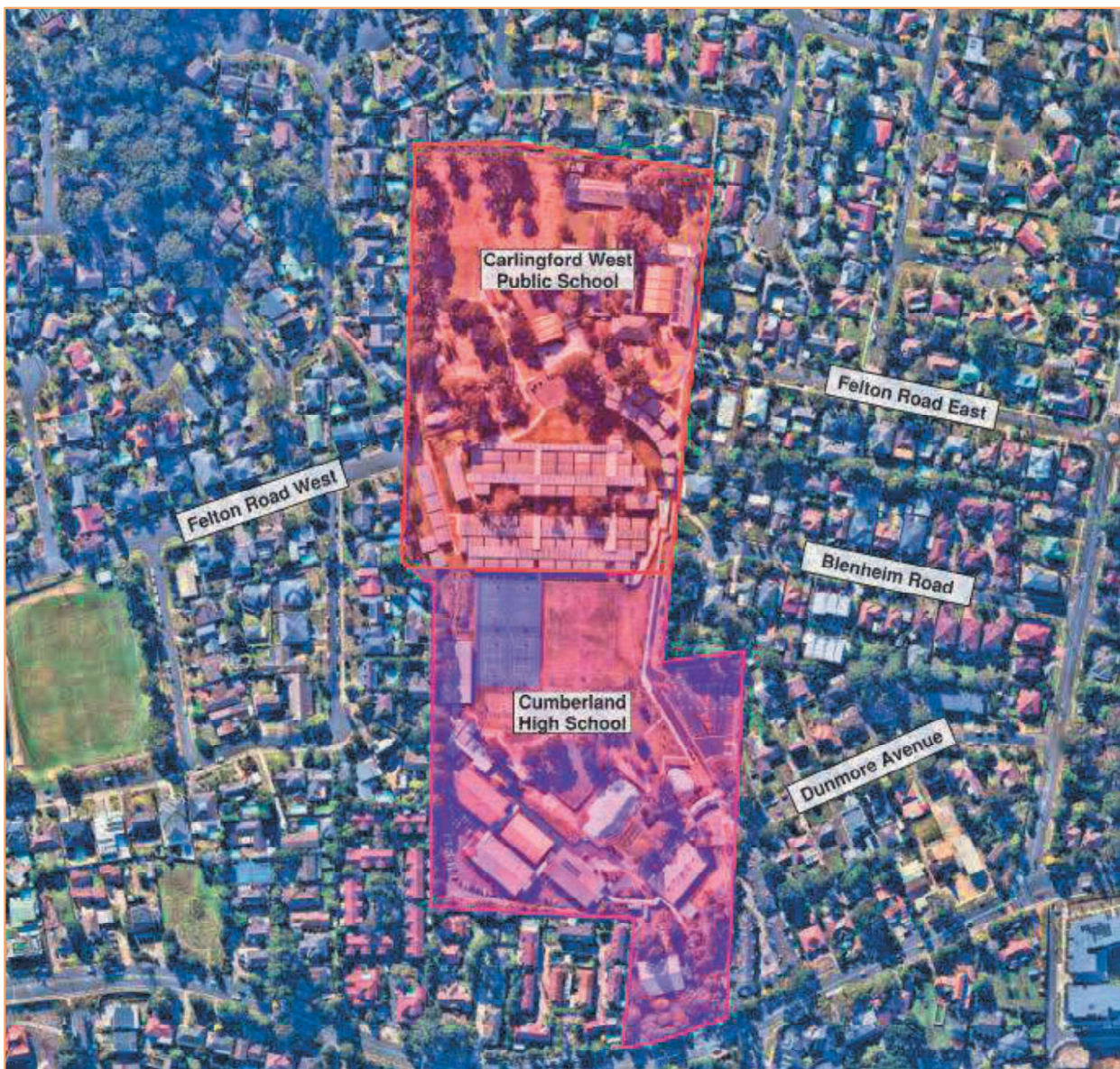


Figure 1: Site Location

### 3.2 Road Network

The key roads in the local network are described in Table 3.

**Table 3: Local Road Network**

Road Name	Classification	Speed Limit	Road Geometry	Parking Restrictions
<b>Pennant Hills Road</b>	State (HW13)	60km/h	Two lanes in each direction within an 13m carriageway	Clearway (6am-7pm Mon-Fri & 8am-8pm Sat-Sun & Public Holidays) along both kerbsides
<b>Bettington Road</b>	Regional	50km/h	One lane each direction within an 12m carriageway	Combination of No Stopping and unrestricted parking along both kerbsides, within the vicinity of the site.
<b>Baker Street</b>	Local	50km/h	One lane each direction within an 10m carriageway	No Stopping along both kerbsides, within the vicinity of the site.
<b>Felton Road West</b>	Local	50km/h	One lane each direction within an 8m carriageway	North kerbside: No Parking on School Days (8am-9:30am & 2pm-4pm) from site access to Edinburgh Ave South kerbside: No Stopping on School Days (8:30am-9:30am & 2pm-4pm) from site access to Edinburgh Ave & unrestricted parking from Arcadian Cct to Sandringham Dr
<b>Felton Road East</b>	Local	50km/h	One lane each direction within an 8m carriageway	North kerbside: No Parking South kerbside: No Parking on School Days (3pm-4pm)
<b>Blenheim Road</b>	Local	50km/h	One lane each direction within an 8m carriageway	North kerbside: unrestricted parking from Baker Street to 15 Blenheim Rd, then No Stopping on School Days (8:30am-9:30am & 2pm-4pm) until the school site access South kerbside: unrestricted parking
<b>Dunmore Avenue</b>	Local	50km/h	One lane each direction within an 8m carriageway	North kerbside: unrestricted parking South kerbside: unrestricted parking from Baker Street to 10 Dunmore Ave, then No Stopping on School Days (8:30am-9:30am & 2pm-4pm) until the school site access

The extent of State and Regional roads in the vicinity of the site is illustrated in Figure 2.



**Figure 2: State and Regional Road Network**

Source: TfNSW

### 3.3 Pedestrian Network

At the time of writing, pedestrian footpaths have been constructed to most of the local area. The level of completion of these works is illustrated in Figure 3 below.



