

traffic + transport

Construction Traffic & Pedestrian Management Sub-Plan
Jindabyne Education Campus
for
Hansen Yuncken

Document Control

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v4	11/11/2022	Final 2	A. Reisch
v5	14/02/2023	Final 3	A. Reisch
v6	10/07/2023	Final 4	A. Reisch

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1 Introduction

1.1 Overview

arc traffic + transport has been engaged by Hansen Yuncken to prepare a Construction Traffic & Pedestrian Management Sub-Plan (**CTPMSP**) to provide for the safe and efficient construction of the Jindabyne Education Campus (the **Campus**) at 207 Barry Way, Jindabyne (the **Site**).

Full details of the Campus development are provided in State Significant Development 15788005 (the **SSD**) and subsequent **SSD Approval** prepared by the Department of Planning & Environment (**DPE**). This revision to the CTPMSP, dated 10 July 2023, has been prepared to include:

- A revised Campus Master Plan;
- A revised Campus Active Transport Plan; and
- Details of identified easements within and adjacent to the Site.

Importantly, these revisions have no material impact on the construction traffic management measures as detailed in the CTPMSP (previous version dated 31 October 2022) but are provided only to show the minor changes to the key Campus plans, and to identify the easements, access to which would be appropriately provided throughout the construction period. The identification of the easements will not result in any changes to construction vehicle access to or through the Site.

As such, the revisions provided in the CTPMSP are limited to:

- Figure 3 (the Campus Master Plan);
- Figure 4 (the Campus Active Transport Plan); and
- A new Section 4.1.4 which identifies the location of the easements.

1.2 CTPMSP Author

This CTPMSP has been prepared by Anton Reisch, Director of arc traffic + transport, with additional input provided by Ben Midgley, Principal Traffic Engineer at PDC Consultants. Curriculum Vitae's for each author are provided in Appendix A.

1.3 CTPMSP Condition of Consent

In accordance with the SSD Consent, this CTPMSP is provided as a *Sub-Plan* to the broader Construction Environmental Management Plan (**CEMP**) being prepared by Hansen Yuncken, and provides an assessment of the relevant access, traffic and parking characteristics of the construction of the Campus in accordance with the SSD Approval.

This CTPMSP specifically provides a response to the **Conditions** detailed in the SSD Instrument of Consent (**SSD Consent**) dated 10 August 2022. In this regard, Table 1 provides a summary of the individual Conditions relating to the CTPMSP, and the section of this CTPMSP where each is addressed.

Table 1: SSD Approval Conditions

Condition	Condition Requirement	Document Reference
B16	<p><i>The Construction Traffic and Pedestrian Management Sub-Plan (CTPMSP) must be prepared to achieve the objective of ensuring safety and efficiency of the road network and address, but not be limited to, the following:</i></p> <p><i>(a) be prepared by a suitably qualified and experienced person(s);</i></p> <p><i>(b) be prepared in consultation with Council and TfNSW;</i></p> <p><i>In detail:</i></p> <p><i>(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;</i></p> <p><i>(ii) measures to ensure the safety of vehicles and pedestrians accessing adjoining properties where shared vehicle and pedestrian access occurs;</i></p> <p><i>(iii) heavy vehicle routes, access and parking arrangements;</i></p> <p><i>(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; and</i></p> <p><i>(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).</i></p>	<p>Appendix A Section 1.6 Appendix B</p> <p>Section 4 Appendix E</p> <p>Section 4.3.2</p> <p>Section 3.2 Section 3.3 Section 3.6</p> <p>Section 3.2</p> <p>Section 3.2</p>
B22	<p><i>A Driver Code of Conduct must be prepared and communicated by the Applicant to heavy vehicle drivers and must address the following:</i></p> <p><i>(a) minimise the impacts of earthworks and construction on the local and regional road network;</i></p> <p><i>(b) minimise conflicts with other road users;</i></p> <p><i>(c) minimise road traffic noise; and</i></p> <p><i>(d) ensure truck drivers use specified routes</i></p>	<p>Section 4.4.5 Appendix E</p> <p>Section 3.2 Section 3.3 Appendix E</p> <p>Appendix E</p> <p>Section 3.2 Section 3.3.3</p> <p>Appendix E</p> <p>Section 3.2 Section 3.3.3 Appendix E</p>
B23	<p><i>Prior to the commencement of construction, the Applicant must provide sufficient parking facilities on-site, including for heavy vehicles and for site personnel to ensure that construction traffic associated with the development does not utilise public and residential streets or public parking facilities.</i></p>	<p>Section 3.6</p>

1.4 CTPMSP Tasks

In order to appropriately respond to the Conditions detailed in Table 1, this CTPMSP includes consideration of the following:

- The Scope of Work to be assessed as part of the CTPMSP in accordance with the SSD Consent, and Transport for NSW (**TfNSW**), Austroads and Australian Standards guidelines;
- The proposed construction schedule, including a breakdown of key stages of the construction period and the associated transport demands of each of those stages;
- General construction characteristics, including staff and truck numbers and construction hours;
- Access to and from the Site through all stages of construction, including the use of designated truck routes to minimise impacts on the local road network;
- Traffic generation and distribution through all stages of construction, and an assessment of the potential impact of construction traffic on the operation of the local road network;
- Staff and truck parking requirements and provisions;
- Mitigation measures by which to minimise to as great an extent as possible any potential impacts that the construction will have on existing road users, including motorists, pedestrians and cyclists;
- Key strategies and protocols by which to maximise the safety and efficiency of construction operations across all stages of construction, focusing on the retention of safe and efficient vehicle, pedestrian and cyclist movements adjacent to the Site, and the ongoing monitoring of and – where required – revisions to the CTPMSP to respond to issues where they arise.

1.5 Reference Documents

1.5.1 Planning Documents

Key planning documents referenced in the preparation of this CTPMSP include:

- The SSD, with a particular focus on the Jindabyne Education Campus Transport Assessment 2021, Aurecon (**Campus TA**);
- The SSD Consent;
- Snowy Mountains Special Activation Precinct Master Plan 2022, NSW State Government (**SM Master Plan**);
- Snowy Mountains Special Activation Precinct Technical Study Report Engineering - Transport June 2022, wsp (**SM Transport Study**); and
- Snowy Mountains Special Activation Precinct Final Structure Plan Report June 2022, Jensen Plus (**SM Structure Plan**).

1.5.2 Traffic and Transport Guidelines

This CTPMSP also references general traffic and transport guidelines, including:

- Australian Standard 1742 Manual of Uniform Traffic Control Devices Part 3: Traffic Control for Works on Roads (**AS 1742.3**);
- TfNSW Traffic Control at Work Sites Manual 2022 (**TCW Manual**); and
- Austroads Guide to Traffic Management Part 12: Integrated Transport Assessments for Developments.

1.6 Consultation

During the preparation of this CTPMSP, arc traffic + transport has engaged with TfNSW and Council officers to determine the scope of work provided in this CTPMSP, and additional assessment requirements that may arise through the construction period. A copy of emails between arc traffic + transport and TfNSW and Council officers is provided in Appendix B, noting the following:

➤ Council Correspondence

- In November 2022 – after the submission of Version 4 (dated 11 November 2022) - arc traffic + transport had the opportunity to discuss the CTPMSP with Mr Zachary Crombie-Brown, Council's Acting Infrastructure Manager.
- Mr Crombie-Brown undertook a review the CTPMSP and further to our discussions provided an email response noting current and planned works in the vicinity of the Site, and the anticipated relocation of the proposed southern roundabout from its currently approved location north of Tinworth Drive to an alignment with Tinworth Drive, and with what has previously been referred to as Recreation Road. As acknowledged by arc traffic + transport, these plans are still being developed, but will necessarily be the subject of additional future consultation with Council prior to be finalised (see also Section 3.5).
- Mr Crombie-Brown also noted that Council is commencing road widening in Barry Way in the vicinity of the Site; as agreed, if the Council works impact or are impacted by Campus construction vehicles, then further revisions to the CTPMSP may be required to ensure that this part of the road network operates with maximum efficiency and safety.
- Finally, Mr Crombie-Brown notes that a Section 138 submission would be required prior to any future occupancy of Council's road reserve to accommodate future road works.

➤ TfNSW Correspondence

- arc traffic + transport also had the opportunity to discuss the CTPMSP with Mr Maurice Morgan, TfNSW Land Use Manager Southern Region.
- Mr Morgan also expressed agreement with the proposed scope of work in the CTPMSP, but noted that the design of the proposed upgrades in Barry Way as part of the broader Project had yet to be finalised (see also Section 3.5). This also specifically referred to the location and design of the southern roundabout, and again noted that the design would necessarily be the subject of additional future consultation with TfNSW prior to be finalised (see also Section 3.5).
- Recognising this, it was agreed with Mr Morgan that it was appropriate for revisions to be made to the CTPMSP in regard to the construction of the Barry Way upgrades once the design and construction staging have been finalised.

Further to the above, it is again important to state that the CTPMSP is a live document, and will continue to be revised as necessary based on all traffic and transport related issues that may arise during the construction of the Campus and adjacent road infrastructure.

2 The SSD Approval

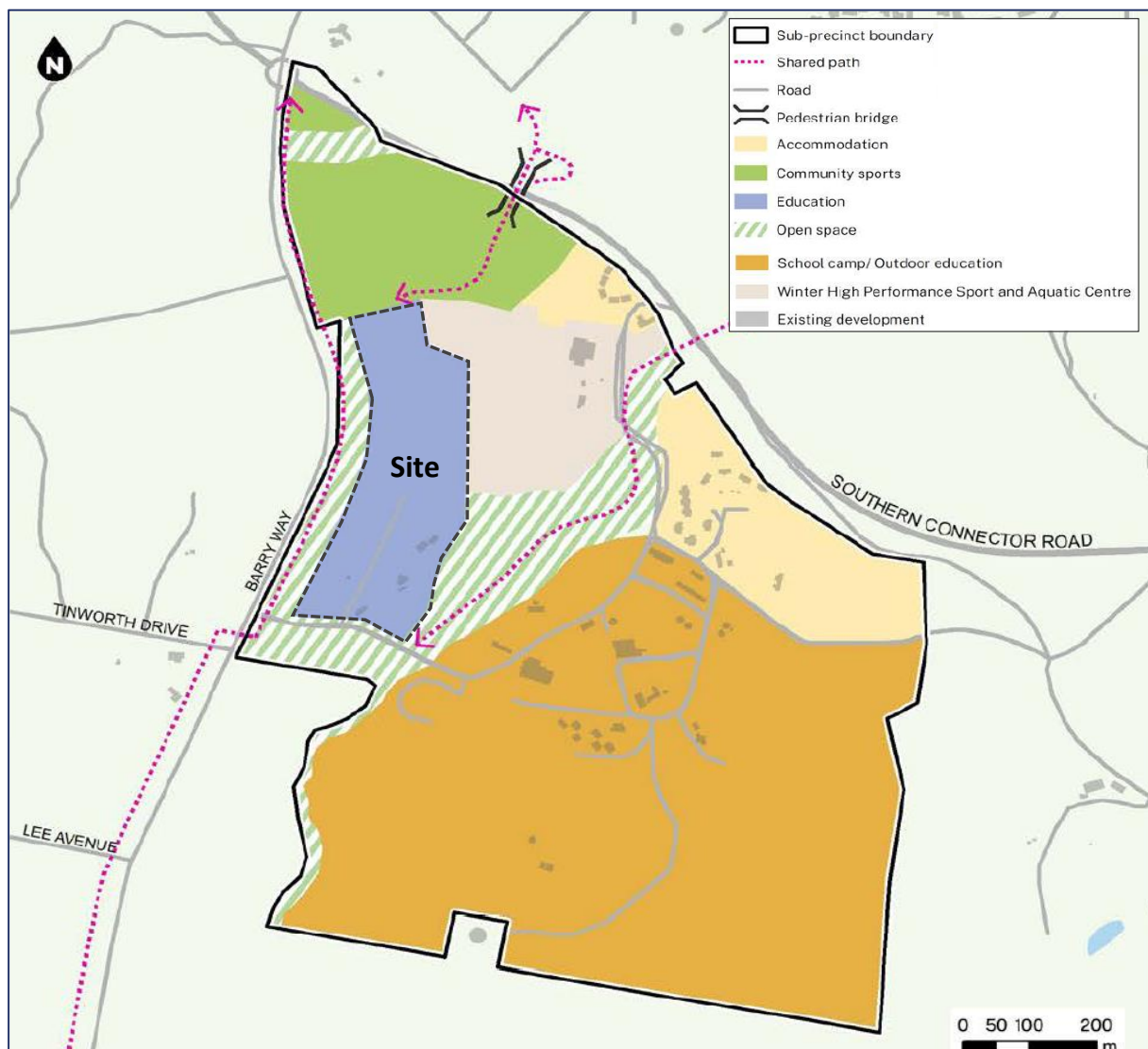
2.1 Site Location

The Site is located at 207 Barry Way, Jindabyne, and lies within what the SM Master Plan terms the Sports and Education Sub-Precinct (**S&E Precinct**) within the broader Jindabyne Catalyst Precinct (the **Jindabyne Precinct**).

The Site is bordered by land that will be used for community sport facilities to the north, a local access road to the south (termed **Recreation Road** for ease of reference), land that will be used for open space and additional sports facilities to the east, and Barry Way to the west.

