

CTMP;

Concept Development Application
Including Detailed First Stage Civil Works
55 Coonara Avenue West Pennant Hills

For Mirvac

14 February 2023

parking;
traffic;
civil design;
wayfinding;
ptc.

Document Control

Concept Development Application Including Detailed First Stage Civil Works 55 Coonara Avenue West
Pennant Hills, CTMP

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1. Introduction

1.1 Project Summary

ptc. has been engaged by Mirvac to prepare a Construction Traffic Management Plan (CTMP) to accompany a Concept Development Application that includes the detailed First Stage comprising the Civil Works to The Hills Shire Council for the proposed redevelopment of the site located at 55 Coonara Avenue, West Pennant Hills.

The location of the site is shown in the local context in Figure 1.

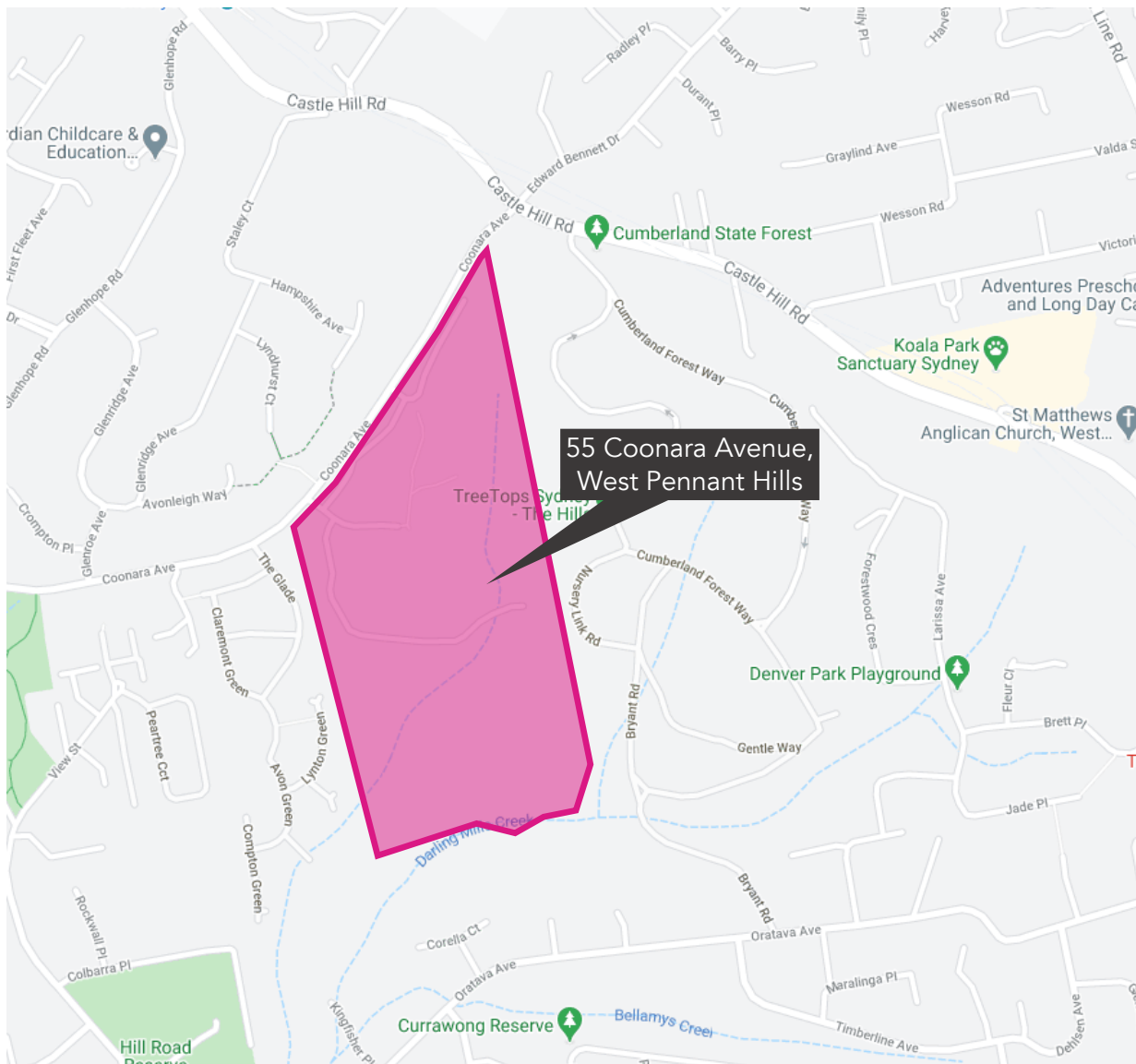


Figure 1: Site Location (Source: Nearmap)

2. Background Information

2.1 Site Context

This CTMP has been prepared in relation to the proposed redevelopment of a 25.87 hectare site at 55 Coonara Avenue, West Pennant Hills.

The proposed development is generally limited to the previously disturbed portion of the site, that was developed as an orchard prior to 1940 and subsequently developed in the 1980s by IBM as a 36,000 square metre office facility.

Recent rezoning of the land has ensured the ongoing protection of remnant forest areas, by implementing an E2 Environmental Conservation zone.

The proposed development is limited to the land zoned R3 Medium Density Residential and R4 High Density Residential and provides for a combination of two and three storey dwelling housing and attached dwellings, as well as apartment buildings.

The concept proposal provides for a total of approximately 166 attached dwellings and dwelling houses and 252 apartments, as well as communal facilities. The development will include public and private open spaces. Also included in this DA is the civil engineering works component including; site clearing, sediment and erosion control, bulk earthworks, piling, roads, retaining walls, stormwater and services infrastructure.

2.2 Surrounding Land Use

The site is zoned Medium Density Residential (R3), High Density Residential (R4) and Environmental Conservation (E2) zone and the LEP permits a maximum of 600 dwellings on the site. The site is surrounded by the following key land zones:

- Environmental Living zone (E4);
- Low Density Residential zone (R2);
- Medium Density Residential zone (R3);
- Public Recreation zone (RE1);
- Private Recreation zone (RE2); and
- Forestry zone (RU3).

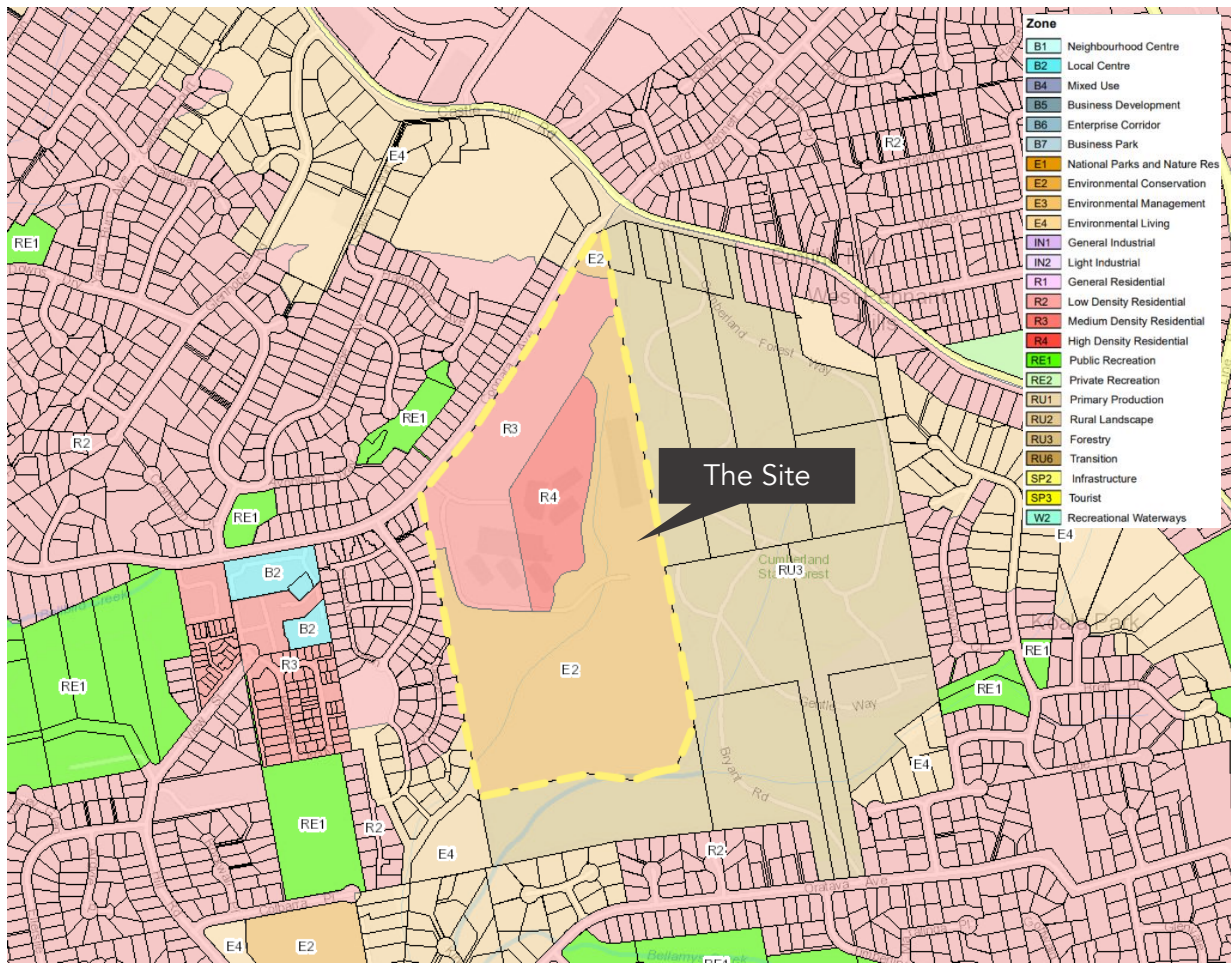


Figure 2: Surrounding Land Zones

3. Existing Transport Facilities

3.1 Road Hierarchy



Figure 3: Road Hierarchy (Source: RMS Road Hierarchy Review)