**Figure 3: Local Pedestrian Infrastructure**  
*Green indicates footpath already constructed.*

### 3.4 Public Transport

#### 3.4.1 Bus

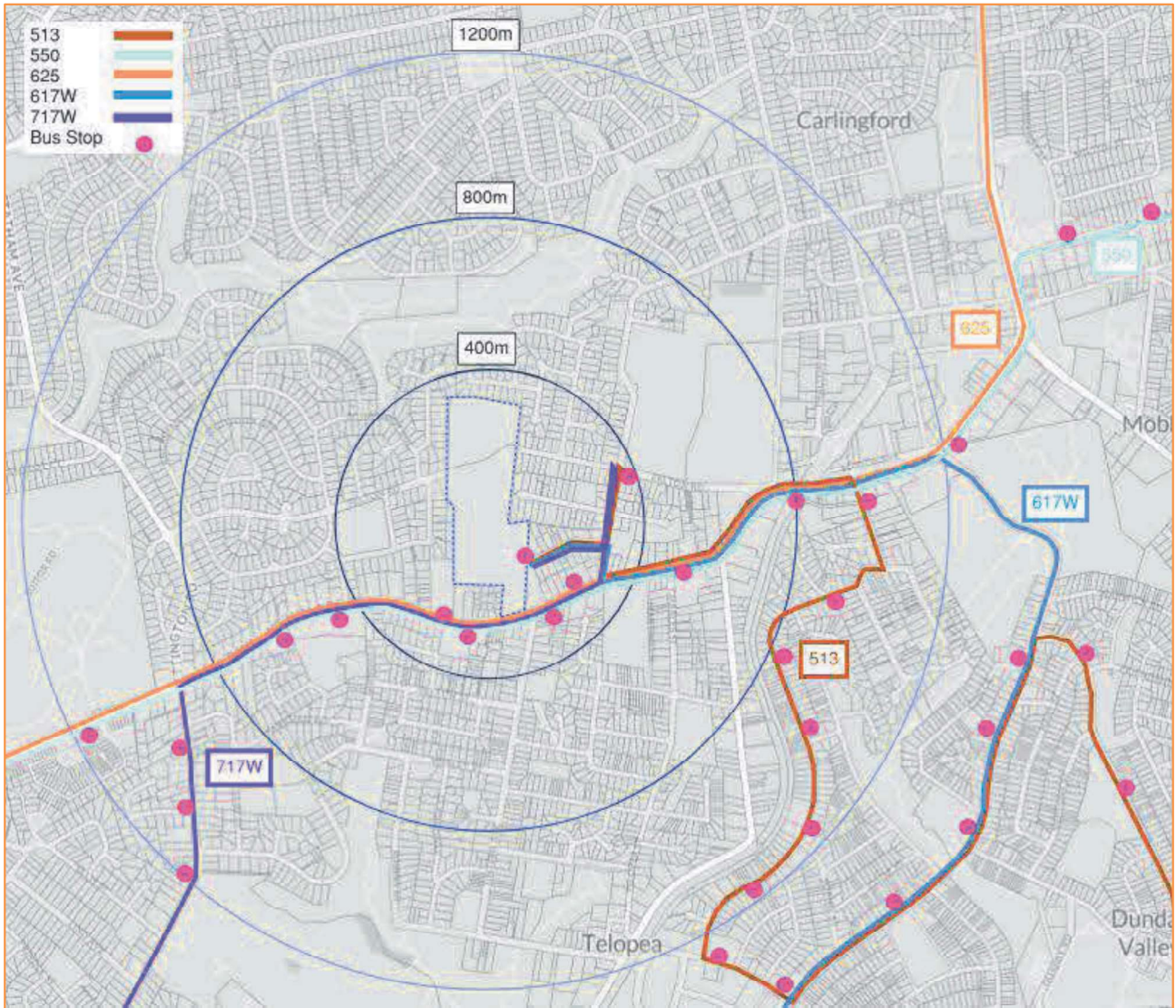
The sites are well served by public transportation, including school buses, which are within 400 metres. The turning circle at the western end of Dunmore Avenue are used by the school for services of drop-off and pick-up. Public transportation often flows along Pennant Hills Road past the sites, with pedestrian signalised crossings in the middle of the block, west of Tintern Avenue facilitating safe crossing when needed.

The following is a summary of the nearby bus services shown in Table 4 and Figure 4.

**Table 4: Bus Services**

Bus route number	Type	Bus Route	On / Off-peak Frequency (Updated as of the 9 <sup>th</sup> of October)
513	Public Services	Carlingford to West Ryde	45 mins / 60 mins
546		Epping to Parramatta via North Rocks & Oatlands	30 mins / 60 mins
550		Macquarie Park to Parramatta via Epping	10 mins / 15 mins
625		Pennant Hills to Parramatta	30 mins / 60 mins
615W	School Services	CHS to Chilcott Road at Bay Road	One service in the PM
616W		CHS to Eastwood Station	One service in the PM
617W		CHS to Calder Road & Dudley Street, Rydalmere	One service in the AM Two services in the PM
618W		CHS to Victoria & Pittwater Roads	One service in the AM/PM
625W		Eastwood Station to St. Michaels, Meadowbank	One service in the AM
717W		Parramatta Station to James ruse High School	Two service in the AM
720W		Murray Farm School to Parramatta Station	One service in the AM
3566		Dunmore Street to Oakhill College via West Pennant Hills	One service in the AM





**Figure 4: Local Bus Routes**

Figure 4 illustrates the 400m (5 minutes walking), 800m (10 minutes walking) and 1200m (15 minutes walking) catchment from CHS and the available public transport network in the vicinity of the site. Details of public transport options available are outlined in the following sections.

At the western end of Dunmore Avenue, a turning circle for buses and cars is provided within the boundary of the school site. In the morning and afternoon, school and public bus services operate from a bus zone area provided at the perimeter of this turning circle. There is an existing bus shelter in this area.