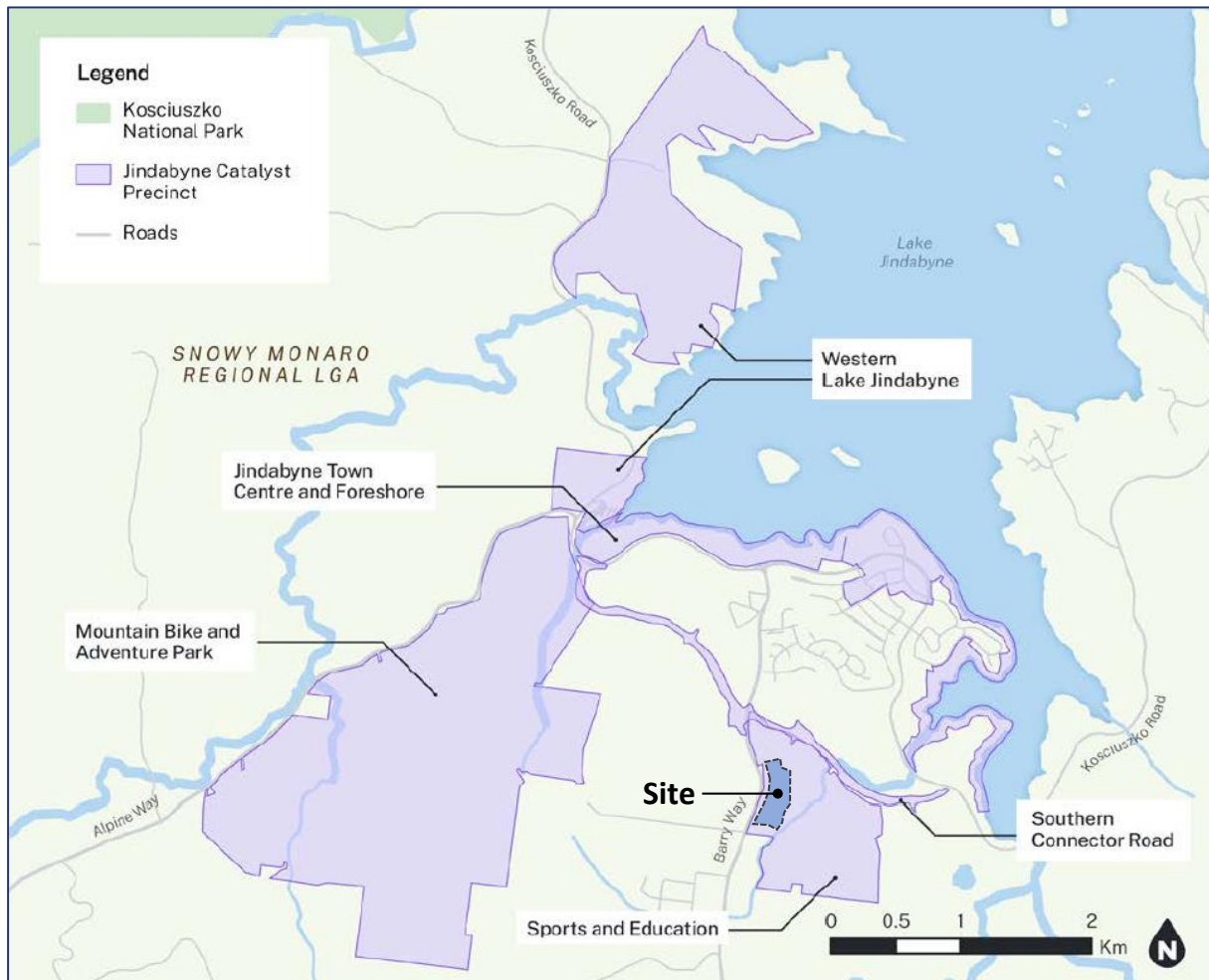
The Site is shown in its local context (within the S&E Precinct) in Figure 1, while Figure 2 shows the Site in its broader context (within the Jindabyne Precinct).

Figure 1: Site Location within Sports & Education Precinct



Source: SM Master Plan

Figure 2: Site Location within Jindabyne Precinct



Source: SM Master Plan

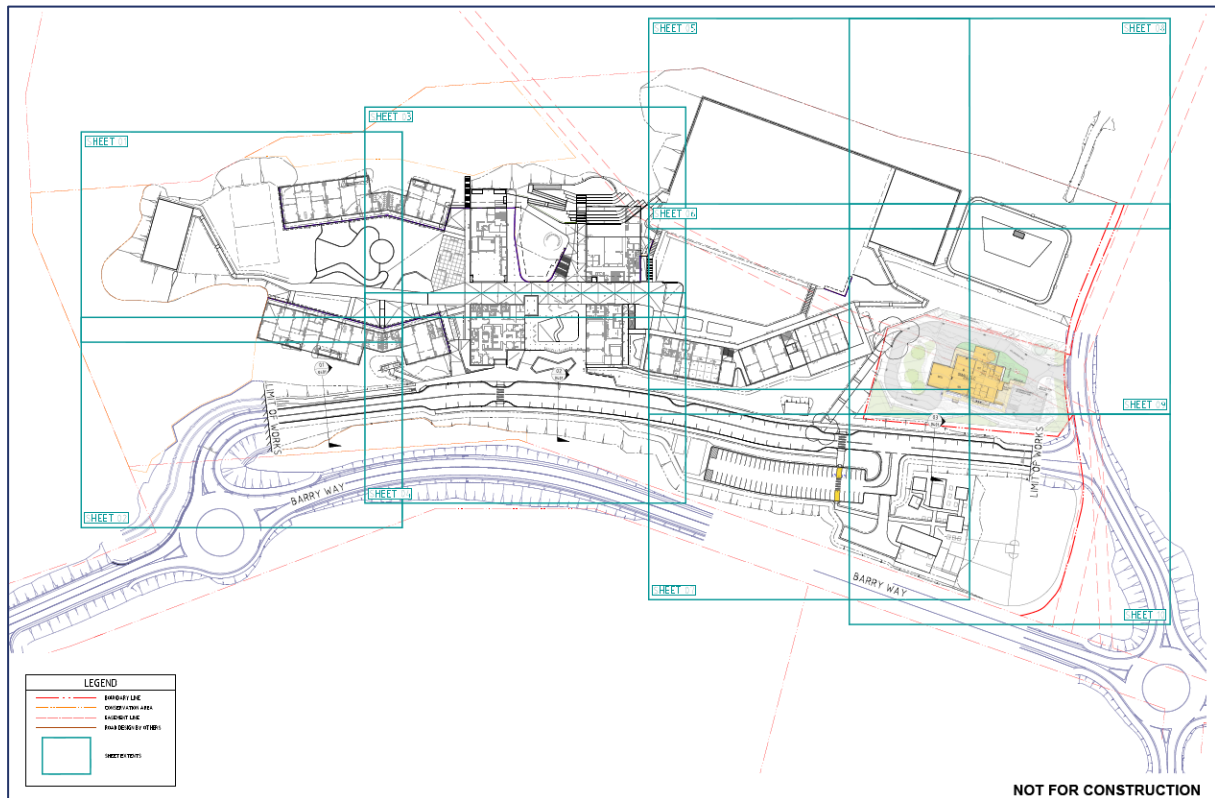
2.2 The SSD Approval

The SSD Approval provides for the development of the Site to include:

- A Primary School for 515 students;
- A High School for 410 students;
- Support infrastructure, including administration buildings, after hours facilities and recreational facilities; and
- A new internal access road (termed **School Road** for ease of reference) providing access to the staff car park, and for visitor parking, drop-off and pick-up (**DOPU**) facilities and bus bays;
- Active transport connections to the broader active transport network proposed across the Jindabyne Precinct; and
- The upgrade of Barry Way adjacent to the Site, including the construction of new roundabout intersections at School Road and Recreation Road.

The Campus Master Plan is shown in Figure 3.

Figure 3: The Campus Master Plan



Source: Pedavoli architects

With reference to Figure 3, arc traffic + transport notes that at this time, Hansen Yuncken is preparing a Modification submission to the SSD Approval that would provide for minor changes to the Campus as approved. Importantly, an approval of the Modification would not result in any substantial changes to the construction of the Campus as detailed in this CTPMSP.

2.3 Access

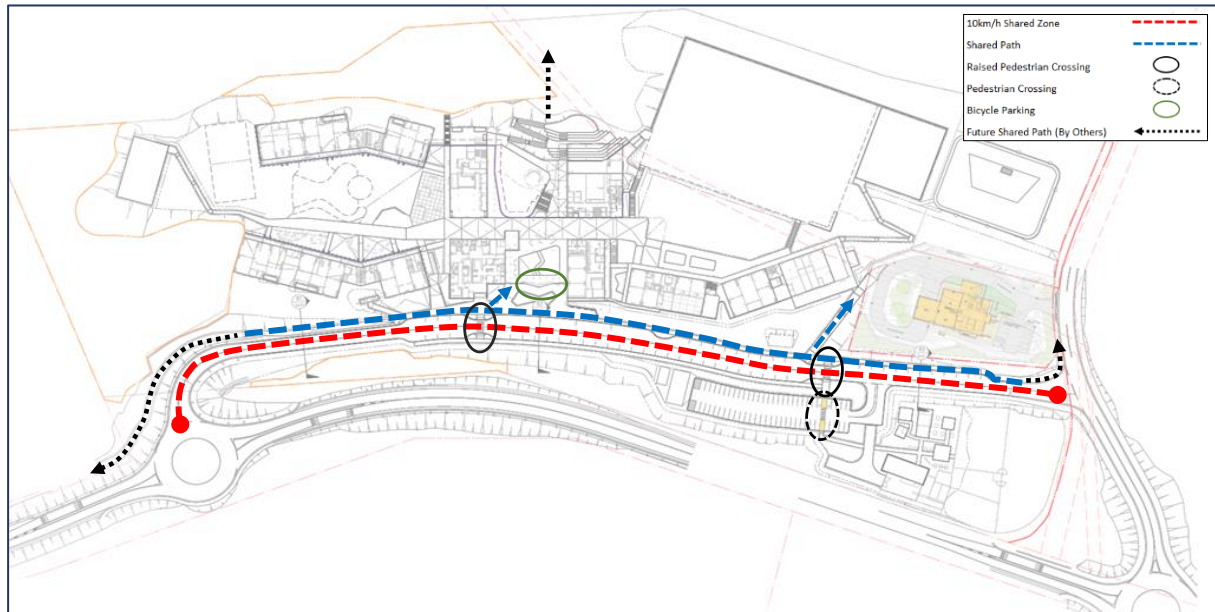
2.3.1 Vehicle Access

With reference to Figure 3, vehicle access to the Site will be provided via School Road, which will generally run parallel to, and east of, Barry Way. In the north, School Road will connect directly to a new roundabout intersection with Barry Way, while in the south School Road will connect to Recreation Road, and in turn the new roundabout intersection of Barry Way & Recreation Road.

2.3.2 Active Transport Access

The Campus will provide significant internal active transport infrastructure, which will in turn connect to the broader active transport network proposed across the S&E Precinct and Jindabyne Precinct. Active transport infrastructure across the Campus is shown in Figure 19 of the Campus TA, which is reproduced below, noting that the broader active transport connections across the S&E Precinct are shown in Figure 1 above.

Figure 4: Campus Active Transport Infrastructure



Source: Northrop and arc traffic + transport

2.4 Traffic

2.4.1 Campus Trip Generation

The trip generation of the Campus was determined in Campus TA further to consultation with key authorities and stakeholders; the adopted trip characteristics are summarised in Table 5.1 of Campus TA, which is reproduced below.

Table 2: Campus Peak Period Vehicle Trip Characteristics

Assumptions
10% of the Barry Way traffic stream are Heavy Vehicles
Opening year 2023
Students and staff numbers remain unchanged for the opening year and the future year 2033
70% of students get dropped off and picked up
80% of staff drive there and back in their own vehicle
50% of entering traffic comes from north
50% of exiting traffic leaves to north
50% of entering traffic comes from south
50% of exiting traffic leaves to south

Source: Campus TA

Based on these characteristics, Campus TA estimates that the Campus will generate approximately 1,368 vehicle trips in the AM and PM peak hours.

2.4.2 TAFE Connected Learning Centre and Sports & Recreation Centre

Campus TA states that the trip generation of the future TAFE Connected Learning Centre (TAFE CLC) located south of Recreation Road (currently under construction) and additional sports facilities to the east of the Site would be relatively minor, and moreover be largely generated outside of the School peak periods.

2.4.3 Intersection Operations

Campus TA provides SIDRA intersection analysis of the 2 roundabout intersections to Barry Way for both a 2023 and 2033 scenario, with the traffic volumes in Barry Way referencing the surveyed and forecast traffic volumes reported in the SM Traffic Study. Campus TA considers that the trip generation of the Campus itself would be the same under both scenarios.

The operation of these intersection under these scenarios is summarised in Table 5.3 and Table 5.4 of Campus TA for the 2023 and 2033 scenarios respectively, and are reproduced below.

Table 3: 2023 Intersection Operations

Intersection	Approach	Degree of Saturation		Average Delay (s)		Level of Service		Queue (m)	
		AM	PM	AM	PM	AM	PM	AM	PM
Northern Roundabout	S	0.336	0.405	4.1	4.3	LOS A	LOS A	18.1	24.2
	E	0.285	0.377	0.9	2.7	LOS A	LOS A	13.7	18.8
	N	0.208	0.201	6.0	5.0	LOS A	LOS A	11.1	10.7
	Overall	0.336	0.405	4.0	4.2	LOS A	LOS A	18.1	24.2
Southern Roundabout	S	0.513	0.564	14.1	13.3	LOS B	LOS B	34.8	41.4
	E	0.377	0.515	2.4	5.6	LOS A	LOS A	21.2	34.3
	N	0.340	0.556	6.0	7.2	LOS A	LOS A	18.0	38.9
	Overall	0.513	0.564	8.7	9.3	LOS A	LOS A	34.8	41.4

Source: Campus TA

Table 4: 2033 Intersection Operations

Intersection	Approach	Degree of Saturation		Average Delay (s)		Level of Service		Queue (m)	
		AM	PM	AM	PM	AM	PM	AM	PM
Northern Roundabout	S	0.353	0.431	4.2	4.4	LOS A	LOS A	19.4	26.7
	E	0.290	0.390	1.0	3.0	LOS A	LOS A	14.0	19.5
	N	0.208	0.223	5.9	4.9	LOS A	LOS A	11.1	12.3
	Overall	0.353	0.431	4.0	4.3	LOS A	LOS A	19.4	26.7
Southern Roundabout	S	0.530	0.582	13.8	12.9	LOS B	LOS B	36.9	43.7
	E	0.383	0.515	2.6	5.6	LOS A	LOS A	21.5	34.2
	N	0.354	0.550	6.0	7.0	LOS A	LOS A	19.0	38.0
	Overall	0.530	0.582	8.7	9.1	LOS A	LOS A	36.9	43.7

Source: Campus TA

With reference to the tables above, it is clear that the key intersections to Barry Way will operate at a good Level of Service (**LOS**), with very moderate average delays and queuing on each approach, and retain significant spare capacity.

2.5 Additional Transport Infrastructure

2.5.1 Staff Parking

The Campus will provide a total of 50 staff parking spaces in a car park to be located to the west of School Road.

2.5.2 Visitor Parking

The Campus will provide 4 visitor parking spaces in School Road adjacent to the School Administration building.

2.5.3 Drop-Off & Pick-Up Spaces

The Campus will provide 53 DOPU spaces, which will be provided as parallel spaces on both sides of School Road.

2.5.4 Bus Bays

The Campus will provide 4 bus bays in School Road adjacent to the Primary School and High School.

3 Construction Characteristics

3.1 General Construction Characteristics

3.1.1 Construction Schedule and Staff

Based on our discussions with Hansen Yuncken and the broader Project Team, a summary of the general characteristics of the construction schedule is provided in Table 5.