The NSW administrative road hierarchy comprises the following road classifications:

- State Roads – Under the care and maintenance of Roads and Maritime Services
- Regional Roads – Under the care and maintenance of Council partially funded by the State
- Local Roads – Under the care and maintenance of Council

3.1.1 Existing Road Network

Table 1: Existing Road Network - Castle Hill Road

Castle Hill Road	
Road Classification	State Road
Alignment	North West – South East
Number of Lanes	2 lanes in each direction
Carriageway Type	Undivided
Carriageway Width	12.5 metres
Speed Limit	60 kph
School Zone	No
Parking Controls	Clearway 6am-7pm Mon-Fri & 9am-6pm Sat-Sun & Public Holidays
Forms Site Frontage	No



Figure 4: Castle Hill Road Westbound

Table 2: Existing Road Network - Coonara Avenue

Coonara Avenue	
Road Classification	Local Road
Alignment	North East – South West
Number of Lanes	1 lane in each direction
Carriageway Type	Undivided
Carriageway Width	12.5 metres
Speed Limit	50 kph
School Zone	No
Parking Controls	Generally, No Parking on eastern side and unrestricted parking on western side of site frontage.
Forms Site Frontage	Yes



Figure 5: Coonara Avenue Westbound

Table 3: Existing Road Network - Pennant Hills Road

Pennant Hills Road	
Road Classification	State Road
Alignment	North - South
Number of Lanes	3 lanes in each direction
Carriageway Type	Divided
Carriageway Width	22.5 metres
Speed Limit	70 kph
School Zone	No
Parking Controls	Clearway & No Parking restrictions
Forms Site Frontage	No



Figure 6: Pennant Hills Road Southbound

3.2 Key Intersections

The key intersections in the vicinity of the development site and their characteristics are listed below:

- Castle Hill Rd / Coonara Ave / Edward Bennett Dr traffic signal controlled, 4-leg intersection
- Castle Hill Rd / Pennant Hills Rd traffic signal controlled, 3-leg intersection
- Cumberland Hwy / M2 Motorway traffic signal controlled, 4-leg intersection

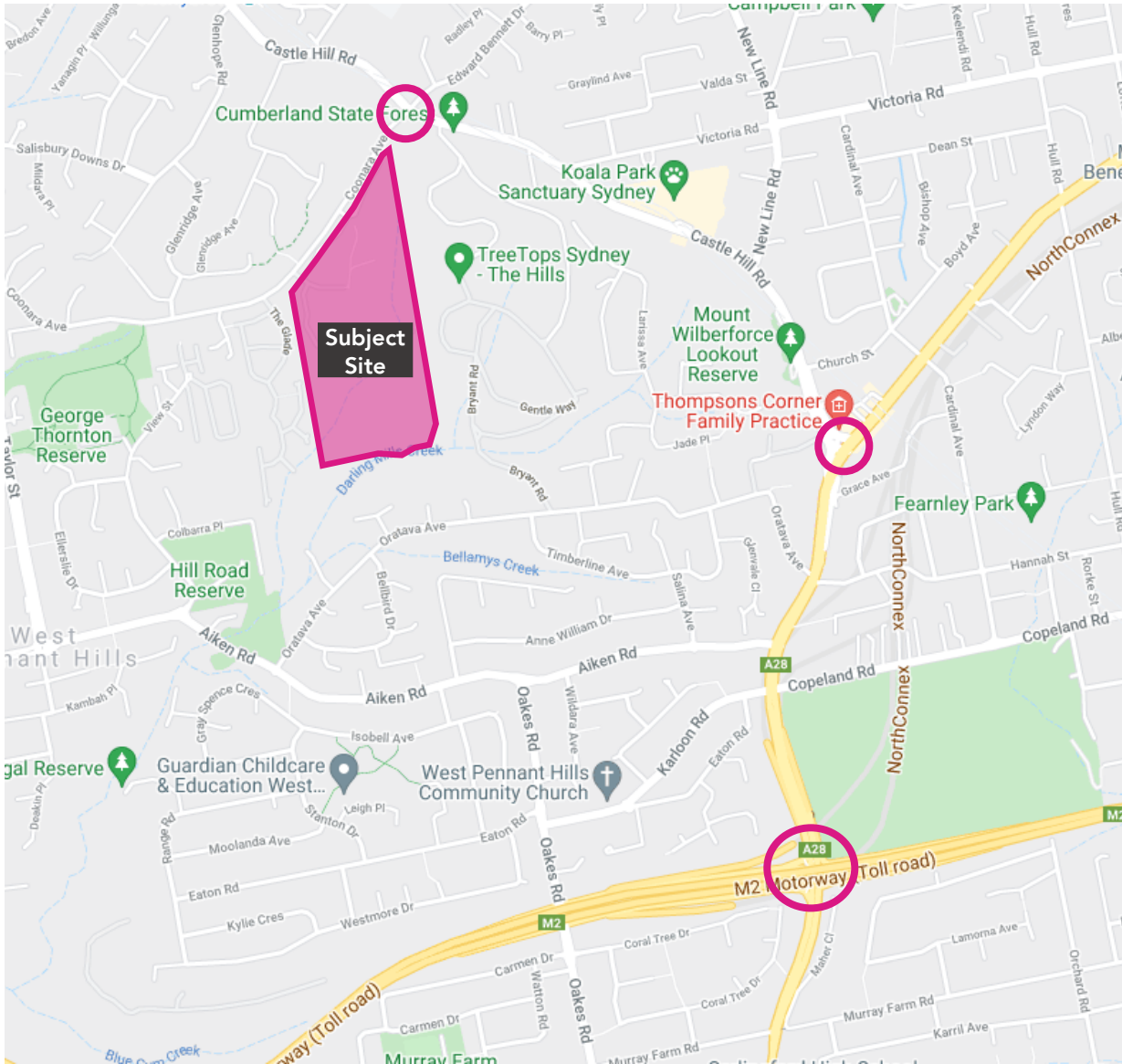


Figure 7: Key Intersections (Source: Nearmap)

3.3 Public Transport

3.3.1 Bus Services

The locality has been assessed in the context of available forms of public transport that may be utilised by local residents. When defining accessibility, reference is made to the NSW Planning Guidelines for Walking and Cycling (2004) where a distance of up to 800m is recommended as a comfortable walkable catchment to access public transport and local amenities. The document also suggests a distance of 1500m as a suitable catchment for cycling.