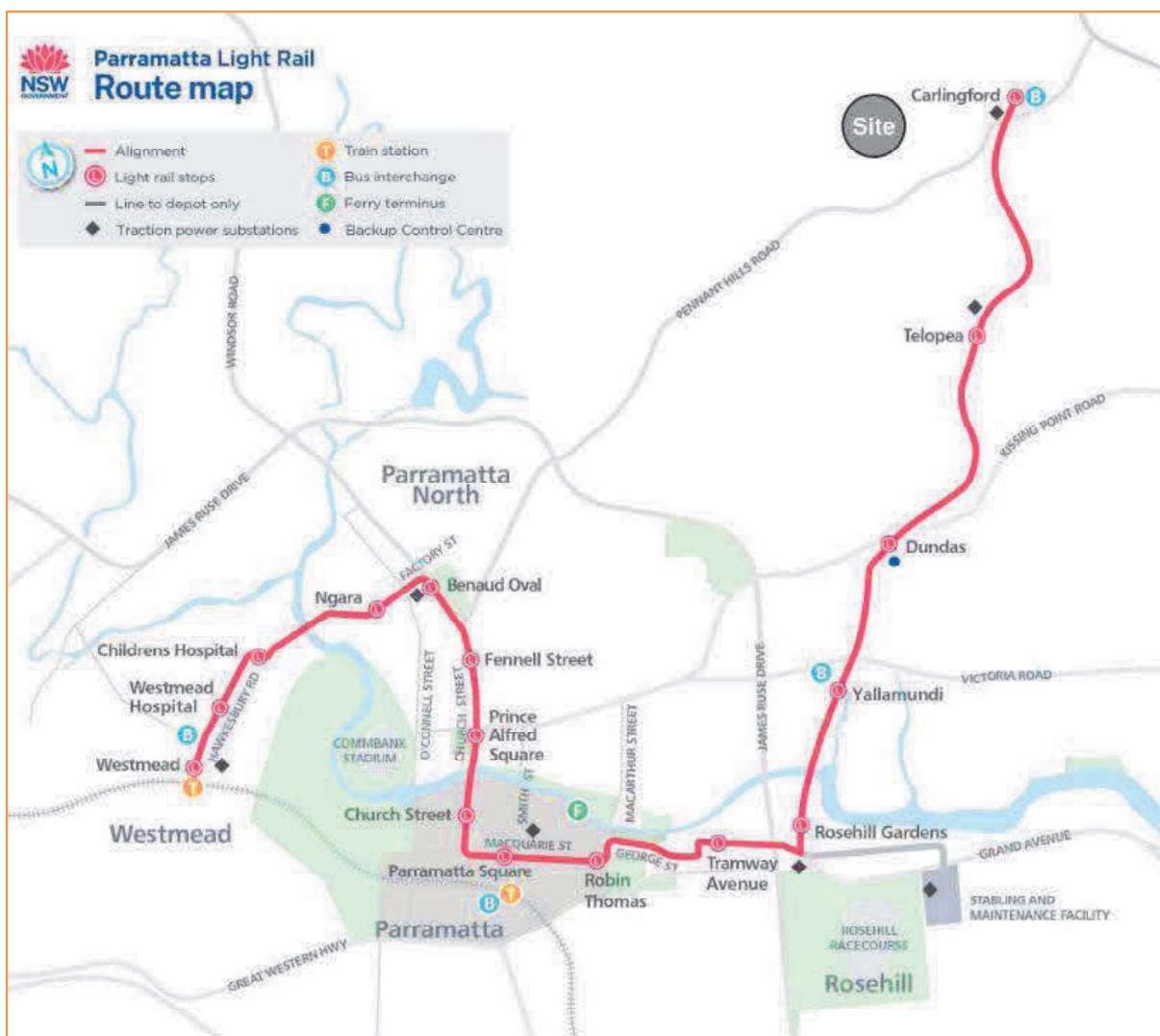
### 3.4.2 Train & Metro

The Integrated Public Transport Service Planning Guidelines, Sydney Metropolitan Area, states that the walking catchment for metro and railway stations includes all areas within an 800 metre radius of the station. Indeed, the subject site is located well outside the walking catchment area, with the nearest station being Epping Metro and Railway Station located approximately 4 kilometres south-east of the site. With this in mind, there is expected to be limited reliance on the use of rail services by students and staff, however these services may be used as part of a multi modal journey.

### 3.4.3 Light Rail

The former Carlingford train station is currently out of service but will be utilised as a new Light Rail station.

The future Parramatta Light Rail (due to be completed May 2024) will have a station at Carlingford near the school (approximately 1km walk and therefore has potential to be used by construction workers. The future route is shown in Figure 5.



**Figure 5: Parramatta Light Rail Alignment**  
Source: Transport for NSW

## **3.5 Drop-off & Pick-up (Kiss & Ride)**

### **3.5.1 Carlingford West Public School**

CWPS currently operates with a total of three kiss & ride zones, one internally to the site and two on-street.

The on-site kiss & ride zone is accessed from Felton Road East. The internal cul-de-sac provides capacity for 7 vehicles, which are currently painted and signposted, and the area includes fencing to control pedestrian flow around the site.