Table 5: Construction Schedule Characteristics

Construction Stage	Scheduled Timing	Staff/day	Peak Trucks per Day
Site Establishment	20/10/22 – 2/11/22	Approx. 20 - 40	10
Demolition	11/11/22 - 2/12/22	Approx. 20 - 40	10
Earthworks	16/12/22 - 5/4/22	Approx. 20 - 40	15
Construction	20/2/23 - 16/4/24	Approx. 60 - 180	15
Site Finalisation	1/10/24 - 28/10/24	Approx. 20 - 40	4

3.1.2 Construction Hours

In accordance with Condition C4 of the SSD Consent, construction hours – including the delivery of materials to/from the Site - will be as follows:

- 7:00am to 6:00pm Monday to Friday; and
- 8:00am to 1:00pm on Saturdays;

No construction work is permitted on Sundays or public holidays.

Notwithstanding Condition C4, Condition C5 of the SSD Consent states the following:

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

- (a) between 6pm and 7pm, Mondays to Fridays inclusive; and*
- (b) between 1pm and 4pm, Saturdays.*

As is also relatively standard for major construction projects, Condition C6 and Condition C7 of the SSD Consent also provides for construction activities outside of the house detailed in Conditions C4 and C5 of the SSD Consent, stating:

C6. Construction activities may be undertaken outside of the hours in condition C4 (and C5) if required:

- (a) by the Police or a public authority for the delivery of vehicles, plant or materials; or*

(b) in an emergency to avoid the loss of life, damage to property or to prevent environmental harm; or

(c) where the works are inaudible at the nearest sensitive receivers; or

(d) for the delivery, set-up and removal of construction cranes, where notice of the crane-related works is provided to the Planning Secretary and affected residents at least seven days prior to the works; or

(e) where a variation is approved in advance in writing by the Planning Secretary or her nominee if appropriate justification is provided for the works.

C7. Notification of such construction activities as referenced in condition C6 must be given to affected residents before undertaking the activities or as soon as is practical afterwards.

Finally, Condition C8 of the SSD Consent restricted hours for construction activities that would generally result in more significant noise impacts, such as rock breaking, rock hammering, sheet piling, pile driving and other similar activities. These works can only be undertaken during the following periods:

- 8:00am to 12:00pm Monday to Friday;
- 1:00pm to 5:00pm Monday to Friday; and
- 9:00am to 12:00pm on Saturdays;

3.1.3 Out of Hours Work Permits

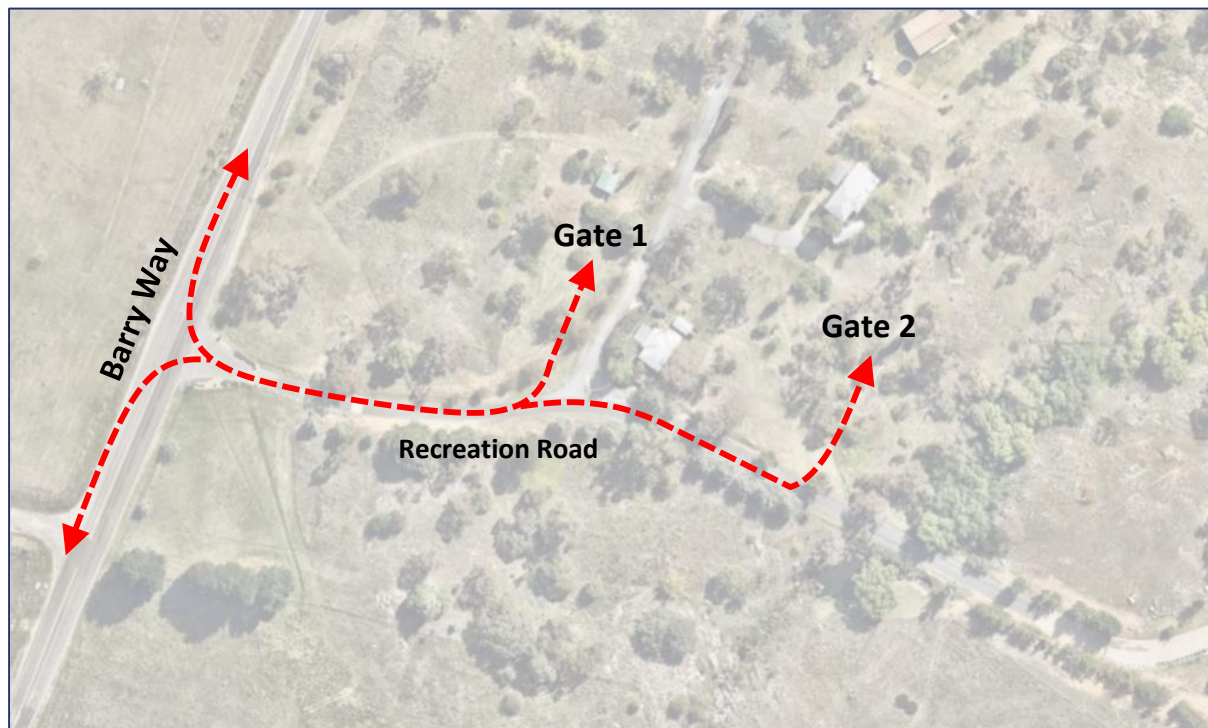
While not anticipated at this time, where it is necessary for any significant construction works to occur outside of the conditioned work hours, an application for an Outside of Hours Work Permit (**OHW Permit**) will be submitted to Council, and adjacent residents will also be notified of the proposed works. Any out of hours works would only commence further to an approval of the OHW Permit.

3.2 Site Access

Through most of the construction period, access to the Site will be via Recreation Road and a new access driveway (Gate 1) immediately west of the existing residential driveway running north from Recreation Road into the Site. An additional access driveway (Gate 2) will also be provided to the east of the residential driveway later during the construction period.

These access driveways are shown in [Figure 5](#), noting that all vehicles will be required to enter and depart the Site in a forward direction, which can easily be achieved given the significant on-site areas available for turning even the largest vehicles accessing the Site.

Figure 5: Site Access: Recreation Road



Source: Nearmap

It is noted that this route (to/from Barry Way and along Recreation Road) is currently being used by construction vehicles accessing the TAFE site to the east of the Site, and moreover by construction vehicles of the same type as those proposed for the construction of the Campus (see also Section 3.3.2); this means that the intersection of Barry Way & Recreational Road has inherently been approved to accommodate the swept path of trucks travelling to and from the TAFE site, which will essentially be identical to the movement of trucks to the Site.

During (and after) the construction of the northern roundabout in Barry Way (at School Road), a third access driveway (Gate 3) to the Site would also be available.

3.3 Construction Trucks

3.3.1 Truck Movement Hours

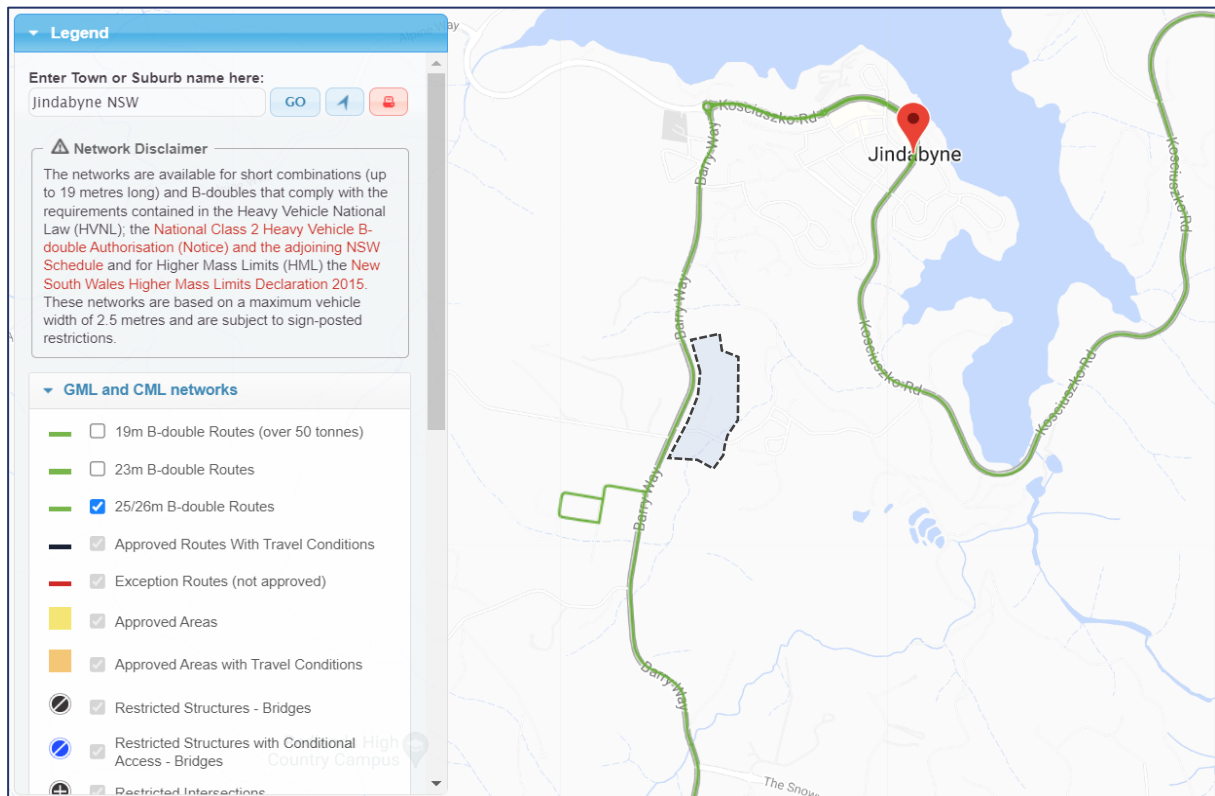
As discussed in Section 3.1.2, truck movements will be restricted to the same periods as general construction works. Any out of hours truck movements would also be subject to the same OHW Permit application and notification process as described in Section 3.1.3.

3.3.2 Truck Types

The type of trucks required during the construction period will include Medium Rigid Vehicles (**MRVs**), Heavy Rigid Vehicles (**HRVs**) and Articulated Vehicles (**AVs**).

At this time, there is no anticipation that AVs accessing the Site would be anything other than General Access Vehicles (**GAVs**), which are able to use the entire public road network. Notwithstanding, if Restricted Access Vehicles (**RAVs**) are required at any time, they would be able to use the TfNSW approved RAV routes which include Barry Way and Kosciusko Road east through to Cooma (and then the broader State Road network). These approved RAV routes are shown below.

Figure 6: Approved Restricted Access Vehicle Routes



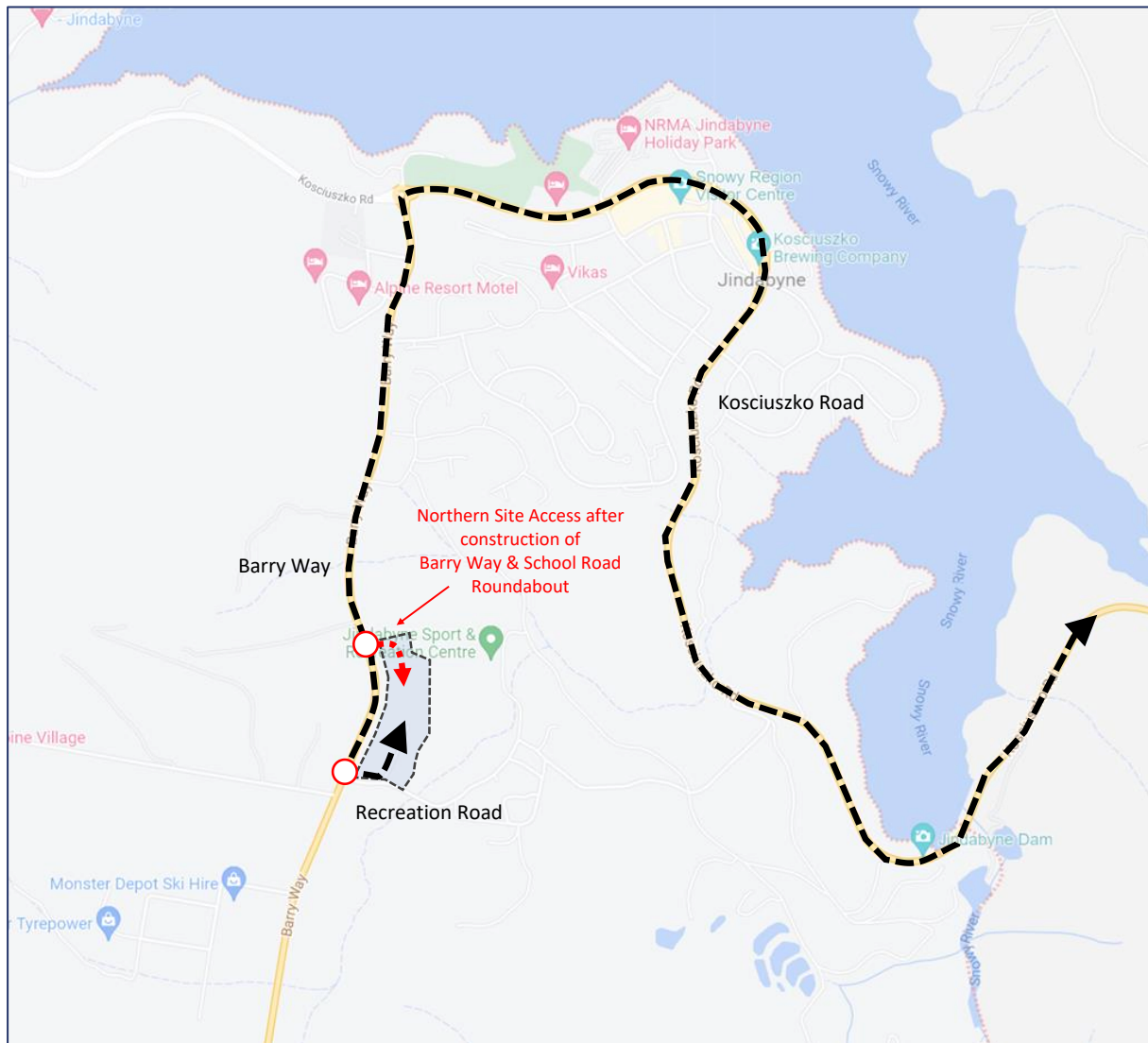
Source: TfNSW

Should there be a requirement for vehicles larger than a 26m B-Double during the construction period, an application would be prepared for an Oversize Overmass Permit (**OSOM Permit**); OSOM Permits may be issued with conditional restrictions that limit the time and days that these vehicles are allowed to access the Site, and that all movements are undertaken efficiently and safely.