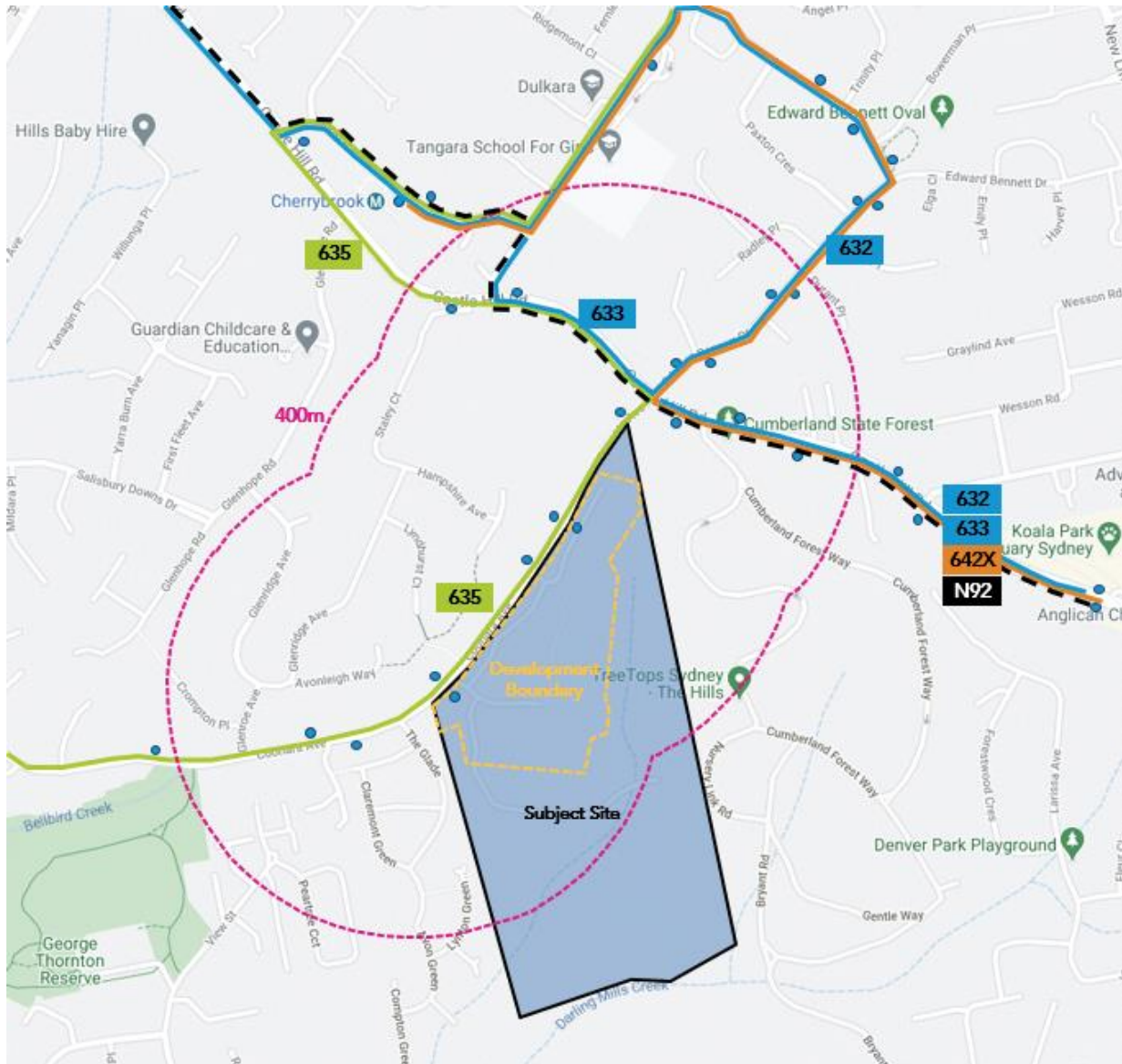


Figure 8: 400m Walkable Catchment and Bus Routes

The frequency of each bus route surrounding the site, shown in Table 4, demonstrates good accessibility to the surrounding land uses and CBDs.

Table 4: Bus Frequency (Effective from 29 January 2021)

Bus Route	Coverage (to and from)	Service Frequency
632	Pennant Hills – Rouse Hill Station via Norwest & Castle Hill	Mon-Fri: Every 30 min Sat: Every 1 hr Sun & Public Holidays: Every 1 hr
633	Pennant Hills – Rouse Hill Station via Kellyville & Castle Hill	Mon-Fri: Every 30 min Sat: Every 30 min Sun & Public Holidays: Every 30 min
635	Castle Hill – Beecroft via West Pennant Hills	Mon-Fri: Every 15-30 min Sat: Every 1 hr Sun & Public Holidays: Every 1 hr
642X	City Wynyard – Round Corner Dural via Lane Cove Tunnel	Mon-Fri: Every 5-15 min (afternoon service only) Sat: No services available Sun & Public Holidays: No services available
N92	Tallawong – City Town Hall (Night Service)	Mon-Fri: Every 1 hr (3 services available) Sat: Every 1 hr (4 services available) Sun & Public Holidays: Every 1 hr (4 services available)

3.3.2 Metro Services

Cherrybrook railway station is a rapid transit Metro station that opened 26 May 2019 and is located within 800 metres or 10 minutes’ walk of the site as shown in Figure 9.

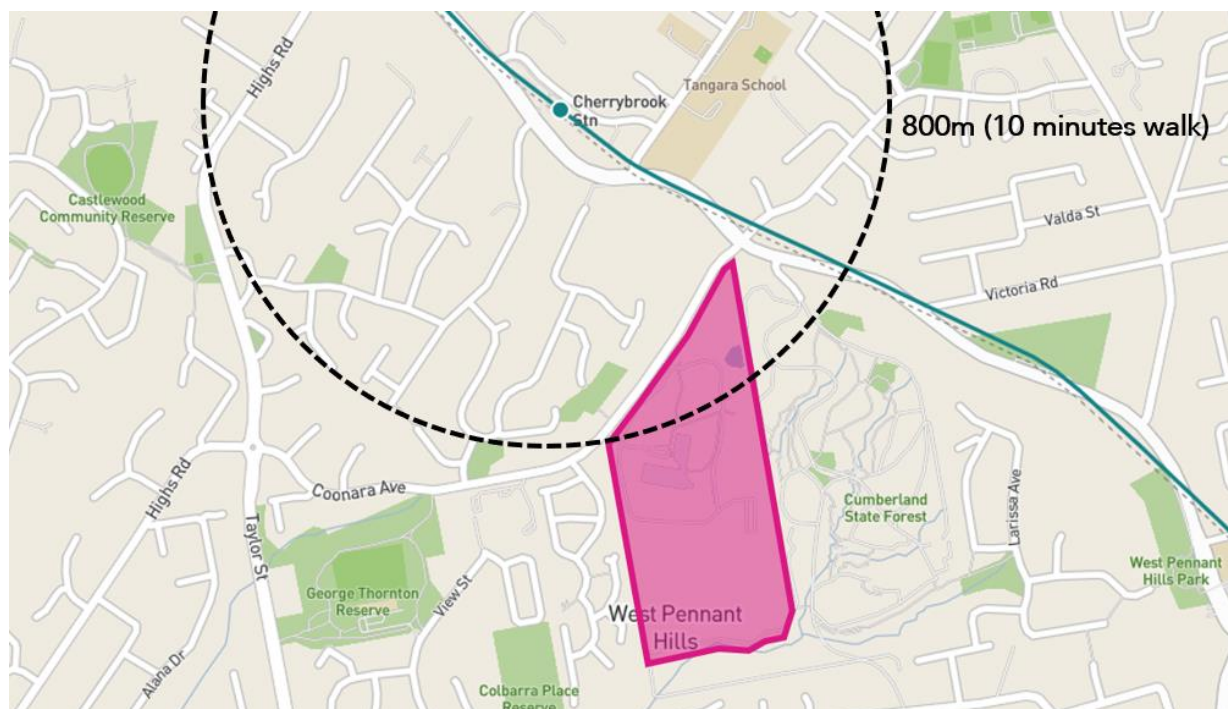


Figure 9: Cherrybrook Metro Station 800m from subject site

Services stop at Cherrybrook Station along the Metro line from Chatswood to Tallawong at a frequency of 4 minutes during the morning and evening peaks. The facilities at the station include bike racks, 35 bike sheds, 390 space car park, 12 motorcycle spaces.

3.4 Active Transport

The current cyclist friendly infrastructure available in the vicinity of the site is illustrated in Figure 10. Therefore, cycling will only be a viable alternative mode of transport for experienced cyclists until cycling infrastructures are constructed in the vicinity of the site to encourage active travel. The site is well served with sufficient pedestrian amenities provided in the vicinity of the site.

Good connectivity is provided from the site to Cherrybrook Metro Station via cycle friendly roads and paths.