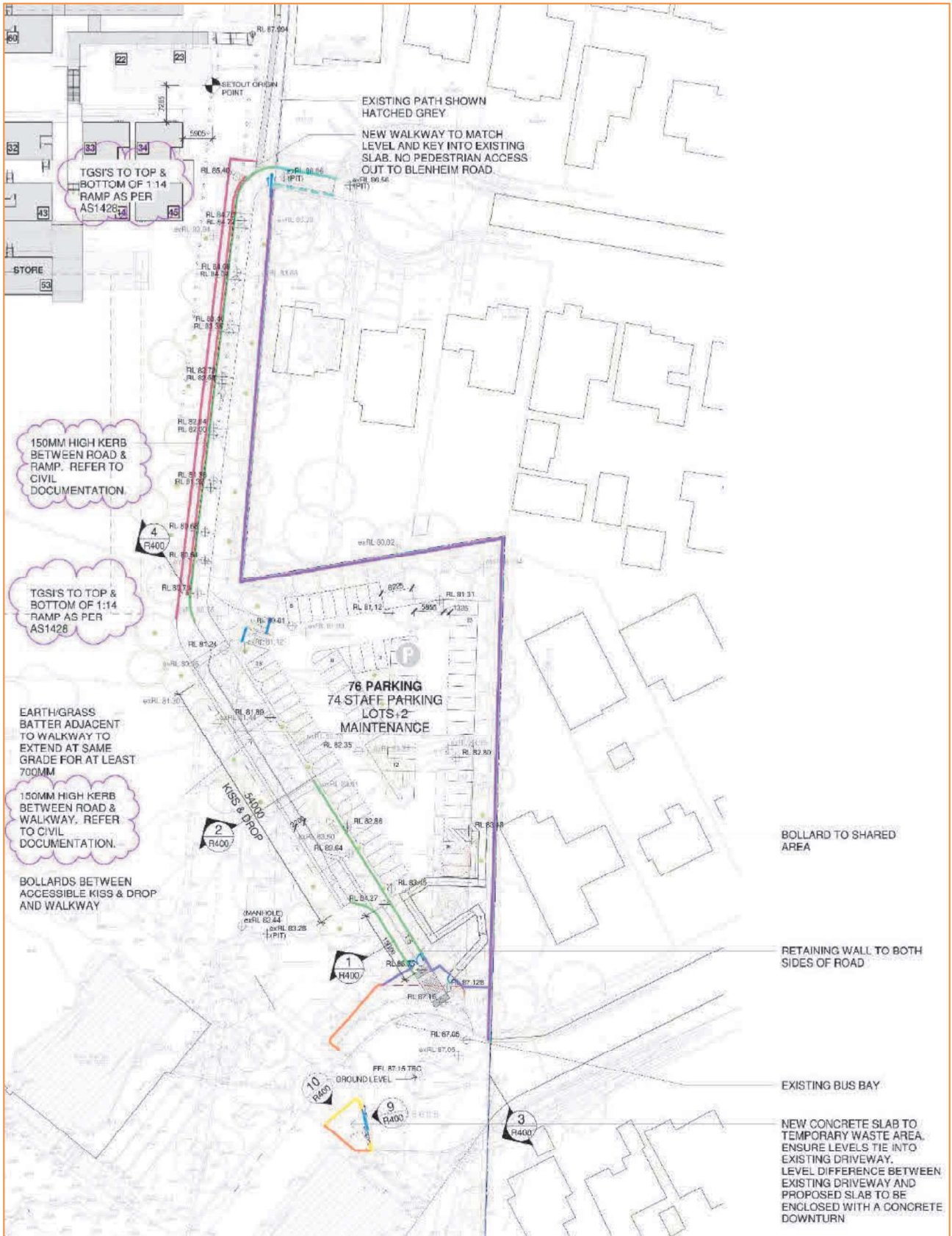
During afternoon periods, the kiss & ride area is kept fenced for approximately 10 minutes after the school bell time, to allow busy pedestrian flows to clear the site before vehicle activity begins.

At Felton Road West, an external kiss & ride area is provided along the northern side of the road. The zone is a signposted 'No Parking' zone between 8:00-9:30am and 2:30-4:00pm. The southern side of the road is a signposted 'No Stopping' zone between 8:30-9:30am and 3:00-4:00pm to provide for smoother traffic flows through the area.

An additional signposted kiss & ride zones ('No Parking') is available at Hilar Avenue.

### **3.5.2 Cumberland High School**

The kiss & ride activity for CHS occurs along a new kiss & ride link road on the CHS site, operating as a one-way link from Dunmore Avenue to Blenheim Road. The new link became operational in early 2023. The layout of the kiss & ride link and staff car park is shown in Figure 6.



**Figure 6: CHS Kiss & Ride Link Road and Staff Car Park**  
 Source: NBRS (dated 23/09/2022)

### 3.6 Parking Facilities

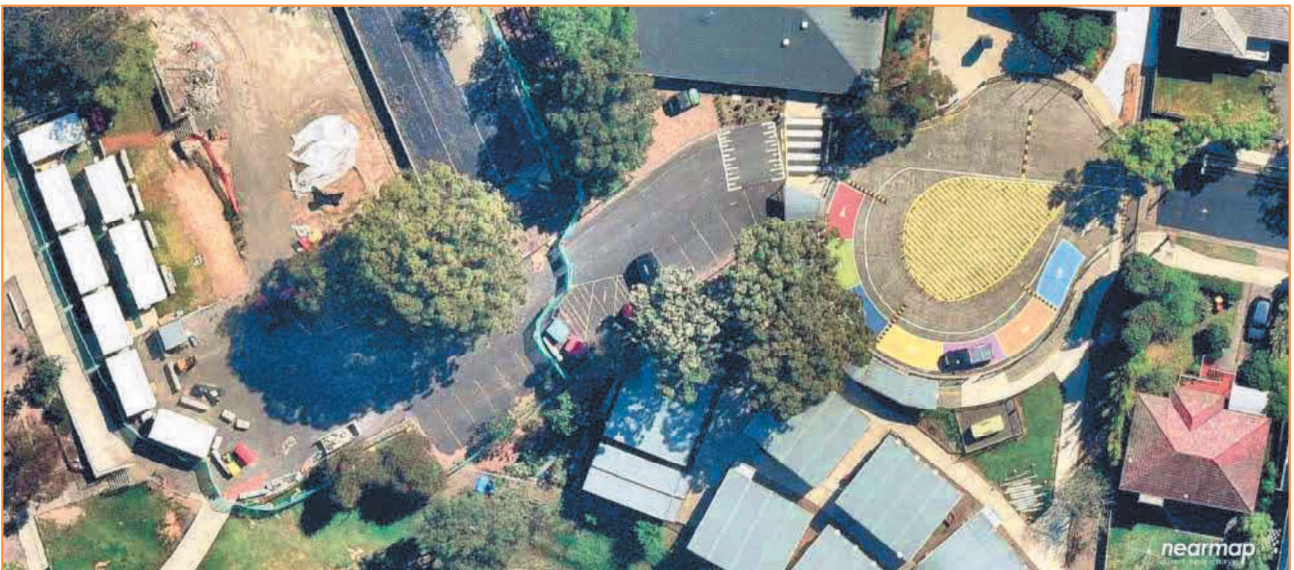
#### 3.6.1 Carlingford West Public School

The existing CWPS car park is accessed from Felton Road East. The parking layout and entry point is shown in Figure 7. The permanent capacity is approximately 30 spaces, although the arrangement includes some tandem and non-compliant spaces.