3.3.3 Designated Truck Routes

A Vehicle Movement Plan (**VMP**) in accordance with Section 5.2.2 of the TCW Manual that identifies a designated truck route that uses higher order roads rather than local residential streets; all trucks (other than those generated from local suppliers/contractors) will be required to use this route (which aligns with the RAV route shown in Figure 6) as shown in Figure 7, noting again the change in access provisions further to the construction of the northern Barry Way roundabout at School Road.

Figure 7: Vehicle Movement Plan - Designated Truck Routes



Source: Google

3.4 Construction Vehicle Trips

3.4.1 Staff Trip Generation

With reference to Table 5, it is estimated that a maximum of 180 staff would be on-site at any one time (during the peak construction period); this would include general construction staff, Project Managers and tradespeople.

As with other major building projects across NSW, it is anticipated that a high percentage of construction staff will be accommodated in the local area rather than travel significant distances to/from the Site each day. In this regard, there is already a significant amount of accommodation in Jindabyne (and the sub-region) catering for workers during the winter ski season, but it is anticipated that any construction staff demand – estimated to be at least 60% – 70% of staff – can be appropriately met.

Further, where construction staff are accommodated in close proximity to the Site, it is anticipated that group transport (shuttle buses and the like) will be used to transport staff to and from the Site each day, which significantly reduces staff trip generation. Even for those staff in more remote locations travelling by smaller vehicles, a high vehicle occupancy is anticipated.

Based on the use of group transport and high occupancies of other vehicles, it is estimated that staff would generate up to 40 vehicle trips per hour in both the arrival peak hour (prior to the 7:00am construction start time) and departure peak (immediately after the 6:00pm construction finish time) during the peak construction period. Outside of this peak period, staff trips would be less than 20 vehicle trips per hour.

3.4.2 Truck Trip Generation

With reference to Table 5, it is estimated that up to 15 trucks per day would be required during some stages of the construction; this equates to a total of up to 30 truck trips per day.

Based on a spread of these movements over the day, it is estimated that up to 4 truck trips could be generated in a single hour, though during the commuter peak periods (not generally coinciding with the construction arrival and departure peak periods) the number of truck trips would likely be lower than this average as a factor of cost efficiency (i.e. faster trips outside the commuter peak periods) and the general start-up/shut-down periods at the start and end of the construction day where trucks are unlikely to be utilised.

3.4.3 Trip Distribution

As discussed in sections above, it is anticipated that the majority of both staff and truck trips would be generated to/from the north of the Site based on accommodation centres (staff) and construction materials arriving from major centres to the east of Jindabyne.

3.5 Construction Traffic Impacts

3.5.1 Traffic Impacts Prior to Barry Road Upgrades

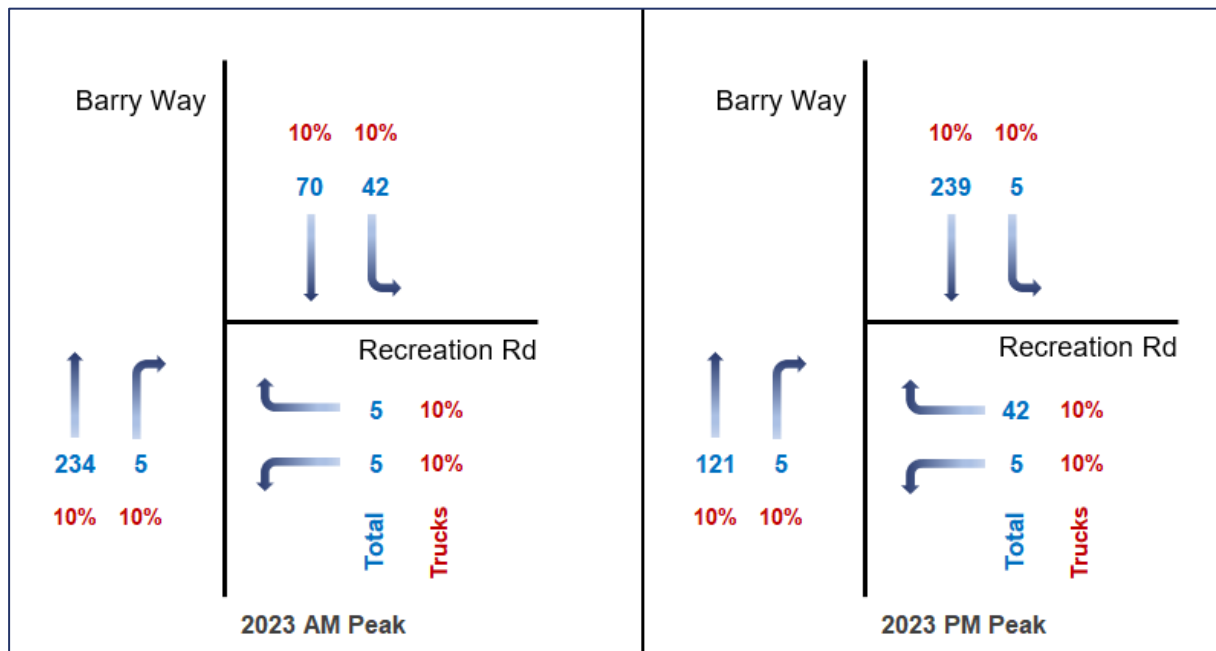
Prior to the construction of the Barry Way roundabouts, the intersection of Barry Way & Recreation Road would continue to operate under priority control (nominally Stop). As such, arc traffic + transport has undertaken an assessment of this intersections during the peak construction period, i.e. with the maximum construction trip generation, to ensure that it will continue to operate at an appropriate LOS. In this regard, the assessment considers the following:

- 2023 Barry Way peak season (July) traffic volumes, which are based on the traffic volumes as reported in Table 5.2 of Campus TA;
- Application of 50% of these Barry Way traffic volumes to represent a peak 30 minute arrival (AM peak) and 30 minute departure (PM peak) period prior to and following each construction day;

- The construction vehicle trips as detailed in Section 3.4, with 100% of trips assigned to/from the north (which provides a worst case assignment of right turn movements from the minor road to Barry Way); and
- A minor number of trips being generated by other sites off Recreation Road, and in turn to other movements at the intersection.

The resulting traffic volumes are shown in Figure 8.

Figure 8: Barry Way & Site Traffic Volumes



Based on these peak volumes, the operation of the intersection has been assessed using the TfNSW approved SIDRA intersection model. SIDRA provides a number of outputs by which to measure the performance of an intersection, including:

- **Level of Service:** Level of Service is a basic performance parameter assigned to an intersection based on average delay; we note that we have assessed the intersections using the RTA parameters which use only delay in the calculation of LOS. At priority controlled intersections LOS is based on the worst minor approach movement delay.
- **Average Vehicle Delay:** Average Vehicle Delay represents the difference between interrupted and uninterrupted travel times through an intersection, and is measured in seconds per vehicle in this assessment. Delays include queued vehicles accelerating and decelerating from/to the intersection stop, as well as general delays to all vehicles travelling through the intersection.
- **Degree of Saturation:** Degree of Saturation is defined as the ratio of demand (arrival) flow to capacity. Degrees of Saturation above 1.0 represent over-saturated conditions (demand flows exceed capacity) and degrees of saturation below 1.0 represent under-saturated conditions (demand flows are below capacity).

- **95%ile Queue Length:** The 95%ile queue length represents the maximum queue that would be generated on any approach 95% of the time.

Table 6 provides a summary of the SIDRA recommended criteria for the assessment of priority intersections.

Table 6: SIDRA Level of Service Criteria

Level of Service	Average Delay	Stop & Give Way
A	less than 14	Good operation
B	15 to 28	Acceptable delays and spare capacity
C	29 to 42	Satisfactory, but accident study required
D	43 to 56	Near capacity and accident study required
E	57 to 70	At capacity, requires other control mode
F	More than 70	Unsatisfactory and requires other control mode or major treatment.

Source: SIDRA Systems

The results of the SIDRA analysis of existing intersection operations are summarised in Table 7; detailed SIDRA Movement reports are provided in Appendix C.

Table 7: Barry Way & Recreation Road Priority Control Intersection Operations

Peak Period	Level of Service	Average Delay (s)	Worst Delay (s)	Degree of Saturation	95%ile Queue (m)
AM Peak	B	1.4	16.8	0.277	1.2
PM Peak	B	2.6	21.8	0.340	12.5

With reference to Table 7, even if all peak construction traffic were assigned to the intersection of Barry Way & Recreation Road operating under priority control, the intersection would operate at a good LOS B, with minimal average and worst delays, very moderate queues.

3.5.2 Traffic Impacts After Barry Road Upgrades

Following the upgrade of Barry Road to provide the new roundabouts, the vehicle trips generated during the later stages of construction period would have no significant impact on the operation of the local or sub-regional traffic network. In this regard:

- As discussed in Section 3.4, the trip generation of the Site during peak construction periods is estimated at no more than 40 light vehicles and 4 heavy vehicles; even when considering a shorter arrival and departure peak (approximately 30 minutes before and after the construction day) this trip generation equates to an average of 1 – 2 vehicle trips per minute;
- As the broader Jindabyne Precinct is only in the early stages of development, existing traffic volumes on all key roads providing access between the Site and the sub-regional road network are minimal, and unlikely to increase to any significant degree prior to the completion of the construction works; and
- The construction traffic represents only a minor percentage of the peak periods trips that would be generated by the Campus once operational, and – with reference to Section 2.4.3 – the roundabout intersections to Barry Way would therefore provide significant capacity such that they would operate at a LOS A throughout the later stages of the construction period.

3.5.3 Construction Traffic Summary

With reference to sections above, it is the conclusion of arc traffic + transport that the traffic generated through the entire construction period would have no impact on the operation of the local road network.

3.6 Parking

3.6.1 Peak Staff Parking Demand

As discussed in Section 3.4.1, it is anticipated that the majority of staff will arrive in groups, either using group transport or in smaller vehicles with a high occupancy. Based on these factors, it is anticipated that the Site would generate a peak parking demand for up to 40 parking spaces.

3.6.2 On-Site Staff Parking Provision

The Site provides significant areas to accommodate staff parking through all stages of construction. The areas dedicated to staff parking are anticipated to change during the construction period (as new infrastructure is provided) but there is no potential for any staff parking to be required off-site.

3.6.3 Truck Parking

There is not anticipated to be any significant demand for truck parking on-site; however, and as with staff parking, there are significant areas on-site to provide for any truck parking demand, such that again there is no potential for truck parking to be required off-site.

4 Construction Traffic & Pedestrian Management Plan

4.1 On-Site Management

4.1.1 Staff Parking

As discussed in Section 3.6, all staff parking will be contained on-site.

4.1.2 Deliveries & Materials Handling

All deliveries and materials handling will also occur on-site at all times, and as discussed in Section 3.6.3, all truck parking demand will be contained on-site.

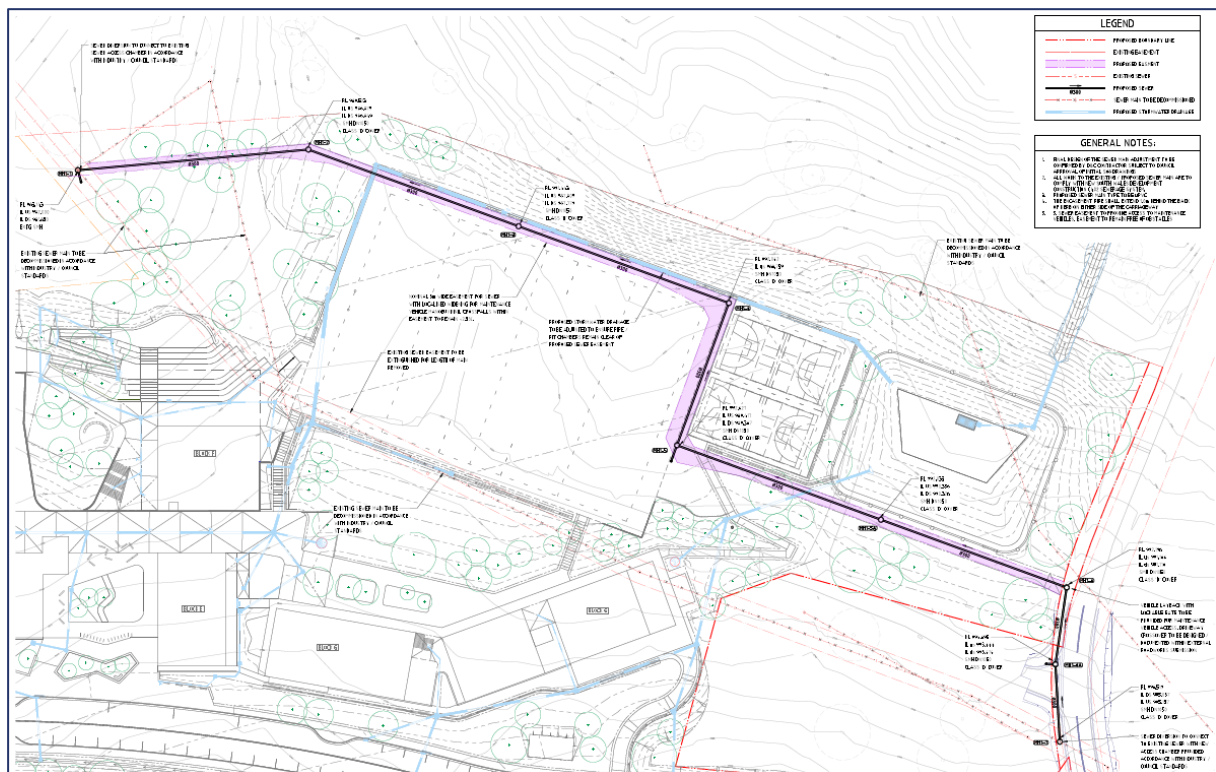
4.1.3 Emergency Vehicle Access

Emergency vehicle access to and from the Site will be available at all times while the Site is occupied by construction workers; emergency protocols during the works will be developed by the Project Manager for inclusion in the CTPMSP.