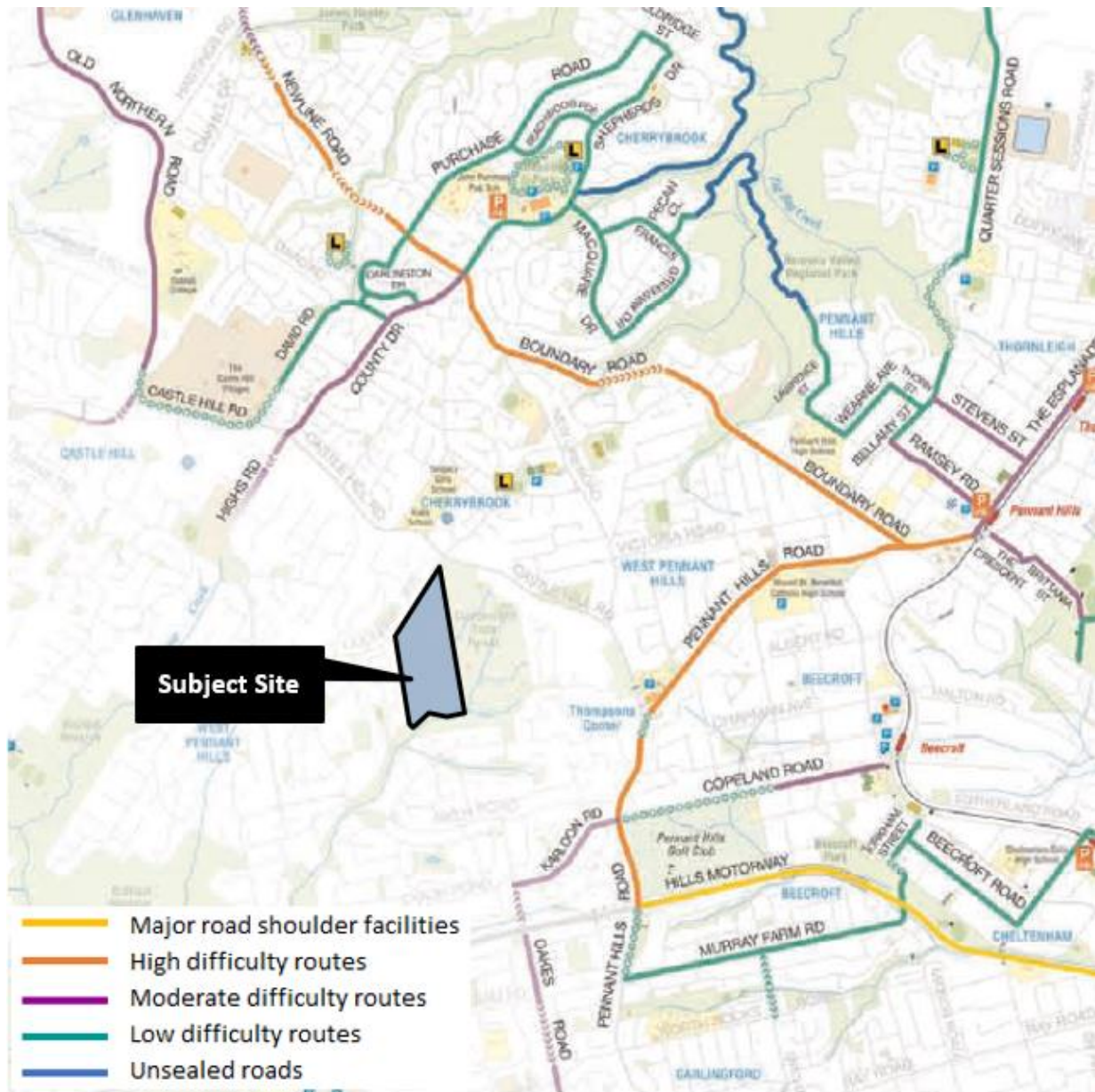


Figure 10: Cycling Infrastructure surrounding the site

4. Traffic Management Plan

4.1 Objective

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

- Minimise the impact of the construction vehicle traffic on the overall operation of the road network;
- 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;
- Provide a description of the construction vehicles and the volume of these construction vehicles accessing the construction site;
- 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.

Therefore, to ensure the safety of all users of the road network, the CTMP is to be adhered to at all times.

4.2 Hours of Work

All works associated with the civil works and project generally will be restricted to the following working hours:

- Monday to Friday 7:00am to 5:00pm;
- Saturday 7:00am to 5:00pm; and
- Sunday and Public Holidays No works to be undertaken without prior approval.

4.3 General Requirements

In accordance with TfNSW requirements, all vehicles transporting loose materials will have the entire load covered and/or secured to prevent any items, excess dust or dirt particles depositing onto the roadway during travel to and from the site. All subcontractors shall undergo induction by the lead contractor to ensure all 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 undertake all necessary steps to rectify any road deposits caused by the construction activity.

Vehicles operating to, from and within the site shall do so in a manner that does not create unreasonable or unnecessary noise or vibration. No tracked vehicles are required nor permitted on any paved roads. Public roads and access points will not be obstructed by any materials, vehicles, refuse skips or the like, under any circumstances.

The applicant/contractor is required to follow and abide the specific standard requirements for construction management.

4.4 Civil Works Vehicle Volumes

The civil works will be undertaken in two different stages and will require access and egress for various vehicles depending on the stage. The vehicle types and estimate vehicular trips for each stage have been summarised in Table 5.

Table 5: Vehicle Types and Estimated Trips

Stage	Works	Vehicle size	Estimated daily trips	Indicative Duration
1	Site Establishment	Low Loader, 19.0m AV, Truck & Dog, HRV & MRV	Average – 60 trucks*	1 month
2	Civil Works		Peak – 85 trucks*	18 months

*Note: 1 truck = 2 trips (1 inbound trip & 1 outbound trip)

The movements of trucks to and from the site, and deliveries to the site are to be managed such that no temporary standing on the public roadway / domain occurs in the vicinity of the site.

Once distributed throughout the day, the relatively low vehicle movements will have minimal impact on the performance of the local road network during the morning and evening peaks.