**Figure 7: Existing CWPS Car Park (permanent condition)**  
*Source: Nearmap (dated 22 June 2018)*

This on-site car park has been partially occupied by demountable buildings since approximately June 2020, plus more substantial construction activity through 2022, and currently has a reduced capacity of approximately 6 spaces as shown in Figure 8.



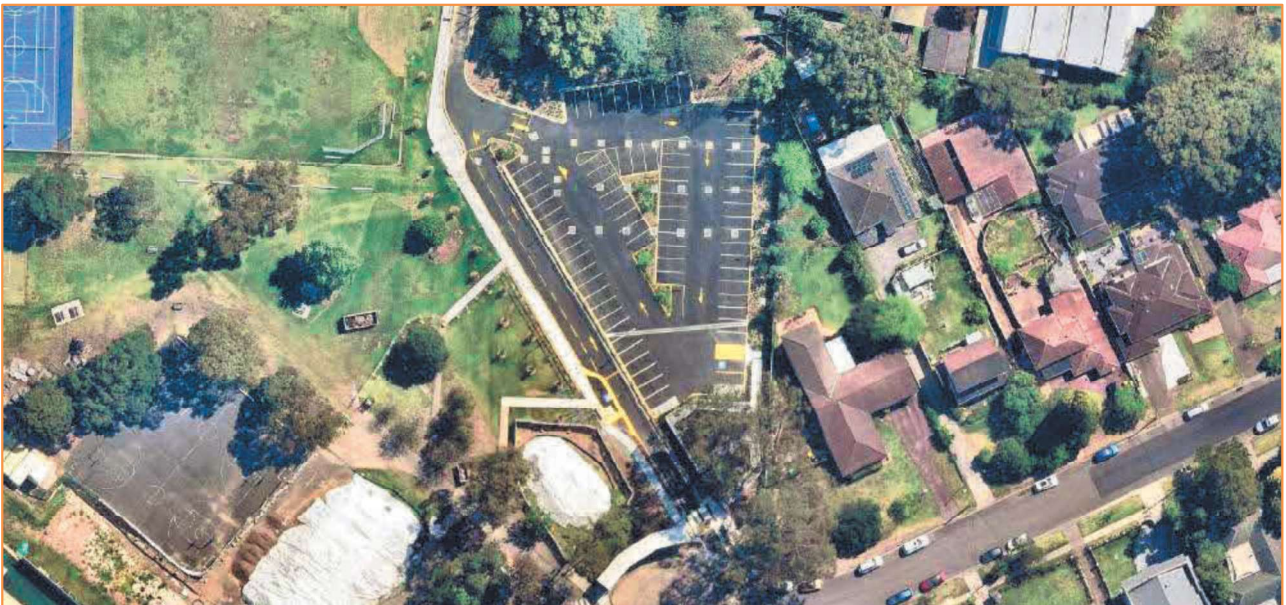
**Figure 8: Existing CWPS Car Park (current condition)**  
*Source: Nearmap (dated 03 October 2023)*

### 3.6.2 Cumberland High School

The two (2) existing CHS car parks are accessed from Dunmore Avenue. The parking layout and entry point are shown in Figure 9 and Figure 10. The permanent capacity is approximately 140 spaces; however, this includes several non-compliant and informal parking spaces within the southwest car park. Given the age, layout, and usage of the car park, it is not possible to determine a fixed number of formal spaces, however this would be lower than 65 spaces in the southwest carpark.



**Figure 9: Existing Southwest CHS Car Park**  
*Source: Nearmap (dated 03 October 2023)*



**Figure 10: Existing Northeast CHS Car Park**  
*Source: Nearmap (dated 03 October 2023)*

## Section 4 Construction Overview

### 4.1 Scope of Works

#### 4.1.1 Carlingford West Public School

The works are for the construction of new buildings and facilities within the existing primary school site to core 35 + 60% GLS & core facilities, which will cater to a total of 1,610 students.

Facilities for Core 35 + 60% GLS & core facilities include:

- 56 General learning Spaces which includes special education learning units.
- Library, communal hall, administration facilities, staff unit, canteen, student amenities, storage and out of school hours care.
- Covered outdoor learning area (COLA), connecting walkways, outdoor play area.
- On-site parking lot with kiss-and-ride area.
- Integrated landscaping, and signage.

The upgrade of Carlingford West Public School consists of:

- Block W, a 2-storey building containing amenities and 4 home base units.
- Block X, a 3-storey building containing amenities, main library, special education learning units, and 4 home base units.
- Block Y, a 3-storey building containing amenities and 6 home base units.
- Hall block Z is a 1 storey building containing the hall, canteen, COLA, OSHC and amenities.
- On-site parking lot with kiss-and-ride area.

#### 4.1.2 Cumberland High School

The upgrade works consist of:

- Block Y is a 5-storey building containing Library, Staff studies/offices, 3 Home base units, Visual Art, performing Art, Multimedia, fitness, and woodwork workshops.
- Block Z is a 2-storey building containing the hall/stage, indoor Gym, Canteen, Amenities, Lecture theatre and movement studio.
- Integrated landscaping and signage.
- Bus link connecting from Dunmore Avenue to Pennant Hills Road.
- Services infrastructure for stage 1 and 2.
- Future proofing provisions to enable stage 2 construction at a later date, as documented.

Refurbishment of following buildings:

- Block A: refurbishment of food and textiles
- Block C: conversion existing Wood and Metal workshop into GLS and amenities block
- Block D: reconfiguration of ground floor administration and staff spaces and reconfiguration of learning spaces on level 1.
- Block E: refurbishment of science class to add two science general learning spaces.
- Block G: refurbishment of existing science labs and conversion of library to science general.
- Learning spaces.

Scope rationalisation of the following:

- Tiled ceiling provided in lieu of Hera ceilings.
- Electrical provisions will be fit for purpose at the completion of the works.
- Surface Mounted whiteboards/pinboards to refurbished areas.
- No works to address noise levels.
- Existing distribution boards are to be modified where required, but not replaced.
- Electrical scope restricted to refurbished areas only.
- The upgrade of Cumberland High School excludes building X, which is to be delivered in a future stage 2.