4.1.4 Easements

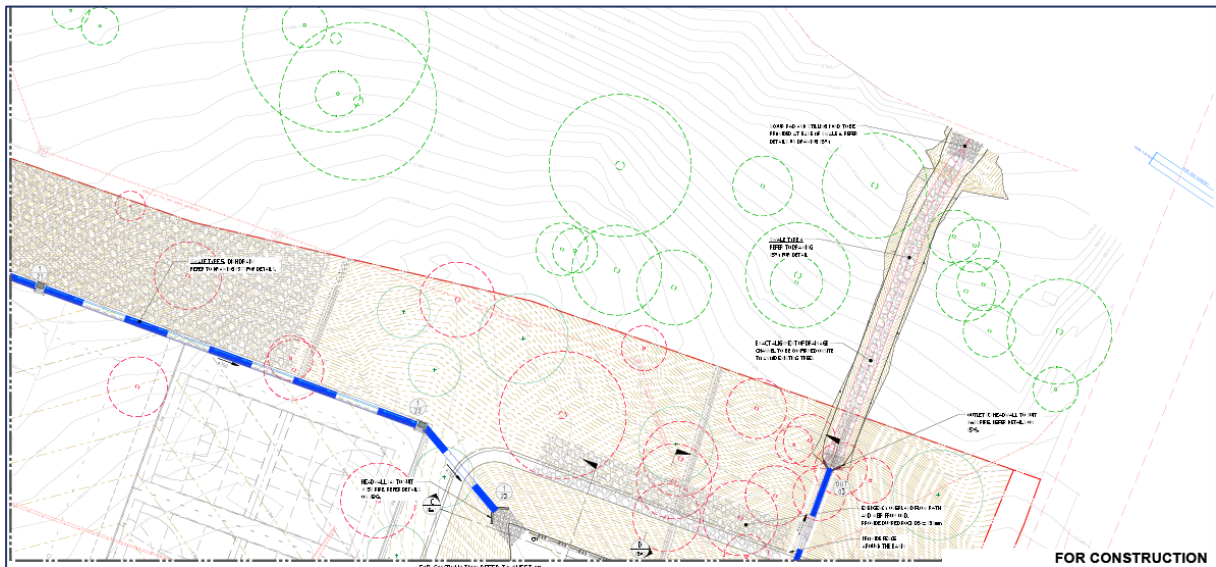
A number of easements have been identified within and adjacent to the Site, and are shown in the figures below. Appropriate access to these easements will be provided throughout the construction period.

Figure 9: Sewer Diversion Easement



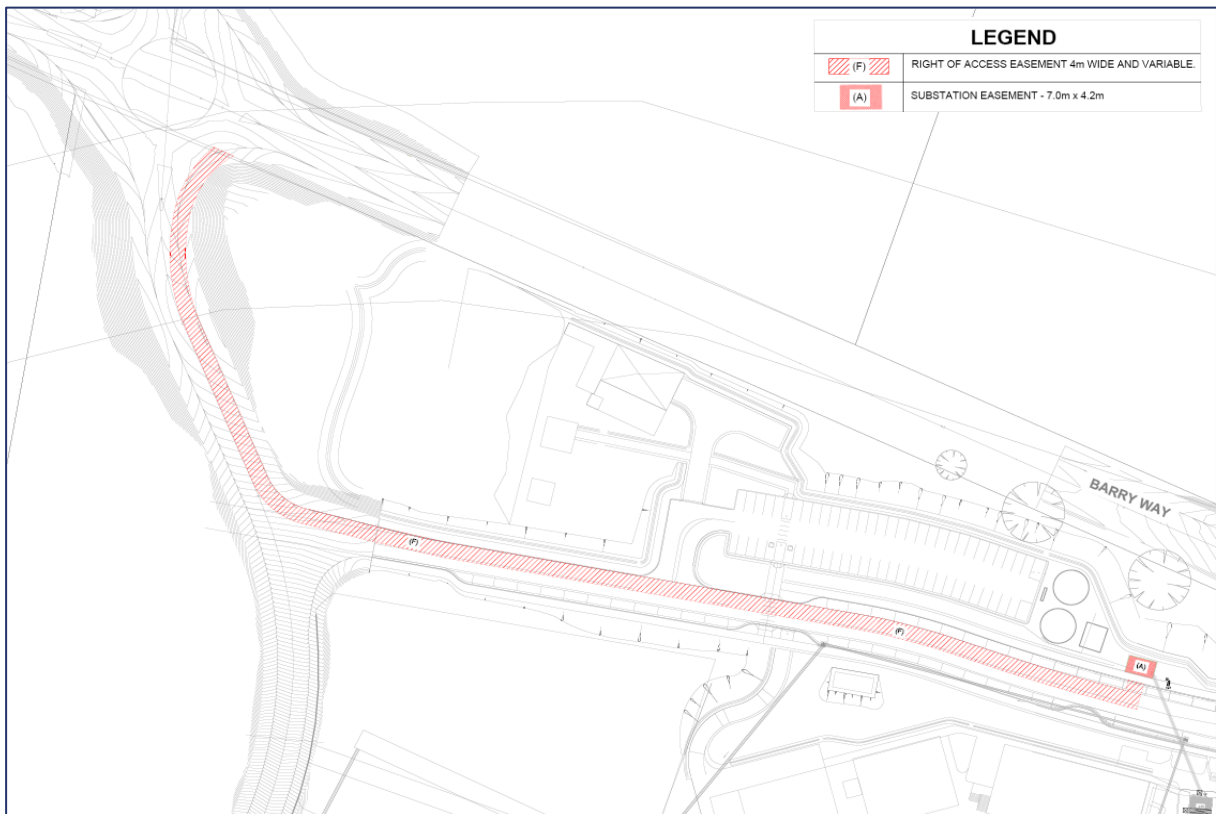
Source: dep Consulting

Figure 10: Stormwater Easement



Source: dep Consulting

Figure 11: High Voltage Easement



Source: dep Consulting

4.2 Traffic and Pedestrian Management

4.2.1 Work Areas

At this time, it is anticipated that Work Areas (within the road reserve) will only be required in Barry Way during the construction of the roundabouts at School Road and Recreation Road. An application for a Road Occupancy Licence (**ROL**), including all relevant information relating to the construction staging, will be prepared by the Project Team for submission to TfNSW and/or Council prior to the commencement of any works in Barry Way (see also Section 4.3 below).

4.2.2 Pedestrian and Cyclist Management

Appropriate fencing will be provided along all Site frontages so as to prevent unwanted pedestrian access to the Site at all times.

It is anticipated that the fencing will either be ATF or 2.4m chain wires, and that Site access gates will be provided at all access points to the Site and remain closed at all times outside of the permitted construction hours.

It is also noted that there would essentially be no demand for the pedestrian and cyclist infrastructure provided for in the SSD Approval – including both on and off-site active transport paths – prior to the Campus commencing operations. This specifically includes the Barry Way shared path that will run adjacent to the Site, as this shared path is not anticipated to be connected to shared paths north or south of the Site (to be constructed by others) until after the Campus becomes operational.

4.3 Traffic Guidance Schemes

4.3.1 General Traffic Control Plan Requirements

Further to Section 4.2.1, any submission for a ROL will necessarily be accompanied by a detailed Traffic Guidance Scheme (**TGS**) - previously referred to as a Traffic Control Plan - which will be prepared by persons accredited to *Prepare a Work Zone Traffic Management Plan* in accordance with the TCW Manual and AS1742.3.

Any TGS involving signage, traffic control or other potential changes to the operation of Barry Way (or Recreation Road) will require consultation with and approval from TfNSW and/or Council prior to the construction works to which they relate.

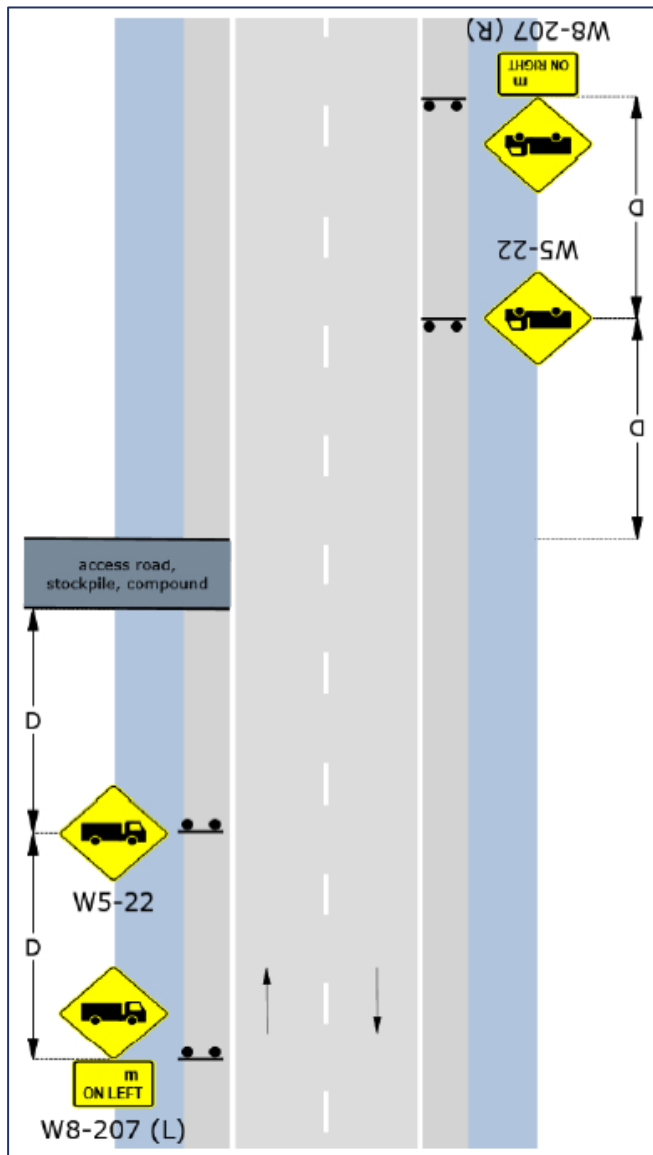
4.3.2 Recreation Road Traffic Guidance Scheme

While there is no requirement for a detailed TGS to manage the movement of vehicles to and from the Site via the Recreation Road access driveways, a TGS has been developed to increase the safety of these movements, and through movements in Recreation Road.

In this regard, a TGS has been prepared referencing Section D.4.7 of the TCW Manual relating to *Static Work: Access to depot, stockpile, quarry, gravel pit etc. all roads*, formerly referenced as Traffic Control Plan 195. This will provide for the installation of signage on both approaches to the Site access driveway(s) in Recreation Road to heighten the awareness of drivers in Recreation Road that trucks may be turning to and from the Site access driveways.

The basic components of the TGS are in accordance with Figure 12 below, and the detailed TGS for the Recreation Road access driveway is provided as Appendix D.

Figure 12: Traffic Guidance Scheme: Static Work



Source: TCW Manual

4.3.3 Barry Way Upgrade Traffic Guidance Scheme

A detailed TGS will be required to support the safe and efficient construction of the Barry Way roundabouts at School Road and at Recreation Road.

At this time, the timing and staging of the construction of these roundabouts has not been finalised, and as such it is not possible to provide a detailed TGS advice at this time; notwithstanding, it is anticipated that the TGS will at the minimum provide for:

- Vehicle access along Barry Way to be retained at all times through the upgrades, with no expectation of any local diversions being required (i.e. there would not be a full closure of Barry Way at any time). This will most likely be achieved by retaining at least one traffic lane outside of the Work Area throughout the construction of the roundabouts;

- A reduction in the speed limit in Barry Way through the Work Area, anticipated to be 40km/h on the approaches to and through the Work Area;
- Stop-Go operations (under the supervision of appropriately authorised Traffic Controllers – see also Section 4.3.4) during any construction stages where 2 traffic lanes (for two-way flows) are not available; based on the low through volumes in Barry Way, this is unlikely to have any significant impact on through traffic movements. It is noted that any TGS detailing Stop-Go operations would also be supported by traffic analysis of delays and queue lengths in Barry Way during these operations; and
- The provision of appropriate warning and guidance signage (per the TWC Manual, anticipated to include T1-5, T1-18 and T1-34 signage as a minimum) on all approaches to and around Works Areas.

Any other works requiring the occupancy of Barry Way would also necessarily be accompanied by a detailed TGS and - where required – all TGS would be reviewed and updated to respond to any changes to prevailing traffic conditions throughout the course of the construction works.

4.3.4 Authorised Traffic Controllers

Should they be identified as being required as part of any future TGS – most likely for the construction of the Barry Way roundabouts - authorised Traffic Controllers will be present on-site throughout the proposed works. Responsibilities of the Traffic Controllers are anticipated to include:

- The supervision of all construction vehicle movements into and out of Works Areas;
- The supervision of all loading and unloading of construction materials Work Areas, and
- Pedestrian and cyclist management, to ensure that adverse conflicts between vehicle movements and pedestrians do not occur, while maintaining radio communication with construction vehicles at all times, notwithstanding the very minimal potential for any pedestrian or cyclists movements in the vicinity of the Site.

4.4 Principal Contractor Responsibilities

4.4.1 Site Induction

All construction staff will be properly inducted prior to commencing work on-site. The induction will detail the Site's construction safety protocols, including:

- General Site safety;
- Site access, amenities and general procedures;
- Truck movements and on-site parking;
- Neighbour consultation and notification requirements; and
- Project Management's policies and procedures.

4.4.2 Truck Movements

The Principal Contractor is required to take all steps necessary to ensure all trucks, and truck movements, are as safe as possible, and will not result in truck drivers operating under conditions that are unsafe. This will be achieved by undertaking the following:

- Ensuring all trucks are well maintained and that the equipment enhances driver, operator and passenger safety to as great an extent as practicable;
- Ensuring all truck drivers have a valid Verification of Competency for the class of vehicle they are driving;
- Identifying truck driver training needs and arranging appropriate training or re-training. This is anticipated to include truck driver competency assessments as part of all inductions, and regular Toolbox Talks on safety conditions, managing fatigue, approved truck routes and truck driver responsibilities; and
- Encouraging safe driving behaviour by not covering or re-imbursing staff for speeding or other infringement notices; ensuring the legal use of mobile phones only while driving; and providing training on, and circulating information about, travel planning and efficient truck driving habits.

4.4.3 Communications Strategy

A Communications Strategy will be established by the Principal Contractor and included in the CTPMSP. The Communications Strategy will outline the most effective communication methods to ensure adequate information is provided to relevant authorities and the local community, and will assist the Project Team to deliver any construction traffic changes with minimal disruption to the on and off-site vehicle, pedestrian and cyclist environment.

The Communications Strategy will include (as a minimum):

- The erection of signs providing advanced notice of works and/or any traffic control measures to be implemented (on or off-site);
- Written notices to surrounding residents who would potentially be impacted by the construction works (prior to commencement of those works); and
- A contact person from the Principal Contractor to answer enquiries from key stakeholders and local residents.

The nominated Hansen Yuncken representative for any required Council or stakeholder contact is:

- Daniel Spirit Jones, Project Manager: Phone 0402 893 643.

Relevant Site contact details for the appointed contractor(s) will also be affixed to the fencing around the Site.

4.4.4 CTPMSP Monitoring and Review

The development of a program to monitor the effectiveness of the CTPMSP will be established by the Principal Contractor.