4.5 Civil Works Vehicle Routes

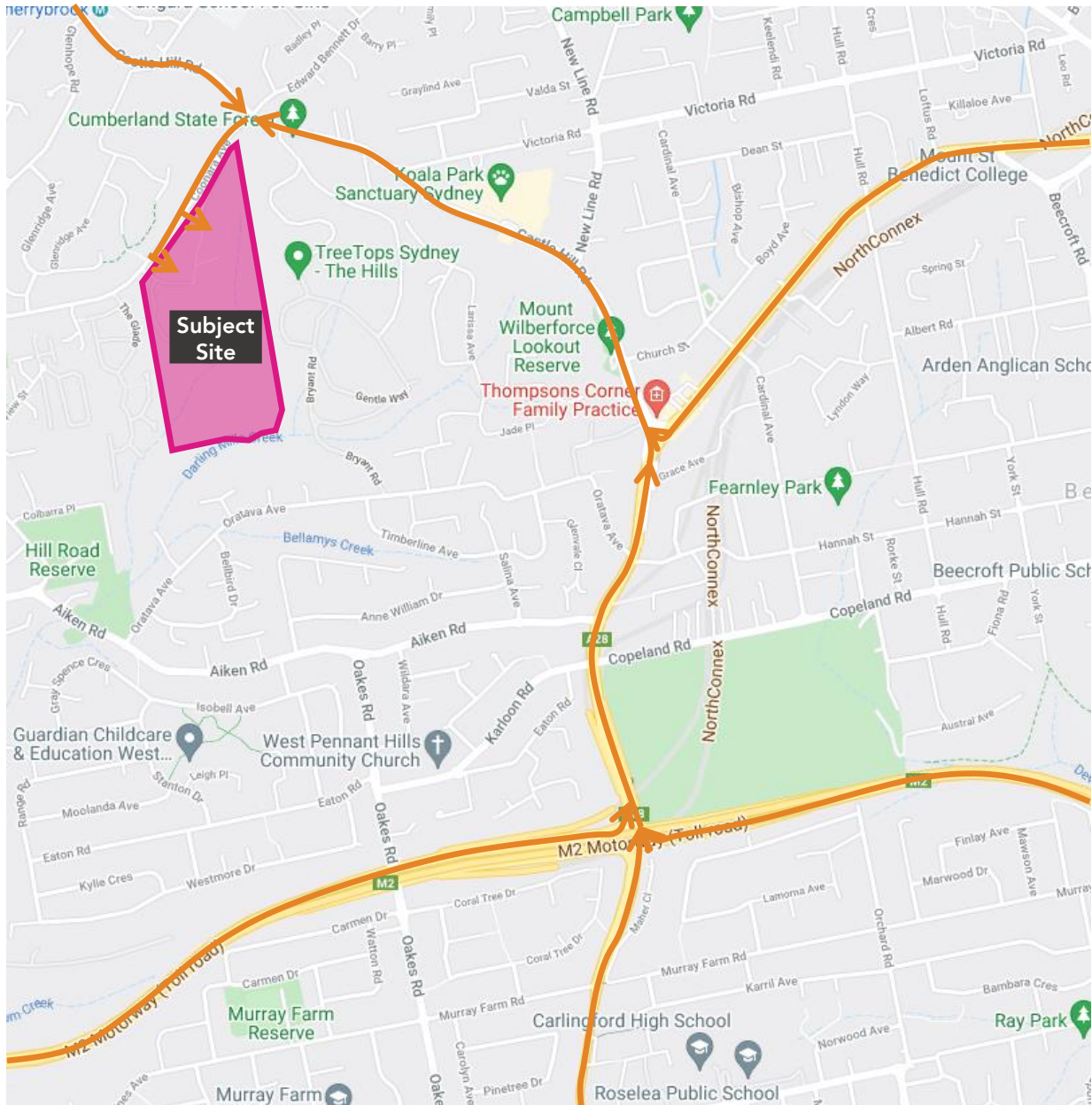


Figure 11: Civil Works Vehicle Ingress Route

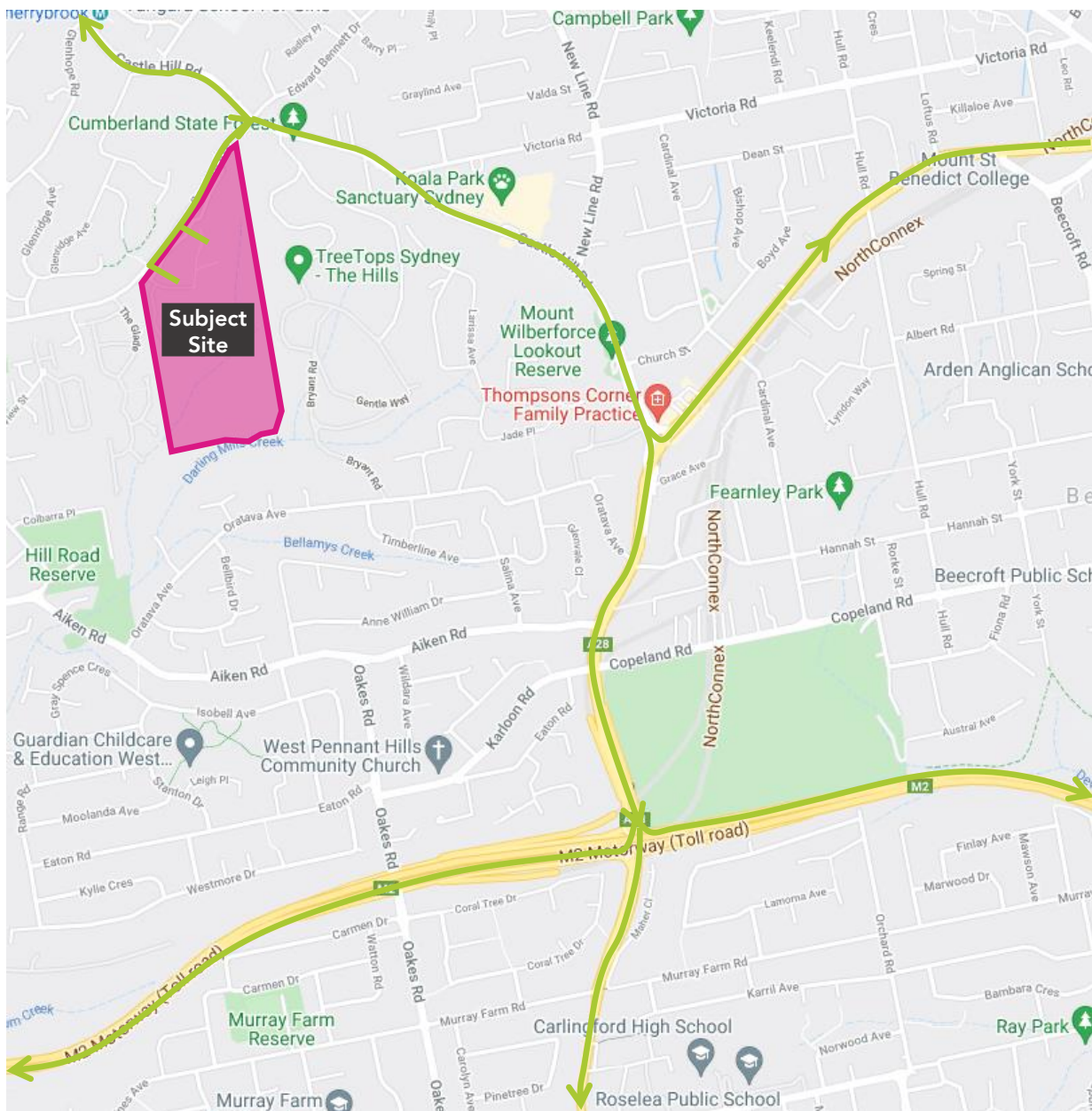


Figure 12: Civil Works Vehicle Egress Route

4.6 Access and Egress to Site

Three potential ingress and egress routes are available being the following:

- M2 Motorway, Pennant Hills Road, Castle Hill Road and Coonara Avenue;
- M2, Old Northern Road, Castle Hill Road and Coonara Avenue; and
- Old Northern Road, Castle Hill Road and Coonara Avenue.

The trucks will typically enter via the southern gate with the exit from the site via the northern or southern gate depending on the stage of the works. It is noted that these are existing gates which will be used throughout the civil works and all vehicles will enter and exit the site in a forward direction. The access to these entry points will be restricted during upgrade works to the entry points. During these times a single

entry point will be utilised for access and egress from the site. E.g. Works occurring at the northern gate to upgrade the intersection and completing works around the area will require truck movements to only occur at the southern gate and vice versa.

A swept path assessment has been undertaken using a 19.0m Articulate Vehicle (AV) and 19.0m Truck & Dog which are anticipated to be the largest vehicles accessing the site. The assessment indicates that the left turn manoeuvre from Castle Hill Road into Coonara Avenue, the left turn manoeuvre from Coonara Avenue into Castle Hill Road and the right turn manoeuvre from Coonara Avenue into Castle Hill Road will require the use of multi-lanes. However, as per the *Road Rules 2014 – NSW Legislation Regulation 28* such manoeuvring is permissible. Therefore, the assessment indicates that the existing roadways are able to accommodate the turning manoeuvres of the construction vehicles.

4.6.1 Road Rules 2014 – NSW Legislation Regulation 28

The following has been extracted from the road rules which allows for the use of multi-lanes to perform a left turn manoeuvre for the proposed heavy vehicles.

A driver may approach and enter the intersection from the marked lane next to the left lane as well, or instead of, the left lane if:

- (a) the driver's vehicle, together with any load or projection, is 7.5 metres long, or longer, and*
- (b) the vehicle displays a do not overtake turning vehicle sign, and*
- (c) any part of the vehicle is within 50 metres of the nearest point of the intersection, and*
- (d) it is not practicable for the driver to turn left from within the left lane, and*
- (e) the driver can safely occupy the next marked lane and can safely turn left at the intersection by occupying the next marked lane, or both lanes.*

The construction vehicles that require the use of multi-lanes all exceed 7.5m in length and also meets all other requirements stipulated in the regulation. Therefore, the swept path assessment has been undertaken utilising multi-lanes to perform turning manoeuvres when necessary.

4.6.2 Restricted Access Vehicle (RAV) Routes

The civil works vehicles will access/egress the site via Castle Hill Road, M2 Motorway, Old Northern Road and Pennant Hills Road. It is noted that these roads are approved routes with restrictions for heavy vehicle access as shown in Figure 13. Therefore, as these routes are approved for use by vehicles up to 25/26m B-Doubles, no swept path assessment has been undertaken along these roads.

However, the roads have restrictions which will need to be adhered to and approved by the National Heavy Vehicle Regulator (NHVR). The Principal Controller is to ensure that all vehicles travelling to/from the site are to seek approval from NHVR prior to commencement of works.