## 4.2 Site Layout and Access

The site layout for CWPS is shown in Figure 11 including location of worker sheds. Sheds will be located within the western portion of the site, with pedestrian and vehicular access from Felton Road West only.



Figure 11: CWPS Site Layout



The site layout for Cumberland High School is shown in Figure 12 including location of worker sheds. Sheds will be located within the eastern portion of the site, with pedestrian and vehicular access from Dunmore Avenue.

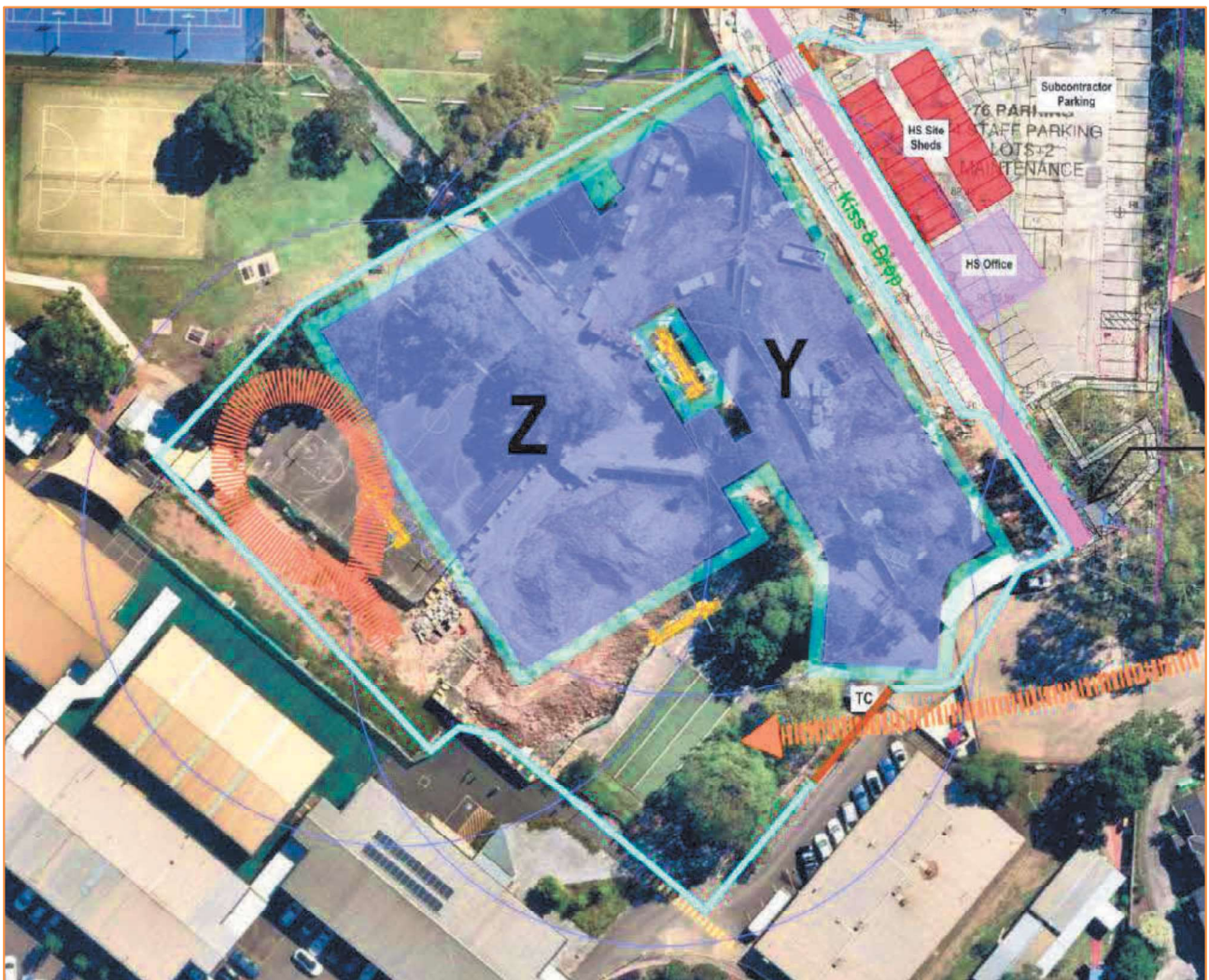


Figure 12: CHS Site Layout

### 4.3 Construction Program

The project is divided into five phases, each with an expected timeline as shown in the Table 5 below.

**Table 5: Construction Staging Details**

Phase	Work Description	Duration
1	Site establishment	1 Month
2	Civil	5 Months
3	Structure	5 Months
4	Fit out	6 Months
5	Site demobilisation	3 Months

### 4.4 Hours of Operation

In accordance with Condition C4 of the SSDA Consent, construction, including the delivery of materials to and from the site, may only be carried out between the following hours:

- Between 7am and 6pm, Mondays to Fridays inclusive; and
- Between 8am and 1pm, Saturdays.

No work may be carried out on Sundays or public holidays.

Notwithstanding the above, provided noise levels do not exceed the existing background noise level plus 5dB, works may also be undertaken during the following hours:

- Between 6pm and 7pm, Mondays to Fridays inclusive; and
- Between 1pm and 4pm, Saturdays.

In accordance with Condition B19 (vi) heavy vehicle movements will not be scheduled to and from the site:

- Within 30 minutes before the commencement of the school day;
- Within 10 minutes after the commencement of the school day;

In addition, heavy vehicle movements will not occur between 3-3:30pm to avoid conflicts during the school pick-up period.

### 4.5 Construction Workforce

Roberts Co. have confirmed the number of construction workers anticipated to be on-site at any one time during the construction period. Details for each phase of construction are outlined below in Table 6.

**Table 6: Construction Workforce**

Phase	Work description	Typical daily workforce
1	Site establishment	15 workers
2	Civil	60 workers
3	Structure	200 workers
4	Fit out	250 workers
5	Site demobilisation	30 workers

## Section 5 Construction Traffic Management

### 5.1 Site Access

Truck access to the site will be required during all stages of construction. The site is divided into 2 areas, CWPS and CHS. During construction, the largest truck to access the sites are detailed below:

#### Carlingford West Public School

Vehicle access: Site entry and exit for construction vehicles shall be via the existing entry driveway, located in the south-west corner of the site, with access onto Felton Road West.