The CTPMSP will be subject to ongoing review to further enhance the safety and efficiency of the construction works; any and all reviews will be documented by the Principal Contractor, with considerations for review potentially including the following:

- Tracking deliveries and general construction vehicle movements against estimated volumes;
- Identifying any shortfalls in the existing CTPMSP, and developing an updated action plan to address issues that may arise during construction (for example, parking or access issues);
- Ensuring that any TGS (where required) are updated by accredited persons to ensure they remain consistent with construction requirements and the intent of the CTPMSP; and/or
- Undertaking regular checks to ensure all loads are leaving the Site appropriately covered and without tracking materials onto adjacent roads.

4.4.5 Drivers Code of Conduct

A Drivers Code of Conduct will be strictly enforced by the Principal Contractor throughout the construction period. The objectives of the Drivers Code of Conduct include:

- Minimising the impact of truck and company vehicle movements on the on-site work environment and local road network;
- Minimising conflict with other on and off-site road users;
- Minimising truck traffic noise by ensuring that vehicles have correctly been fitted with mufflers to minimise noise disturbance, and use only the approved construction vehicle routes during approved construction hours so as to minimise noise impacts in residential and urban areas; and
- Ensuring truck drivers use the designated truck routes.

The Driver Code of Conduct will also require that, while driving any truck or company vehicle for construction related purposes, drivers must:

- Demonstrate safe driving and road safety activities;
- Abide by traffic and road legislation;
- Abide by on and off-site speed limits at all times; and
- Follow Site signage and instructions at all times.

The detailed Driver Code of Conduct is provided in [Appendix E](#).

5 Conclusions

Further to an assessment of the access, traffic and parking characteristics of the proposed construction of the Campus and associated infrastructure, **arc traffic + transport** has concluded that the construction works can be undertaken in a safe and efficient manner without impacting the local road environment.

In summary:

- The trip generation of the Site during all stages of construction relatively very moderate, and further to consideration of the low traffic volumes in the local road network through the construction period, those trips would have no impact on the operation of local roads and intersections;
- Trucks will be restricted to a designated route so as minimise impacts on lower order roads;
- The maximum sized trucks required for construction would be the same as those currently using the intersection of Barry Way & Recreation Road, i.e. the intersection can accommodate the swept paths of the maximum size truck accessing the Site;
- Parking for staff (and trucks as required) can be contained wholly within the Site through the entire construction period;
- OHW Permits, OSOM Permits and TGS will be prepared as required through the construction period by qualified personnel; approval for each by TfNSW and/or Council would be required prior to any works associated with these permits/schemes commencing;
- Hansen Yuncken and other contractors will implement comprehensive construction management strategies and protocols through the construction period to maximise the on and off-site safety of staff and the general public;
- The CTPMSP will be reviewed throughout the construction period, and appropriately updated as required.

In summary, **arc traffic + transport** has determined that the construction of the Jindabyne Education Campus in line with this CTPMSP can be undertaken without any significant network or safety impacts.

Appendix A: Anton Reisch and Ben Midgley Curriculum Vitae

ANTON REISCH CURRICULUM VITAE

Anton excels in the detailed assessment of traffic and parking generating developments, and urban and strategic planning projects. His range of work has extended from small dwelling renovations through to residential subdivisions, shopping centres, schools, churches, commercial, industrial, mining and major infrastructure projects. Anton's reports provide the clear and precise detail required to meet and exceed the expectations of clients, while his communication with local and State government authorities and key stakeholders is second to none; a collaborative approach will always provide the best results.

Anton retains a fierce independence in his approach to any assessment task. This has been instrumental in the establishment of a large and loyal client base, from small architectural firms through to national and multi-national corporations and local and State government agencies.

Personal

Date of Birth: 31st December 1970
 Nationality: Australian
 Address: 19 Canoon Road, Turramurra NSW 2074 Australia
 Mobile: +61 2 427 995 160
 Email: antonreisch@optusnet.com.au



Education

BA (USyd): 1990 - 1992
 Master Urban & Regional Planning (USyd): 1993 - 1995

Employment

Stapleton & Hallam	1993 - 1994
Christopher Stapleton Consulting	1994 - 2004
Stapleton Transportation & Planning	2004 - 2011
arc traffic + transport	2011 - 2018
Ason Group	2018 - 2020
arc traffic & transport	2020 - Present

Referees |

Local Government Projects

Mr Tim Ruge
 Urban Engineer, Coffs Harbour City Council
 P: +61 2 6648 4650

Residential and Commercial Projects

Mr Peter Lawrence
 Director, GLN Planning
 Phone: +61 402 181 571

Regional Projects

Mr Stephen Richardson
 Director, Cowman Stoddart
 Phone: +61 2 4423 6198

Precinct Planning

Mr Murray Donaldson
 Director, Urbis
 Phone: +61 2 8233 9900

CURRICULUM VITAE



YEARS OF EXPERIENCE

10 years

QUALIFICATIONS & AFFILIATIONS

Master of Engineering (MEng)

Chartered Engineer (CEng)

Registered Engineer (NER)

Member Engineers Australia

Member AITPM

Member UDIA

KEY SKILLS & COMPETENCIES

Traffic Modelling (SIDRA, VISSIM, LinSig)

Construction Traffic Assessment

Development Planning

Traffic & Parking Impact Assessments

Car Park Design

Traffic Management Plans

Traffic Engineering

Public Transport Assessment

Economic & Financial Evaluation

Land Use Development Assessment

Project Management

Peer Review

PROFESSIONAL BACKGROUND

2020-Present - PDC Consultants

2016-2020 - AECOM ANZ

2012-2016 - AECOM UK&I

BEN MIDGLEY

PRINCIPAL TRAFFIC ENGINEER



PROFESSIONAL OVERVIEW

Ben is an innovative traffic engineer and development planner with substantial and varied international experience in traffic engineering and project management for Government, Council and Private clients. This experience has led to his recognition as a Chartered Professional Engineer (CPEng) with Engineers Australia.

Having spent his early career working in London on major transport schemes such as the flagship Cycle Superhighway, he immigrated to Australia where he has worked on large infrastructure projects for local government and the private sector, most notably the WestConnex motorway upgrade scheme and Easing Sydney's Congestion program.

Ben has taken a keen interest in transportation modelling which forms the bedrock of his experience, resulting in him leading the microsimulation modelling offering in his United Kingdom office before joining his expertise with colleagues and continuing his exposure to such work in Sydney. This is supplemented with extensive traffic engineering and design experience from feasibility through to detailed design and construction.

This life-cycle appreciation and experience with projects, pre-application and post-approval, give Ben a firm thorough understanding of the traffic and parking impacts of public infrastructure schemes, private developments, and during construction. Ben has developed several post-approval reports and approvals assessing and mitigating the impacts of construction activities across NSW.

RELEVANT PROJECT EXPERIENCE

HALL STREET, BONDI BEACH

Traffic engineering lead preparing design certification for construction certificate (CC) of all traffic and parking related areas of this mixed-use retail and residential development in Bondi Beach. The development provides car parking over two basement parking levels with several complex design features, including traffic signals managing two-way conflict of the vehicle ramp between ground level and basement level 1, a mechanical car lift between basement levels 1 and 2, and mechanical vehicle stackers for a more efficient car parking layout.

The design was reviewed several times during preparation of the CC plans, including extensive liaison with the architect, project team, and car stacker manufacturer to ensure the proposed arrangements met the relevant design standards and operate safely and efficiently. Further design advice was given on design changes to vehicle ramps, internal line marking and signage, and mitigation for any identified non-compliances.

FRENCHMANS ROAD, RANDWICK

Traffic engineering lead preparing design certification for CC of the parking area of this residential development. The development is granted vehicular access via a narrow right of way to the rear of the site which limits manoeuvrability. Extensive and detailed design advice was thus required to ensure the driveway was designed satisfactorily to comply with the relevant standards and operate efficiently. The design was further complicated by the irregular alignment of the property boundary and grading issues longitudinally and horizontally across parking areas, thus requiring much back and forth with the architect to ensure Council's engineering design standards were met for the driveway.

NEW SOUTH HEAD ROAD, EDGECLIFF


Project managed the development of a Construction Traffic Management Plan (CTMP) for the construction of a seven-storey mixed-use development with basement parking. The site fronts a State Road managed by Transport for NSW (TfNSW) and is a corner site fronting a set of traffic signals with Mona Road. As such, Council deferred comment on the suitability of traffic management arrangements to TfNSW.






The CTMP proposal was for a Works Zone to be implemented on the State Road of New South Head Road, which was undesirable to TfNSW given the anticipated impacts to traffic. As such, TfNSW requested that SIDRA traffic modelling be undertaken to assess the impacts of the lane closure during weekday AM and PM peak periods. We worked closely with the project team, Council, and TfNSW in undertaking the assessment and providing advice on the most appropriate traffic management arrangements to minimise the impacts to traffic on the TfNSW-managed State Road.

Appendix B: Correspondence

arc traffic + transport to Transport for NSW 12 October 2022

Jindabyne Education Campus Construction Traffic Management Plan

 Anton Reisch <antonreisch@optusnet.com.au>
To 'Duncan.Mcrae@transport.nsw.gov.au'; 'Sharon.Horner@rms.nsw.gov.au'

  Reply  Reply All  Forward  ...
Wed 12/10/2022 3:20 PM

Good afternoon Sharon and Duncan,

We are preparing a CTMP for the construction of the Jindabyne Education Campus in Barry Way, and am hoping to just have a quick chat to ensure that we are covering all the bases that Transport would like covered!

The CTMP is being prepared as a sub-plan to the broader Construction Environmental Management Plan in accordance with the SSD Consent for the Campus, so all the standard information will be included; I note that we have addressed the following:

- The Scope of Work to be assessed as part of the CTPMSP in accordance with the SSD Consent and Transport for NSW (**TNSW**), Austroads and Australian Standards guidelines;
- The proposed construction schedule, including a breakdown of key stages of the construction period and the associated transport demands of each of those stages;
- General construction characteristics, including staff and truck numbers and construction hours;
- Access to and from the Site through all stages of construction, including the use of designated truck routes to minimise impacts on the local road network;
- Traffic generation and distribution through all stages of construction, and an assessment of the potential impact of construction traffic on the operation of the local road network;
- Staff and truck parking requirements and provisions;
- Mitigation measures by which to minimise to as great an extent as possible any potential impacts that the construction will have on existing road users, including motorists, pedestrians and cyclists;
- Key strategies and protocols by which to maximise the safety and efficiency of construction operations across all stages of construction, focusing on the retention of safe and efficient vehicle, pedestrian and cyclist movements adjacent to the Site, and the ongoing monitoring of and – where required – revisions to the CTPMSP to respond to issues where they arise

We have also prepared a Driver Code of Conduct.

At this stage, there is little in the way of road occupancy, with all access via Barry Way and then the existing road that leads to the Jindabyne Sports Centre, the same route as currently being used for construction vehicles accessing the new TAFE site. Down the line we will need to prepare Traffic Control Plans (or the now lovely sounding Traffic Guidance Schemes!) for the construction of 2 new roundabouts to Barry Way, but the exact details of their construction are not available at this time – necessarily these details (and any TGS requirements) will be provided to TNSW and Council for future approval.

So...just hoping to touch base and make sure we aren't missing any local issues that may have a bearing on the CTMP. If either of you has the chance to reply to this email or given me a call I would be extremely grateful.

Many kind regards,

anton



anton reisch. director

arc traffic + transport to Transport for NSW 13 October 2022

RE: Jindabyne Education Campus CTMP

 Anton Reisch <antonreisch@optusnet.com.au>
To 'Maurice Morgan'

  Reply  Reply All  Forward  ...
Thu 13/10/2022 4:30 PM

Afternoon Maurice, long time no speak, trust you and yours are all very well!

We are preparing a CTMP for the construction of the Jindabyne Education Campus in Barry Way, and am hoping to just have a quick chat to ensure that we are covering all the bases that Transport would like covered!

The CTMP is being prepared as a sub-plan to the broader Construction Environmental Management Plan in accordance with the SSD Consent for the Campus, so all the standard information will be included; I note that we have addressed the following:

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- The proposed construction schedule, including a breakdown of key stages of the construction period and the associated transport demands of each of those stages;
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- Access to and from the Site through all stages of construction, including the use of designated truck routes to minimise impacts on the local road network;
- Traffic generation and distribution through all stages of construction, and an assessment of the potential impact of construction traffic on the operation of the local road network;
- Staff and truck parking requirements and provisions;
- Mitigation measures by which to minimise to as great an extent as possible any potential impacts that the construction will have on existing road users, including motorists, pedestrians and cyclists;
- Key strategies and protocols by which to maximise the safety and efficiency of construction operations across all stages of construction, focusing on the retention of safe and efficient vehicle, pedestrian and cyclist movements adjacent to the Site, and the ongoing monitoring of and – where required – revisions to the CTPMSP to respond to issues where they arise

We have also prepared a Driver Code of Conduct.

At this stage, there is little in the way of road occupancy, with all access via Barry Way and then the existing road that leads to the Jindabyne Sports Centre, the same route as currently being used for construction vehicles accessing the new TAFE site – I'm not sure if there was an approval from Transport or Council for this route, but a public road and no Restricted Access vehicles proposed.

Down the line we will need to prepare Traffic Control Plans (or the now lovely sounding Traffic Guidance Schemes!) for the construction of 2 new roundabouts to Barry Way, but the exact details of their construction are not available at this time – necessarily these details (and any TGS requirements) will be provided to TNSW and Council for future approval.

So...just hoping to touch base and make sure we aren't missing any local issues that may have a bearing on the CTMP. If you a chance to reply to this email we would be extremely grateful, and of course don't hesitate to get in touch if you would like to discuss further.

Many kind regards,

anton










anton reisch. director

Transport for NSW and arc traffic + transport 14 October 2022

RE: Jindabyne Education Campus Construction Traffic Management Plan

 Duncan Mcrae <Duncan.Mcrae@transport.nsw.gov.au>
To: Anton Reisch
Cc: Zachary.crombie-brown; Sharon Homer
 You replied to this message on 14/10/2022 10:59 AM.

  Reply  Reply All  Forward   

Fri 14/10/2022 10:03 AM







Hi Anton

Thanks for the heads up.
Barry Way is on a regional road and as such we need to keep SMRC in the loop.
I've add Zach to the email. Please include him on all future corro.

Regards Duncan

RE: Jindabyne Education Campus Construction Traffic Management Plan

 Duncan Mcrae <Duncan.Mcrae@transport.nsw.gov.au>
To: Anton Reisch
Cc: Zachary.crombie-brown; Sharon Homer
 You replied to this message on 14/10/2022 1:11 PM.

  Reply  Reply All  Forward  

Fri 14/10/2022 11:20 AM

Great, thanks Duncan – I put in a call to Troy Dowd but haven't hear back, sounds like Zach is the right contact!