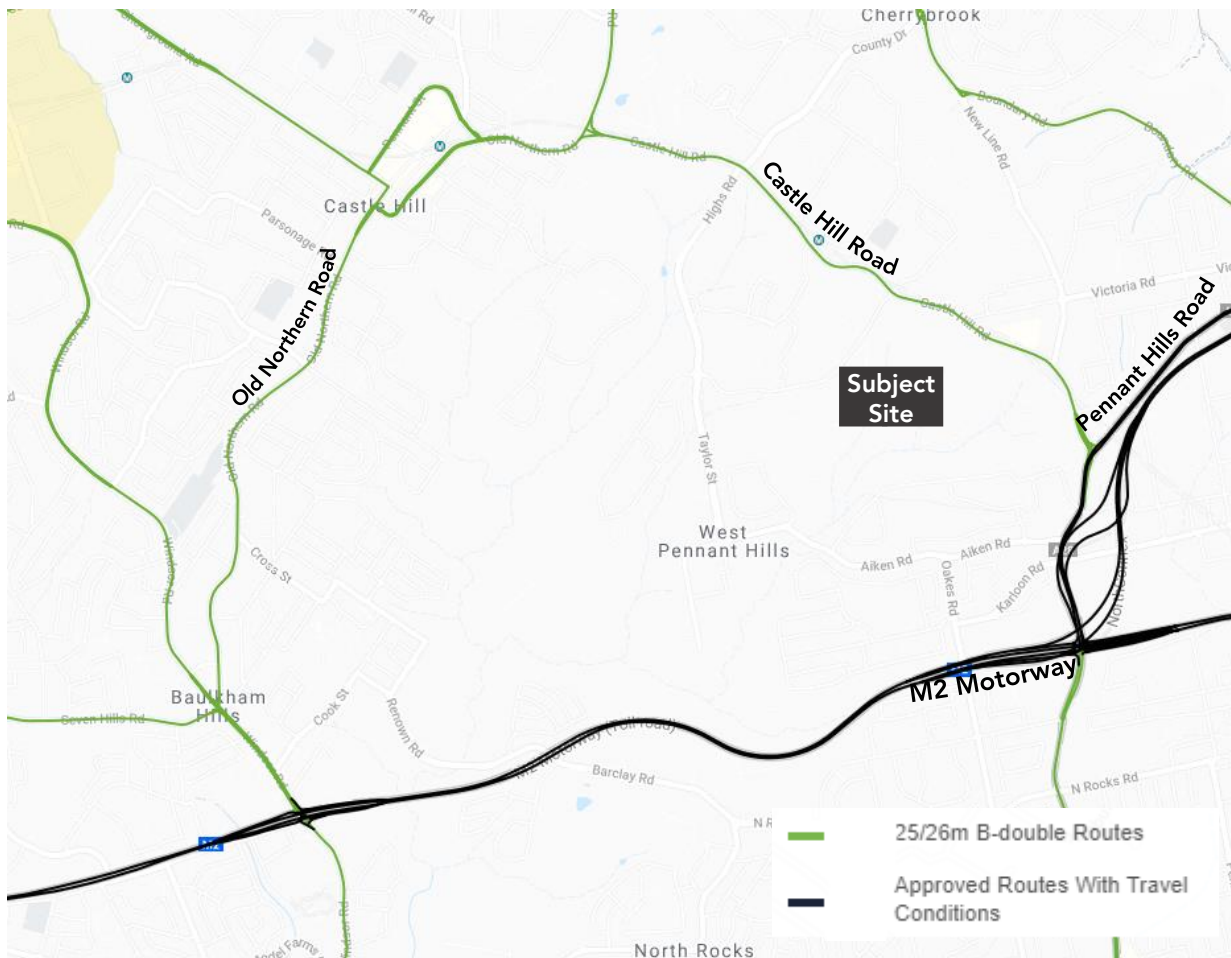


Figure 13: Restricted Access Vehicle Interactive Map

4.7 Work Zone

There are proposed works to update the two existing entry points to the site at Coonara Avenue. The works include the following:

- Authority connections;
- Kerb adjustments to the entry points;
- Final wearing course upgrade.

The proposed works will require approximately 30m long Work Zone on either side of the existing driveways. All relevant road occupation applications and Traffic Guidance Schemes (TGS) will be submitted to The Hills Shire Council and seek approval prior to commencement of works.

4.8 Traffic Control Measures

Traffic Guidance Schemes (TGSs) outline the proposed traffic management to inform road users of the changed traffic conditions in the vicinity of the works site. The TGSs must be set out in accordance with Issue 6.0 of the Traffic control at work sites Technical Manual, November 2020 (TCAWS).

A TGS is to be implemented on Coonara Avenue throughout the project to warn road users that trucks will be turning into and out of the site, in accordance with TCAWS TGS D.4.7 (refer to Attachment 2). The

project will maintain a spotter at the gates to supervise vehicles entering and exiting the site to ensure vehicles enter and exit the site safely.

It is noted that any changes to the existing parking restrictions will require a minimum fourteen (14) days notification to adjoining property owners prior to the implementation of any temporary traffic control measures.

The final TGSs must be prepared by the traffic management contractor upon engagement prior to commence of works on site.

4.9 Special Deliveries

Any oversized vehicles that are required to travel to the site will be dealt with separately, with the submission of relevant permits to and subsequent approval by TfNSW and The Hills Shire Council prior to any delivery. As part of the approval process local residents adjacent to the site on Coonara Ave will be notified by letter at least 48hrs prior.

4.10 Staff Parking

The site has sufficient room to provide parking to accommodate the parking demand generated by the site personnel for the civil works. All site personnel are to be advised that they are not to park on-street in the vicinity of the development site. Also, site personnel will be advised to carpool (wherever practicable) and site personnel will be informed of the public transport options available in the vicinity of the site (refer to Section 3.3) and advised to utilise these facilities.

It is anticipated that up to approximately 100 - 150 workers will be present on-site at any one time during civil works. The site is to make provision for parking onsite as soon as practicable. All staff and contractors are to use the designated parking areas.

4.11 Work Site Security

The site is to be secured by the use of appropriate fencing or hoarding along the frontage of the site on Coonara Avenue for segregation and protection for pedestrians and the work area throughout the entire construction stage. The fencing or hoarding is to be erected along the frontage of Coonara Avenue at the beginning of civil works prior to excavation.

All access points will be securely locked and monitored when site activities are not in progress.

4.12 Plant/Equipment Management

At the commencement of civil works, plant and equipment, including construction hoarding/scaffolding material, site sheds, mobile cranes and machinery will be required to be delivered to the site. The delivery and removal of plant and equipment to and from the site will be undertaken from the on-site materials handling/loading area, via the use of machine floats.

The delivery and removal of plant and equipment that requires a wide or long load vehicle will be subject to a separate application/permit and separate prior approval from The Hills Shire Council and other relevant authorities. In order to minimise traffic disruption during the delivery of the plant and equipment, it is proposed to undertake this work outside peak periods. All plant and equipment deliveries will be carried out in accordance with Council's requirements and the NSW Police regulations.

4.13 Spoil Management

All trucks removing any spoil from the site will be loaded to prescribed weight limits and loose material will be covered during transport from the site. Loose material will be removed from all vehicles and/or machinery before leaving the site and entering the road system.

All vehicles leaving the site will be cleaned to prevent the tracking of mud and materials onto the roadway. The civil works contractor will be responsible for locating a truck cleaning facility or other appropriate cleaning mechanism adjacent to the construction access driveways. Any run-off from the washing down of vehicles will be directed to the sediment control system to be located within the site.

The loading of spoil onto trucks will be carried out on-site in an approved and controlled manner. The management of the on-site materials handling/loading area and the movement of trucks on and off the site will be the responsibility of the contractor.

4.14 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 site for all vehicles, parking requirements for workers as well as standard environmental, OH&S, driver protocols and emergency procedure. Additionally, the lead contractor will discuss TMP requirements regularly as part of toolbox talks and advise workers of public transport and carpooling opportunities.

4.15 Adjoining Properties

Access to all adjoining properties will be maintained throughout the proposed civil works.

4.16 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 TfNSW accreditation in accordance with Section 8 of Traffic Control at Worksites.

4.17 Method of Communicating Traffic Changes

Traffic control plans in accordance with Australian Standards (AS 1742.3 – Traffic Control Devices for Works on Roads) and RMS Traffic Control at Worksites manual will advise motorists of any required changes in the road network.

The contractor shall each morning, prior to work commencing, ensure all signage is erected in accordance with the TGS and clearly visible. Each evening, upon completion of work, the contractor is to ensure signage is either covered or removed as required. Sign size is to be size "A".

No deviation from the approved TGS shall be permitted, unless otherwise approved by Council and certified by an RMS accredited personnel.

The associated TGS road signage will inform drivers of works activities in the area including truck movements in operation.

Prior to commencement of civil works on site the contractor is to inform neighbouring properties of proposed works and provide site contact information by means of a letter box distribution. Additionally, a

minimum fourteen (14) days notification must be provided to adjoining property owners prior to the implementation of any temporary traffic control measures.

4.18 Contact Details for On-Site Enquiries and Site Access

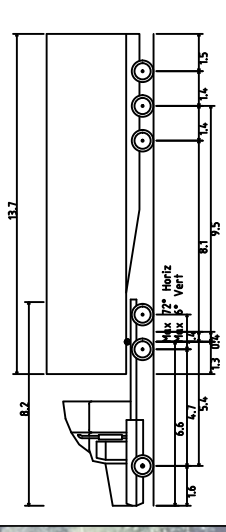
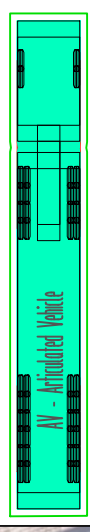
A civil works contractor has not yet been appointed. Mirvac will contract a civil works contractor to be the Principal Controller of the site during the proposed works phase and will provide the contact details of an on-site personnel to The Hills Shire Council prior to commencement of works. The site personnel will need to have a Prepare Work Zone Traffic Management Plan (PWZTMP) card.

5. Summary

This CTMP has been prepared for the Concept Development Application including the detailed First Stage comprising the Civil Works for the proposed redevelopment of Coonara Avenue, West Pennant Hills. This report outlines requirements in order to facilitate the proposed civil works at the site and the traffic process associated with the civil works, as well as the traffic management measures to improve and regulate the safety of pedestrians, cyclists, motorists, and works in the site vicinity.