Largest truck: 16-metre semi trailer and a 19-metre truck and dog combination entering and existing the site in a forward direction.

#### Cumberland High School

Vehicle access: Site entry and exit ad for construction vehicles shall be via the existing main entry driveway, located in the south-east corner of the site, with access onto Dunmore Avenue.

Largest truck: 20-metre articulated vehicle (AV) entering and existing the site in a forward direction.

Swept path analysis has been undertaken of the site access arrangements for the critical entry, exit and internal manoeuvres. These swept paths are provided in Appendix B and confirm that satisfactory access can be achieved in accordance with the requirements of AS 2890.2. It is noted that an on-site construction worker, also qualified as a traffic controller, will meet all trucks at the vehicle access and direct them into the site accordingly.

### 5.2 Construction Vehicles

The different construction vehicles requiring access to the site are outlined in Table 7, including the average number of daily arrivals. The below vehicle arrivals include both CHS and CWPS.

Construction traffic will primarily include rigid vehicles and concrete trucks (typical maximum length of 10 – 12.5 metres. The largest vehicle requiring access to CHS will be a 20 metre semi-trailer. The largest vehicle requiring access to CWPS will be a 16 metre semi-trailer.

Vehicle volumes during the busiest period of construction, being major concrete pours, are expected to be approximately 20 arrivals per day during the civil works and reduce to 10-7 arrivals per day during structural and fit out works. The existing traffic volumes in the local road network are minimal, and any existing traffic is predominantly local residential traffic. Therefore, it is expected that the local road network could accommodate the proposed standard construction vehicle movements.

**Table 7: Construction Vehicle Types and Volumes**

Phase	Work description	20m AV	16m Semi	Truck & Dog	HRV (12.5m)
1	Site establishment	0	0	0	2
2	Civil	0	0	15	5
3	Structure	1	1	0	5
4	Fit out	1	1	0	8
5	Site demobilisation	0	0	0	5

### 5.3 Construction Vehicle Routes

In accordance with Condition B19 (vi) heavy vehicle movements will not be scheduled to and from the site:

- Within 30 minutes before the commencement of the school day;
- Within 10 minutes after the commencement of the school day;

In addition, heavy vehicle movements will not occur between 3-3:30pm to avoid conflicts during the school pick-up period.

Construction vehicles shall be directed to travel on the main road network except where required to reach the construction site.

#### Carlingford West Public School

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>▪ <b>Approach from East:</b> <ul style="list-style-type: none"> <li>▪ Approach via Cumberland Highway</li> <li>▪ Turn right into Pennant Hills Road</li> <li>▪ Turn right into Bettington Road</li> <li>▪ Take the third exit at the roundabout into Felton Road West.</li> </ul> </li> <br/> <li>▪ <b>Approach from West:</b> <ul style="list-style-type: none"> <li>▪ Approach via James Ruse Drive</li> <li>▪ Turn left into Pennant Hills Road</li> <li>▪ Turn right into Bettington Road</li> <li>▪ Take the third exit at the roundabout into Felton Road West</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>▪ <b>Departure to East:</b> <ul style="list-style-type: none"> <li>▪ Exit site from Felton Road West</li> <li>▪ Take the first exit around the roundabout into Bettington Road</li> <li>▪ Turn left into Pennant Hills Road</li> </ul> </li> <br/> <li>▪ <b>Departure to West:</b> <ul style="list-style-type: none"> <li>▪ Exit site from Felton Road West</li> <li>▪ Take the first exit around the roundabout into Bettington Road</li> <li>▪ Turn right into Pennant Hills Road</li> <li>▪ Turn right/left into James Ruse Drive</li> </ul> </li> </ul> |
|--|--|