Per email, really just want to know if there are any issues for resolve; we will put in a Traffic Guidance Scheme (why did they have to change from Traffic Control Plan!) for the Site access driveways in the existing road south of the Site, but more detailed TGS will be required for the construction of the Barry Way roundabouts. The exact staging of the construction of the roundabouts hasn't been determined yet but would obviously come across your desk in the development of the TGS and then for approval.

Hope that all makes sense!! If there are any specific issues you would like us to consider please let me know, otherwise if you could confirm that the scope of work outlined below is appropriate that would be much appreciated.

As always, more than happy to discuss further.







Kind regards,

anton



RE: Jindabyne Education Campus Construction Traffic Management Plan

 Duncan Mcrae <Duncan.Mcrae@transport.nsw.gov.au>
To: Anton Reisch
Cc: Zachary.crombie-brown; Sharon Homer
 You replied to this message on 14/10/2022 1:11 PM.

  Reply  Reply All  Forward  

Fri 14/10/2022 11:20 AM

Hi Anton







Troy was acting in the RSO role, but has returned to his substantive position.
When a new RSO is appointed we will include them in the corro.

Regards Duncan

arc traffic + transport and Snowy Monaro Council, 8 November 2022

Jindabyne Education Precinct CTMP

 Anton Reisch <antonreisch@optusnet.com.au>
To: 'Zachary.crombie-brown'
 P0338r1v3 Jindabyne Education Campus CTPMSP.pdf
3 MB

  Reply  Reply All  Forward  

Tue 8/11/2022 3:27 PM

Hi Zach, great to chat!

As discussed, attached the CTMP in its current form which has been submitted to Department of Planning. TfNSW was happy with it but if you have any comments in regard to local issues for example please let me know, and of course get in touch if you would like to discuss anything further.

Kind regards, and many thanks once again!

anton




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w. www.arctt.com.au






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Thank you.

arc traffic + transport and Snowy Monaro Council, 11 November 2022

Jindabyne Education Campus CTMP

 Anton Reisch <antonreisch@optusnet.com.au>
To 'Zachary.Crombie-Brown'

 You replied to this message on 8/02/2023 4:24 PM.

  Reply  Reply All  Forward 

Fri 11/11/2022 11:56 AM

Morning Zach, trust you are well!

Just wondering if you had a chance to review the CTMP? Let me know when you have a chance, many thanks!

Kind regards,

anton



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arc traffic + transport and Snowy Monaro Council, 8 February 2023

Jindabyne Education Campus Construction Traffic Management Plan Comments

 Anton Reisch <antonreisch@optusnet.com.au>
To 'Zachary.Crombie-Brown@snowymonaro.nsw.gov.au'

Hi Zach, happy new year, hope all is very well!

Just wondering if you are able to provide any comments please on the Construction Traffic Management Plan I sent you in November 2022; Department of Planning is wanting to know if you had any comments, so anything you can provide – even just to say you generally agree with it (hopefully!!) – would be appreciated. As always, don't hesitate to get in touch if you need more information.






Kind regards,

anton



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Wed 8/02/2023 4:25 PM

arc traffic + transport and Snowy Monaro Council, 13 February 2023

Jindabyne EP CTMP

 Anton Reisch <antonreisch@optusnet.com.au>
To 'Zachary.Crombie-Brown@snowymonaro.nsw.gov.au'

Hi Zachary,

Just following up from Friday, could you please let me know whether you had a chance to look at the CTMP and when you might be able to provide some comments when you have a chance.






Kind regards,

anton



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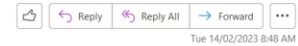
Mon 13/02/2023 10:24 AM

arc traffic + transport and Snowy Monaro Council, 14 February 2023

RE: Jindabyne EP CTMP



Anton Reisch <antonreisch@optusnet.com.au>
To: 'Zachary Crombie-Brown'



Tue 14/02/2023 8:48 AM

From: Zachary Crombie-Brown <Zachary.Crombie-Brown@snowymonaro.nsw.gov.au>
Sent: Monday, February 13, 2023 8:23 PM
To: 'Anton Reisch' <antonreisch@optusnet.com.au>
Subject: RE: Jindabyne EP CTMP

Hi Anton,

Apologies for the delay.

My few comments on the Traffic Plan:

- In my last consultation with TfNSW & DET it was recommended that the southern roundabout location would be considered for amendment. This was to incorporate Tinworth Drive into the intersection, removing the dogleg and safety concerns that arise from the existing driveway and intersection. However I understand the designs are still underway for the roundabouts.
- Council is about to undertake works to widen the Barry Way, including this section of the road. The current timelines indicate that Council's works along the Barry Way will be complete by April 2023. If works on the roundabouts are to begin within this timeframe, further consultation is required with Council to understand clashes with construction vehicle movements by both parties.
- Council will require a Section 138 submission prior to works beginning in Council's road reserve (as opposed to the ROL).

The first point is just for note – as the design and scope of the project are currently sitting with others.

Other than that, looks good.

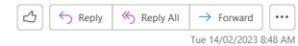
Thanks,
Zach

arc traffic + transport and Snowy Monaro Council, 14 February 2023

RE: Jindabyne EP CTMP



Anton Reisch <antonreisch@optusnet.com.au>
To: 'Zachary Crombie-Brown'



Tue 14/02/2023 8:48 AM

Awesome, thanks so much Zach, really appreciate you coming back and your comments.

Just to note the following:

- Yes, aware that Council and TfNSW is asking for a redesign of the southern roundabout so that it aligns with Tinworth Drive; we will obviously continue to coordinate with Council and TfNSW going forward to ensure that the Precinct roads align properly with any new works.
- Re potential road construction and Precinct construction occurring at the same time, we will again continue to coordinate with Council and TfNSW; it may be that we need to look at revising the CTMP as we go (pretty standard practice as things change through a project) to ensure maximum efficiency and safety in this part of the road network.
- Yes, Section 138 to be prepared for any works in the Council road reserve, and likely preparation of Traffic Guidance Scheme as part of any CTMP revisions.

We will no doubt be in touch again as we move along to ensure that the process is by the book and that we keep getting and acting on any feedback from Council and TfNSW.

So...many thanks once again, and look forward to talking again down the road.

Kind regards,

anton

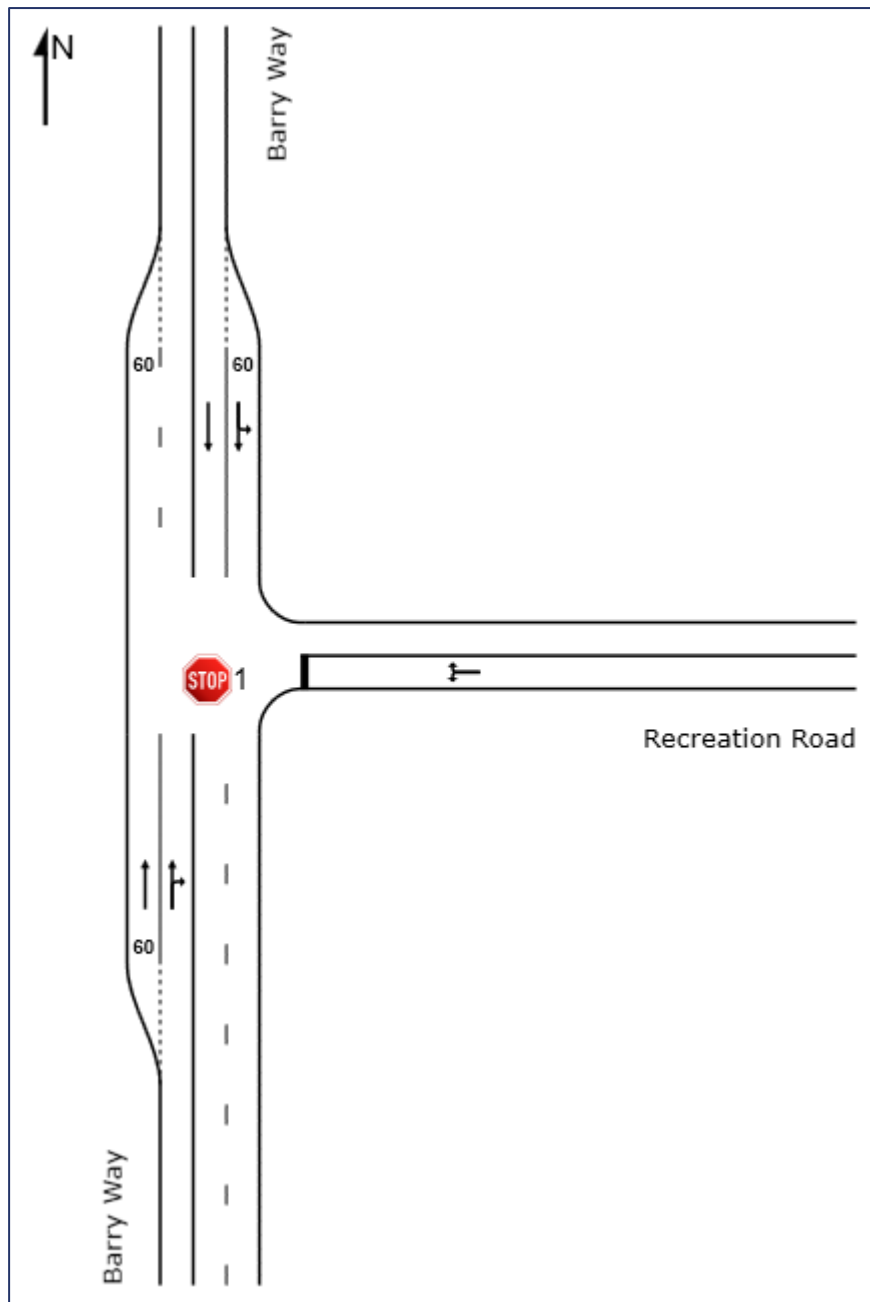


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Appendix C: SIDRA Movement Reports

SIDRA Intersection Plan



Intersection of Barry Way & Recreation Road Priority Control: AM 2023 Peak Construction Period

MOVEMENT SUMMARY

Site: 1 [Barry Way & Recreation Road Priority Control AM (Site Folder: General)]

AM Peak 2023
 30 Minute Arrival Peak
 Peak Construction Trips
 Site Category: Existing Design
 Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
		[Total veh/30min	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Barry Way														
2	T1	234	10.0	493	10.0	0.208	0.3	LOS A	0.1	0.9	0.02	0.01	0.02	49.9
3	R2	5	10.0	11	10.0	0.208	6.0	LOS A	0.1	0.9	0.03	0.02	0.03	48.9
Approach		239	10.0	503	10.0	0.208	0.4	NA	0.1	0.9	0.02	0.01	0.02	49.8
East: Recreation Road														
4	L2	5	10.0	11	10.0	0.063	7.9	LOS A	0.2	1.9	0.18	0.96	0.18	40.8
6	R2	5	50.0	11	50.0	0.063	26.1	LOS B	0.2	1.9	0.18	0.96	0.18	40.1
Approach		10	30.0	21	30.0	0.063	17.0	LOS B	0.2	1.9	0.18	0.96	0.18	40.5
North: Barry Way														
7	L2	42	10.0	88	10.0	0.066	4.7	LOS A	0.0	0.0	0.00	0.41	0.00	47.1
8	T1	70	10.0	147	10.0	0.066	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	49.5
Approach		112	10.0	236	10.0	0.066	1.8	NA	0.0	0.0	0.00	0.20	0.00	48.6
All Vehicles		361	10.6	760	10.6	0.208	1.3	NA	0.2	1.9	0.02	0.10	0.02	49.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Intersection of Barry Way & Recreation Road Priority Control: PM 2023 Peak Construction Period

MOVEMENT SUMMARY

Site: 1 [Barry Way & Recreation Road Priority Control PM (Site Folder: General)]

PM Peak 2023
 30 Minute Arrival Peak
 Peak Construction Trips
 Site Category: Existing Design
 Stop (Two-Way)

Vehicle Movement Performance														
Mov ID	Turn	INPUT VOLUMES		DEMAND FLOWS		Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
		[Total veh/30min	HV] %	[Total veh/h	HV] %				[Veh. veh	Dist] m				
South: Barry Way														
2	T1	121	10.0	255	10.0	0.114	0.4	LOS A	0.2	1.2	0.06	0.02	0.06	49.6
3	R2	5	10.0	11	10.0	0.114	7.9	LOS A	0.2	1.2	0.09	0.03	0.09	48.6
Approach		126	10.0	265	10.0	0.114	0.7	NA	0.2	1.2	0.06	0.02	0.06	49.6
East: Recreation Road														
4	L2	5	10.0	11	10.0	0.522	16.8	LOS B	2.4	23.7	0.85	1.15	1.28	33.9
6	R2	42	50.0	88	50.0	0.522	39.4	LOS C	2.4	23.7	0.85	1.15	1.28	33.5
Approach		47	45.7	99	45.7	0.522	37.0	LOS C	2.4	23.7	0.85	1.15	1.28	33.5
North: Barry Way														
7	L2	5	10.0	11	10.0	0.140	4.7	LOS A	0.0	0.0	0.00	0.02	0.00	49.2
8	T1	239	10.0	503	10.0	0.140	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.9
Approach		244	10.0	514	10.0	0.140	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.9
All Vehicles		417	14.0	878	14.0	0.522	4.5	NA	2.4	23.7	0.11	0.14	0.16	47.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