From our expert perspective the proposed civil works are supportable from a traffic and transport perspective.

VEHICLE PROFILE



- AV - Articulated Vehicle
- Overall Length 19.000m
- Overall Width 4.300m
- Min Body Height 2.500m
- Min Body Ground Clearance 0.410m
- Track Width 2.500m
- Lock-to-lock time 6.00s
- Curb to Curb Turning Radius 12.500m

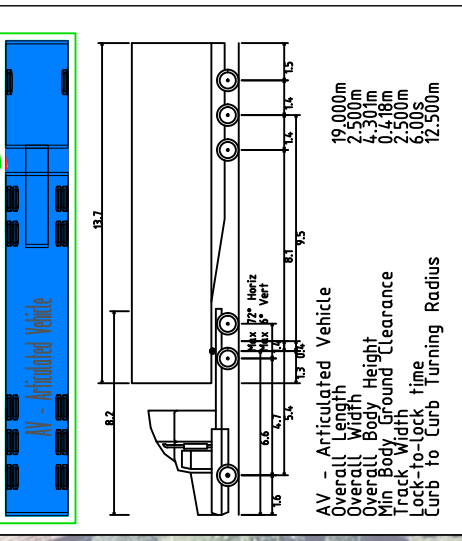


		PROJECT 55 COONARA AVENUE, WEST PENNANT HILLS	DRAWING TITLE Castle Hill Road / Coonara Avenue / Edward Bennett Drive Intersection Swept Path Assessment 19.0m Articulated Vehicle	CLIENT MIRVAC DRAWING # PTC-001 PROJECT # 21-3056 SCALE 1 : 500 @ A3	PRELIMINARY REV 3																				
<p style="font-size: 0.8em;"> Suite 502, 1 James Place North Sydney NSW 2060 t +61 2 8920 0800 ptcconsultants.co </p>	<table border="1" style="width: 100%; border-collapse: collapse; font-size: 0.7em;"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>COMMENT / DESCRIPTION</th> <th>DRAWN</th> <th>REVIEWED</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>23/07/21</td> <td>FOR REVIEW</td> <td>JJ</td> <td>DB</td> </tr> <tr> <td>2</td> <td>20/07/21</td> <td>FOR REVIEW</td> <td>JJ</td> <td>DB</td> </tr> <tr> <td>1</td> <td>19/05/21</td> <td>FOR INFORMATION</td> <td>JJ</td> <td>DB</td> </tr> </tbody> </table>	REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED	3	23/07/21	FOR REVIEW	JJ	DB	2	20/07/21	FOR REVIEW	JJ	DB	1	19/05/21	FOR INFORMATION	JJ	DB				
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VEHICLE PROFILE

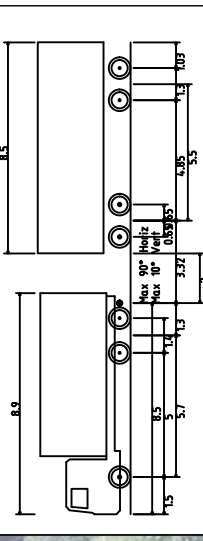


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3	23/07/21	FOR REVIEW	JJ	DB
2	20/07/21	FOR REVIEW	JJ	DB
1	19/05/21	FOR INFORMATION	JJ	DB
PROJECT		55 COONARA AVENUE, WEST PENNANT HILLS		
DRAWING TITLE		Castle Hill Road / Coonara Avenue / Edward Bennett Drive Intersection Swept Path Assessment 19.0m Articulated Vehicle		
CLIENT		MIRVAC		
DRAWING #		PTC-002		
PROJECT #		21-3056		
SCALE		1 : 500 @ A3		
				PRELIMINARY
				REV 3



comments A3

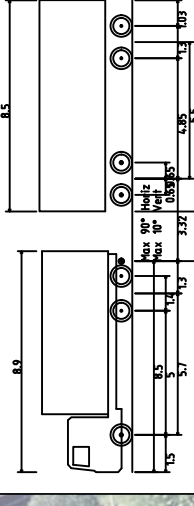
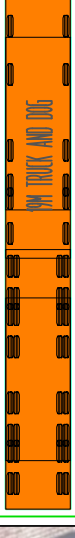
VEHICLE PROFILE



- 19M TRUCK AND DOG (Fixed Trailer)
- Overall Length 19.000m
- Overall Height 4.200m
- Overall Width 3.400m
- Min. Body Ground Clearance 0.427m
- Track Width 2.500m
- Lock-to-lock time 4.00s
- Wall to Wall Turning Radius 12.000m

<p>Suite 502, 1 James Place North Sydney NSW 2060 t +61 2 8920 0800 pticonsultants.co</p>		<p>REV DATE COMMENT / DESCRIPTION DRAWN REVIEWED</p> <table border="1"> <tr> <td>3</td> <td>23/07/21</td> <td>FOR REVIEW</td> <td>JJ</td> <td>DB</td> </tr> <tr> <td>2</td> <td>20/07/21</td> <td>FOR REVIEW</td> <td>JJ</td> <td>DB</td> </tr> <tr> <td>1</td> <td>19/05/21</td> <td>FOR INFORMATION</td> <td>JJ</td> <td>DB</td> </tr> </table>		3	23/07/21	FOR REVIEW	JJ	DB	2	20/07/21	FOR REVIEW	JJ	DB	1	19/05/21	FOR INFORMATION	JJ	DB	<p>PROJECT</p> <p>55 COONARA AVENUE, WEST PENNANT HILLS</p>		<p>DRAWING TITLE</p> <p>Castle Hill Road / Coonara Avenue / Edward Bennett Drive Intersection Swept Path Assessment 19.0m Truck & Dog</p>		<p>CLIENT</p> <p>MIRVAC</p>		<p>PRELIMINARY</p>	
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VEHICLE PROFILE



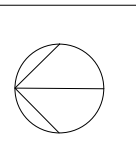
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 Overall Width 2.600m
 Overall Body Height 3.738m
 Min Body Ground Clearance 0.427m
 Track Width 2.500m
 Lock-to-lock time 4.00S
 Wall to Wall Turning Radius 12.000m



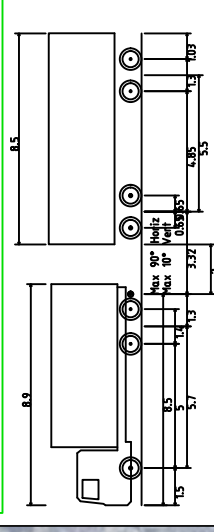
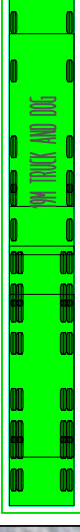
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<p>Castle Hill Road / Coonara Avenue / Edward Bennett Drive Intersection Swept Path Assessment 19.0m Truck & Dog</p>		<p>DRAWING # PTC-004</p>		<p>PROJECT # 21-3056</p>	
<p>55 COONARA AVENUE, WEST PENNANT HILLS</p>		<p>CLIENT MIRVAC</p>		<p>PRELIMINARY</p>	
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1	19/05/21	FOR INFORMATION	JJ	DB



VEHICLE PROFILE



19M TRUCK AND DOG (Fixed Trailer)
 Overall Length 19.000m
 Overall Body Height 4.200m
 Min Body Ground Clearance 0.427m
 Track Width 2.500m
 Lock-to-lock time 4.00s
 Wall to Wall Turning Radius 12.000m

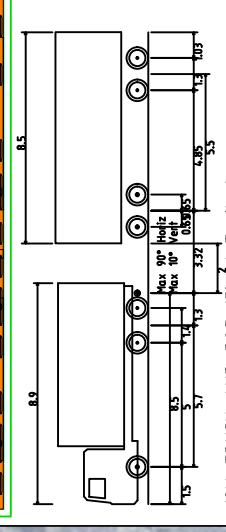


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comments A3

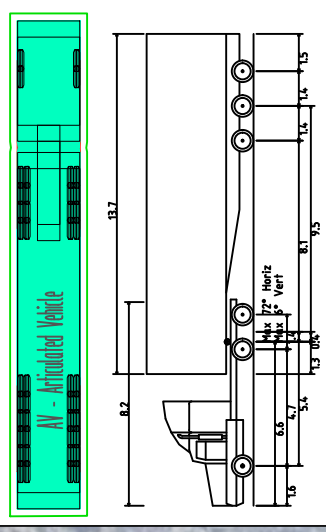
VEHICLE PROFILE



19M TRUCK AND DOG (Fixed Trailer)
 Overall Length 19.000m
 Overall Width 2.600m
 Overall Body Height 3.738m
 Min Body Ground Clearance 0.427m
 Track Width 2.500m
 Lock-to-lock time 4.00S
 Wall to Wall Turning Radius 12.000m