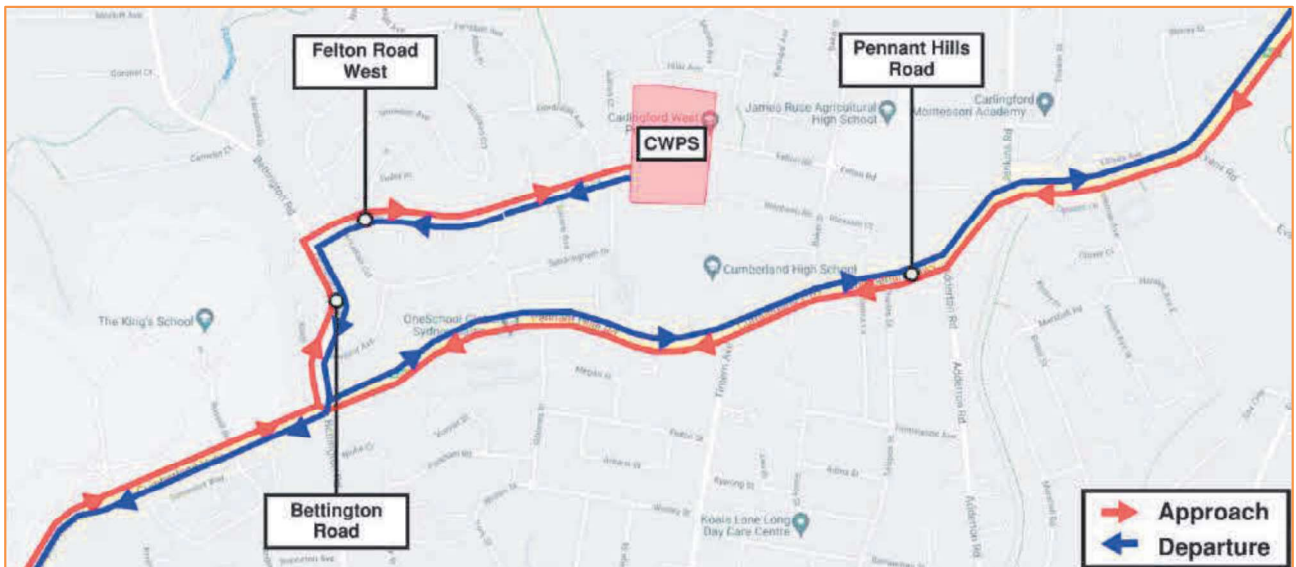


Figure 13: Construction Truck Routes for Carlingford West Public School

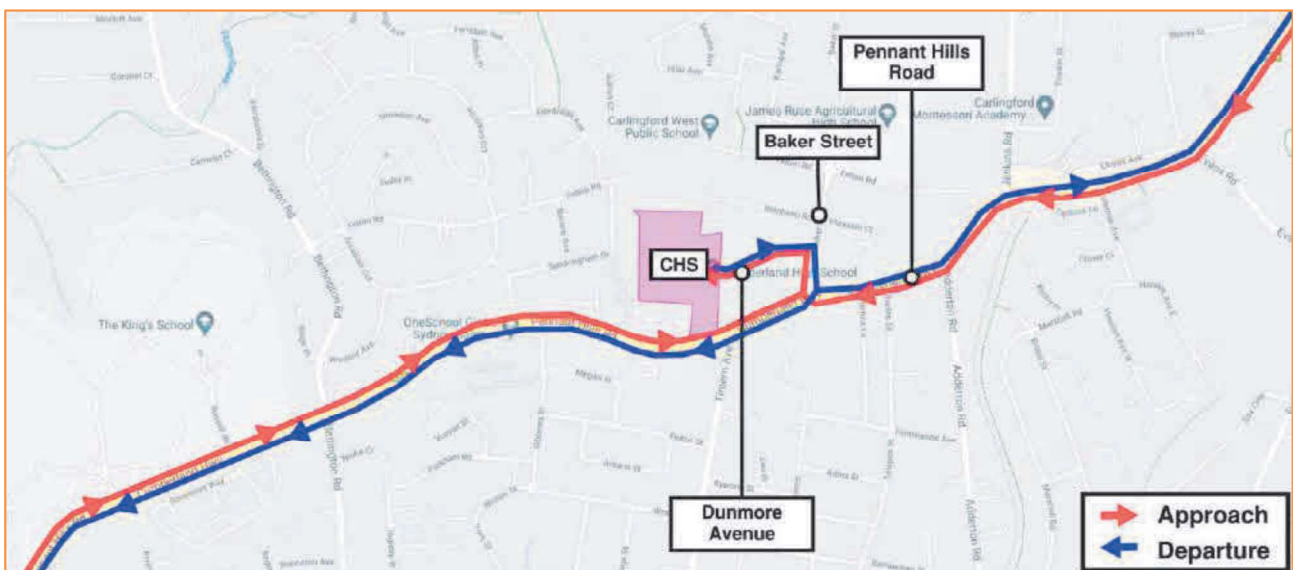
Swept path analysis has also been completed to ensure the largest truck, being a 19.0 metre truck and dog and 16 metre semi trailer are able to access the site via the local roads.

Along Felton Road West it is noted, that a 16 metre semi-trailer truck is able to access the roundabout at the intersection of Felton Road West and Bettington Road. However, truck drivers are advised to take extra caution when manoeuvring trucks through the roundabout as the access points are constrained and require precise manoeuvring.

These swept paths are provided in Appendix B and confirm that satisfactory access can be achieved in accordance with the requirements of AS 2890.2. It is noted that an on-site construction worker, also qualified as a traffic controller, will meet all trucks at the vehicle access and direct them into the site accordingly.

### **Cumberland High School**

- **Approach from East:**
  - Approach via Cumberland Highway
  - Turn right into Pennant Hills Road
  - Turn right into Baker Street
  - Turn left into Dunmore Avenue
- **Approach from West:**
  - Approach via James Ruse Drive
  - Turn left into Pennant Hills Road
  - Turn left into Baker Street
  - Turn Left into Dunmore Avenue
- **Departure to East:**
  - Exit site from Dunmore Avenue
  - Turn right into Baker Street
  - Turn left into Pennant Hills Road
- **Departure to West:**
  - Exit the site from Dunmore Avenue
  - Turn Right into Baker Street
  - Turn right into Pennant Hills Road
  - Turn right/left into James Ruse Drive



**Figure 14: Construction Truck Routes for Cumberland High School**

Swept path analysis has also been completed to ensure the largest truck, being a 20 metre AV is able to access the site via the local roads.

Along Dunmore Avenue, there is currently “No Stopping 8:30-9:30am – 2:30-4pm School Days” restrictions implemented along the southern side of Dunmore Avenue. In accordance with Council’s comments, it is important two-way movements are maintained at all times. To accommodate these truck movements consultation with Council is currently underway to extend these No Stopping times. This will ensure two-way movements are maintained along Dunmore Avenue.

“No Stopping” restrictions will also be implemented along the northern and southern kerbsides at the Dunmore Avenue / Baker Street Intersection. Details of proposed parking restrictions are identified below in Figure 15.



Figure 15: Proposed Parking Restrictions

Swept paths are also provided in Appendix B and confirm that two-way movements will be maintained and satisfactory access can be achieved in accordance with the requirements of AS 2890.2. It is noted that an on-site construction worker, also qualified as a traffic controller, will meet all trucks at the vehicle access and direct them into the site accordingly.

## 5.4 Construction Traffic Management

Truck loading and unloading activities are to occur wholly within the site compound **only**, unless in an approved Works Zone (none of which are anticipated at this stage). Traffic controllers will be implemented at the site entries as required to ensure safe and efficient movement of vehicles, pedestrians, and the safety of workers within the site.

All construction vehicles must enter and exit the site in a forward direction unless in specific exceptional circumstances, where accredited traffic controller(s) are required to control public traffic for any reverse manoeuvres. If this is to occur, detailed Traffic Guidance Schemes will be developed and implemented.

All deliveries are to be made within the approved work hours referenced within Section 4.4.

## 5.5 Work Zones

No Works Zone is proposed or required during the construction process. All construction activities will be confined to the site boundaries.

## 5.6 Traffic Guidance Scheme

A total of two (2) site-specific Traffic Guidance Schemes (TGS), previously known as Traffic Control Plans (TCPs) have been prepared for the site which will require management of both vehicular, cyclist and pedestrian