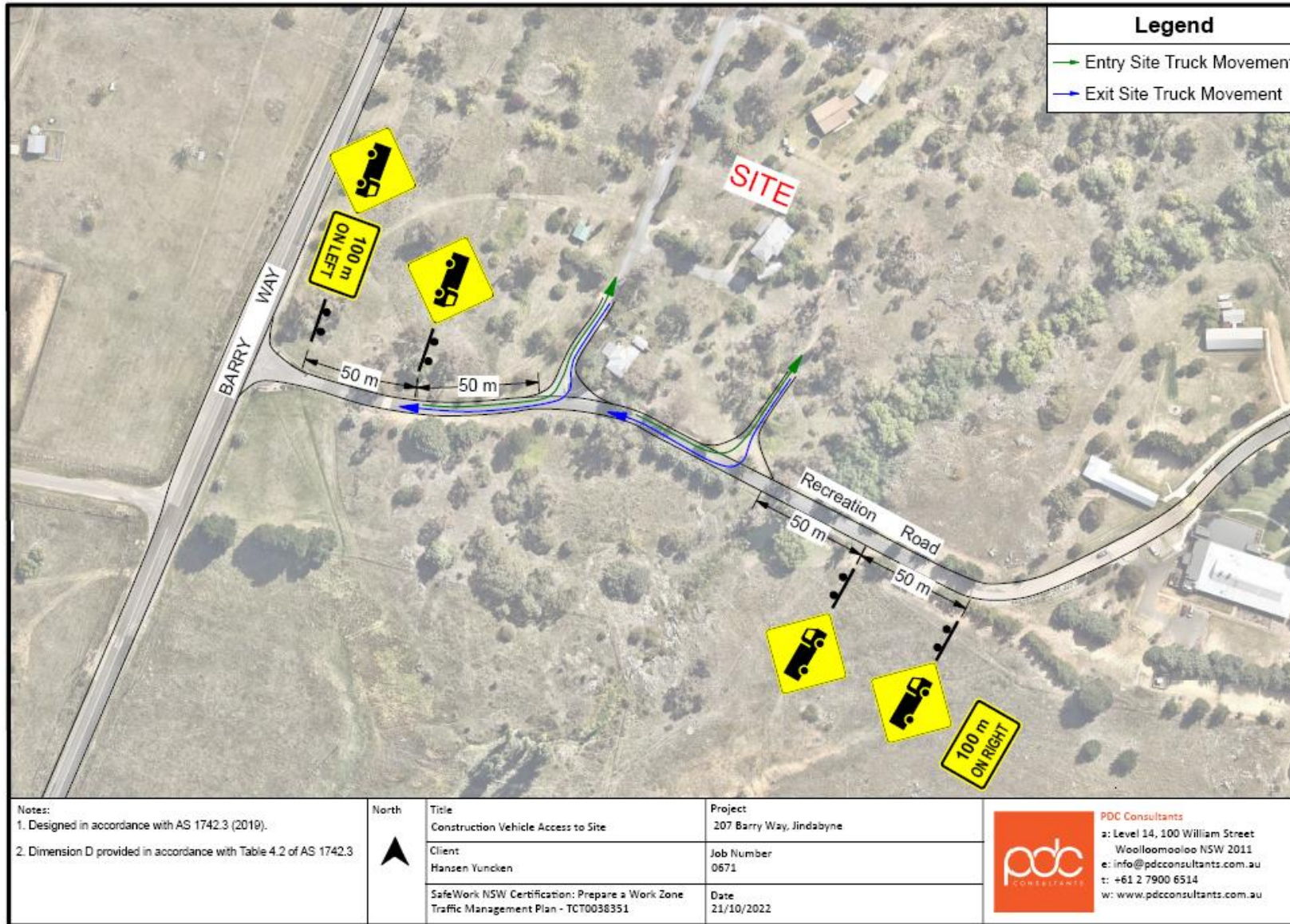
Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).


HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Appendix D: Traffic Guidance Scheme – Recreation Road Site Driveways



Notes:
 1. Designed in accordance with AS 1742.3 (2019).
 2. Dimension D provided in accordance with Table 4.2 of AS 1742.3

North ▲	Title Construction Vehicle Access to Site	Project 207 Barry Way, Jindabyne
	Client Hansen Yuncken	Job Number 0671
	SafeWork NSW Certification: Prepare a Work Zone Traffic Management Plan - TCT0038351	Date 21/10/2022

	PDC Consultants a: Level 14, 100 William Street Woolloomooloo NSW 2011 e: info@pdcconsultants.com.au t: +61 2 7900 6514 w: www.pdcconsultants.com.au
---	---

Appendix E: Drivers Code of Conduct

Drivers Code of Conduct

1 Drivers Code of Conduct Objectives

This Drivers Code of Conduct is to be provided to all truck and company vehicle drivers accessing the Site. The objectives of the Drivers Code of Conduct include:

- Minimising the impact of truck and company vehicle movements on the on-site work environment and local road network;
- Minimising conflict with other on and off-site road users;
- Minimising truck traffic noise; and
- Ensuring truck drivers use the designated truck routes.

The Drivers Code of Conduct also requires that, while driving any truck or company vehicle for construction related purposes, drivers must:

- Demonstrate safe driving and road safety activities;
- Abide by traffic and road legislation;
- Abide by on and off-site speed limits at all times; and
- Follow Site signage and instructions at all times.

2 Key Driver Controls

Truck Operating Periods

Construction hours – **including the delivery of materials to/from the Site** - will be as follows:

- 7:00am to 6:00pm Monday to Friday; and
- 8:00am to 1:00pm on Saturdays;

No construction of truck movements are permitted on Sundays or public holidays.

Where it is necessary for any truck movements to occur outside of the conditioned truck movement hours, an approved OHW Permit will be required prior to any such truck movements. The Principal Contractor must be notified of any intention for truck movements outside of the approved construction hours, and provide approval for the OHW Permit application prior to its submission to the relevant authorities.

Speed Limits

All truck, company vehicle and general construction staff drivers are to travel within the posted speed limits in the public road network at all times.

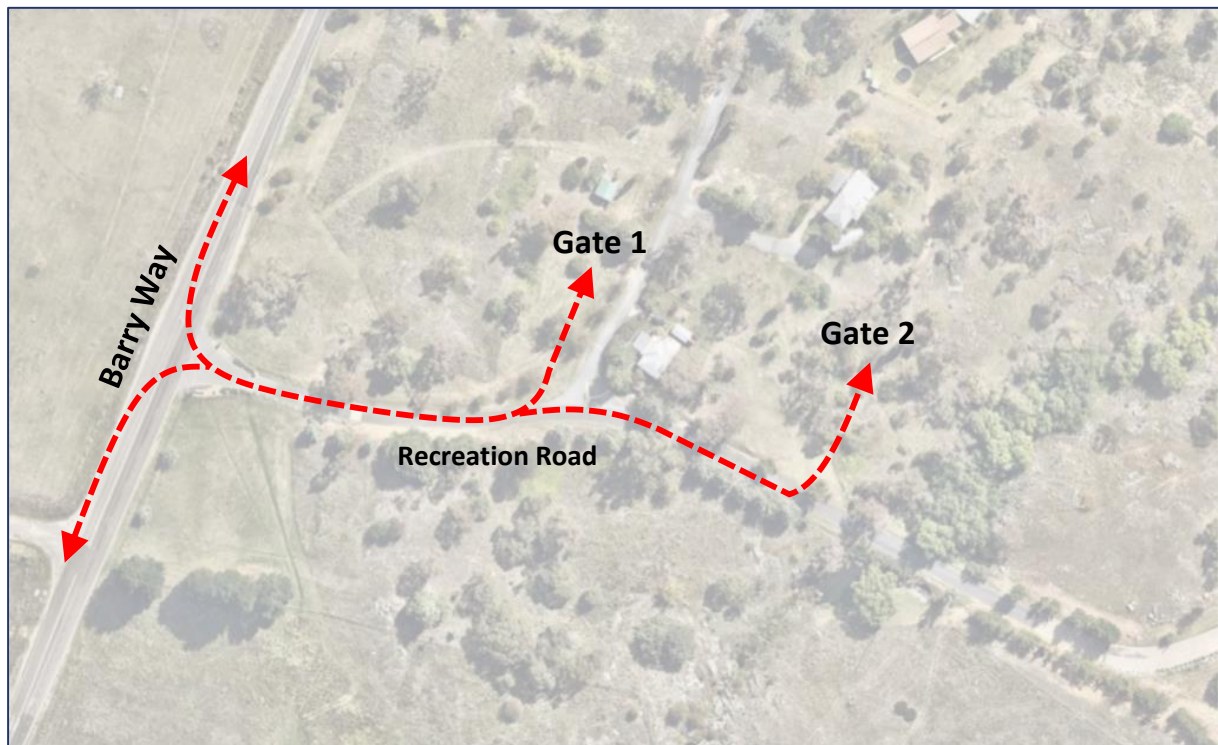
All truck, company vehicle and general construction staff drivers are to travel at a speed on no greater than 20km/h within the Site at all times.

Site Access: Recreation Road

Primary access to the Site will be via Barry Way and Recreation Road which runs along the southern boundary of the Site. Gate 1 is located immediately west of the existing residential driveway running north from Recreation Road into the Site, while Gate 2 is located the east of the residential driveway.

These access driveways are shown below, noting that all vehicles are strictly required to enter and depart the Site in a forward direction.

Recreation Road Site Access



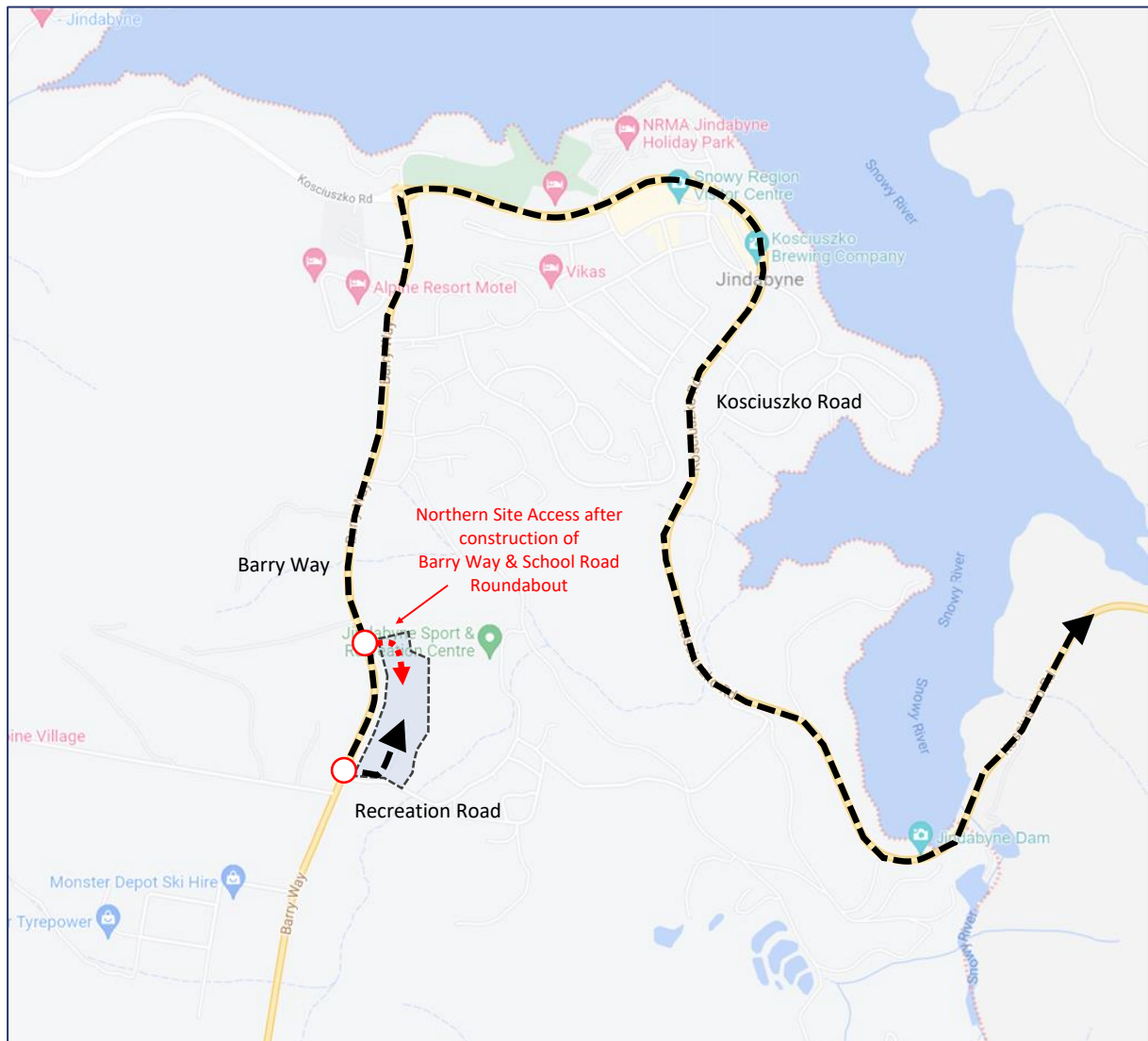
Source: Nearmap

During (and after) the construction of the northern roundabout in Barry Way (at School Road), a third access driveway (Gate 3) to the Site will also be available; the Principal Contractor will inform all construction staff of the use of Gate 3 for access once it becomes available.

Designated Truck Route

A designated truck route must be used by all truck drivers at all times, other than contractors located in the local area using (approved) roads for access. This designated truck route is shown below, noting again that the Principal Contractor will inform all construction staff of the use of Gate 3 when it becomes available.

Designated Truck Route



Source: Google

3 Breach of Drivers Code of Conduct

The following activities by any truck or company vehicle driver would be considered as a breach of the Drivers Code of Conduct:

- Reckless or dangerous driving causing injury or death;
- Driving whilst disqualified or not correctly licensed;
- Drinking or being under the influence of drugs while driving;
- Failing to stop after an incident;
- Loss of demerit points leading to suspension of licence;
- Any actions that warrant the suspension of a licence; and/or
- Exceeding the speed limits in place in public roads and on-site.

Any drivers found to be in breach of the Drivers Code of Conduct will be notified of the breach, as would their immediate managers, who would in turn be required to provide additional training/guidance to the driver. **Any repeat offenders would be prevented from returning to Site.**

4 Driver Responsibilities

All truck and company vehicle drivers must:

- Be responsible and accountable for their actions when operating a truck or company vehicle;
- Ensure they have a current driver licence for the class of vehicle they are driving, and this licence is to be carried with them at all times;
- Immediately notify their manager if their drivers licence has been suspended, cancelled, or has had limitations applied;
- Comply with all traffic and road legislation when driving;
- Regularly check the operating condition of trucks or company vehicles;
- Ensure their vehicles have correctly been fitted with mufflers to minimise noise disturbance, and use only the approved construction vehicle routes during approved construction hours so as to minimise noise impacts in residential and urban areas;
- For truck drivers, not drive along routes other than the designated truck routes;
- Never drive under the influence of alcohol or drugs;
- Wear a safety seat belt at all times when in the vehicle;
- Report any near-misses, crashes or scrapes to their manager, including those that do not result in injury;
- Report infringements to a manager at the earliest opportunity;
- Report vehicle defects to a manager prior to the next use of the vehicle; and
- Keep loads covered at all times (where relevant).

5 Crash or incident Procedure

In the event of a crash or other traffic incident, the truck or company vehicle driver is required to:

- Stop the vehicle as close to it as possible to the scene, making sure this not hindering traffic;
- Ensure one's own safety first, then help any injured people and seek assistance immediately if required;
- Ensure that key information is exchanged with the other driver, including the registration, names and insurance details of other vehicles/drivers;
- Ensure that the police are contacted should there be a disagreement over the cause of the crash, if there are injuries or if property is damaged; and
- As soon as reasonably practical, report all details gathered to the Principal Contractor.