 <p>Suite 502, 1 James Place North Sydney NSW 2060 t +61 2 8920 0800 ptcconsultants.co</p>		<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>COMMENT / DESCRIPTION</th> <th>DRAWN</th> <th>REVIEWED</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>23/07/21</td> <td>FOR REVIEW</td> <td>JJ</td> <td>DB</td> </tr> <tr> <td>2</td> <td>20/07/21</td> <td>FOR REVIEW</td> <td>JJ</td> <td>DB</td> </tr> <tr> <td>1</td> <td>19/05/21</td> <td>FOR INFORMATION</td> <td>JJ</td> <td>DB</td> </tr> </tbody> </table>	REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED	3	23/07/21	FOR REVIEW	JJ	DB	2	20/07/21	FOR REVIEW	JJ	DB	1	19/05/21	FOR INFORMATION	JJ	DB	<p>PROJECT</p> <p>55 COONARA AVENUE, WEST PENNANT HILLS</p>	<p>DRAWING TITLE</p> <p>Northern Site Access Swept Path Assessment 19.0m Truck & Dog</p>	<p>CLIENT</p> <p>MIRVAC</p>	<p>DRAWING #</p> <p>PTC-006</p>	<p>PROJECT #</p> <p>21-3056</p>	<p>SCALE</p> <p>1 : 500 @ A3</p>	<p>PRELIMINARY</p>	<p>REV 3</p>
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1	19/05/21	FOR INFORMATION	JJ	DB																										

VEHICLE PROFILE

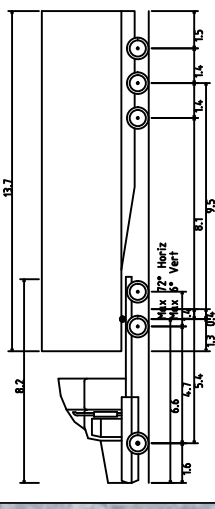
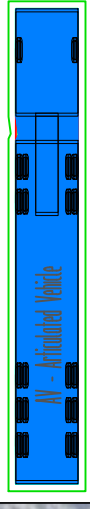


AV - Articulated Vehicle
 Overall Length 19.000m
 Overall Body Height 4.301m
 Min Body Ground Clearance 0.418m
 Track Width 2.500m
 Lock-to-lock time 6.00S
 Curb to Curb Turning Radius 12.500m



<p>Suite 502, 1, James Place North Sydney NSW 2060 t +61 2 8920 0800 ptcconsultants.co</p>		<p>PROJECT 55 COONARA AVENUE, WEST PENNANT HILLS</p>		<p>DRAWING TITLE Northern Site Access Swept Path Assessment 19.0m Articulated Vehicle</p>		<p>CLIENT MIRVAC DRAWING # PTC-007 PROJECT # 21-3056 SCALE 1 : 500 @ A3</p>		<p>PRELIMINARY REV 3</p>	
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1	19/05/21	FOR INFORMATION	JJ	DB					

VEHICLE PROFILE

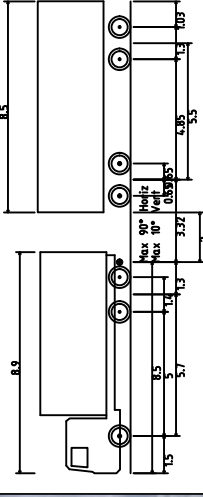
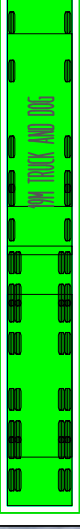


- AV - Articulated Vehicle
- Overall Length 19.000m
- Overall Width 2.500m
- Pin Body Height 4.700m
- Pin Body Ground Clearance 9.500m
- Track Width 6.000m
- Lock-to-steer time 1.500m
- Curb-to-Curb Turning Radius 12.500m



<p>Suite 502, 1, James Place North Sydney NSW 2060 t +61 2 8920 0800 ptcconsultants.co</p>		<p>PROJECT 55 COONARA AVENUE, WEST PENNANT HILLS</p>		<p>DRAWING TITLE Northern Site Access Swept Path Assessment 19.0m Articulated Vehicle</p>		<p>CLIENT MIRVAC</p>		<p>PRELIMINARY</p>	
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VEHICLE PROFILE

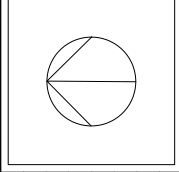


19M TRUCK AND DOG (Fixed Trailer)
 Overall Length 19.000m
 Overall Body Height 7.400m
 Overall Body Width 3.930m
 Min Body Ground Clearance 0.427m
 Track Width 2.500m
 Lock-to-lock time 4.00s
 Wall to Wall Turning Radius 12.000m



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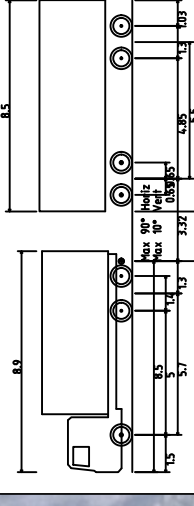
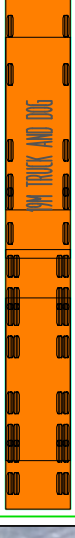
PROJECT
 55 COONARA AVENUE, WEST PENNANT HILLS

DRAWING TITLE
 Southern Site Access
 Swept Path Assessment
 19.0m Truck & Dog

CLIENT MIRVAC
 DRAWING # PTC-009
 PROJECT # 21-3056
 SCALE 1 : 500 @ A3

PRELIMINARY
REV 3

VEHICLE PROFILE

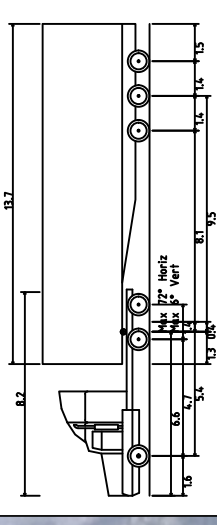
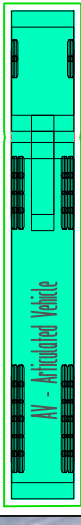


19M TRUCK AND DOG (Fixed Trailer)
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 Min Body Ground Clearance 0.427m
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 Lock-to-lock time 4.000s
 Wall to Wall Turning Radius 12.000m



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VEHICLE PROFILE



AV - Articulated Vehicle
 Overall Length 19,000m
 Overall Width 2,500m
 Overall Body Height 4,301m
 Min Body Ground Clearance 0,418m
 Track Width 2,500m
 Lock-to-lock time 6,00S
 Curb to Curb Turning Radius 12,500m



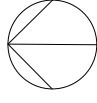
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PROJECT

55 COONARA AVENUE, WEST PENNANT HILLS



DRAWING TITLE

Southern Site Access
 Swept Path Assessment
 19.0m Articulated Vehicle

CLIENT

MIRVAC

DRAWING # PTC-011

PROJECT # 21-3056

SCALE 1 : 500 @ A3

PRELIMINARY

REV 3



comments A3

VEHICLE PROFILE

- AV - Articulated Vehicle
- Overall Length 19.000m
- Overall Width 2.500m
- Overall Body Height 4.200m
- Pin Body Ground Clearance 0.200m
- Lock-to-Lock time 6.000m
- Lock-to-Curb time 6.000m
- Curb-to-Curb Turning Radius 12.500m

<p>Suite 502, 1 James Place North Sydney NSW 2060 t +61 2 8920 0800 ptcconsultants.co</p>		<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>COMMENT / DESCRIPTION</th> <th>DRAWN</th> <th>REVIEWED</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>23/07/21</td> <td>FOR REVIEW</td> <td>JJ</td> <td>DB</td> </tr> <tr> <td>2</td> <td>20/07/21</td> <td>FOR REVIEW</td> <td>JJ</td> <td>DB</td> </tr> <tr> <td>1</td> <td>19/05/21</td> <td>FOR INFORMATION</td> <td>JJ</td> <td>DB</td> </tr> </tbody> </table>	REV	DATE	COMMENT / DESCRIPTION	DRAWN	REVIEWED	3	23/07/21	FOR REVIEW	JJ	DB	2	20/07/21	FOR REVIEW	JJ	DB	1	19/05/21	FOR INFORMATION	JJ	DB	<p>PROJECT 55 COONARA AVENUE, WEST PENNANT HILLS</p>	<p>DRAWING TITLE Southern Site Access Swept Path Assessment 19.0m Articulated Vehicle</p>	<p>CLIENT MIRVAC DRAWING # PTC-012 PROJECT # 21-3056 SCALE 1 : 500 @ A3</p>	<p>PRELIMINARY REV 3</p>
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Attachment 1 - Swept Path Assessment

Attachment 2 - TGS D.4.7

D.4.7 Static: Access to depot, stockpile, quarry, gravel pit etc. all roads (formerly TCP 195)

