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**Proposed Ancillary Works at Narrabeen North Public School
in a Mapped Coastal Wetlands Area**
Construction Traffic Management Plan

6 Namona Street, North Narrabeen NSW 2101

1/03/2023

P2008r01v08

Document Control

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APPENDICES

Appendix A. Driver Code of Conduct

Appendix B. Traffic Guidance Scheme

1 Introduction

1.1 Introduction

Ason Group has been engaged by School Infrastructure NSW to prepare a Construction Traffic Management Plan (CTMP) for the proposed redevelopment of Narrabeen North Public School (NNPS) (the Proposal) located at 6 Namona Street, North Narrabeen (the Site).

This Preliminary Construction Traffic Management Plan (Preliminary CTMP) outlines principles that shall be adopted by the appointed contractors for the project.

A detailed Construction Traffic Management Plan (CTMP) will be provided as part of the detailed construction management plan that forms part of a Construction Management Plan (CMP) to be prepared and commissioned by the incumbent contractor (which is expected to form a standard Condition of Consent). For the purposes of this plan, the following general principles for managing construction traffic have been assumed and provide an understanding of the likely traffic impacts during the construction period. It should be noted that the construction details and programme for the development have not yet been finalised.

1.2 Site Description

The subject sites are located at 6 and 10 Namona Street, North Narrabeen (referred to as the Narrabeen Education Precinct) and falls within the local government area of Northern Beaches Council. The Narrabeen Education Precinct has a total area of 9.84 hectares.

Narrabeen North Primary School (NNPS) is located on the northern side of Namona Street, North Narrabeen and is legally described as Lot 3 Deposited Plan (DP) 1018621. NNPS is surrounded by residential dwellings to the east, grassed sporting fields (Warriewood Valley Sportsground) to the north and Northern Beaches Indoor Sports Centre to the west. NNPS contains two (2) Binishell domes (Block A and Block B) which are identified as a local heritage item under the Pittwater Local Environmental Plan 2014. The two (2) Binishell Domes are listed as State significant on DoE's Section 170 Heritage and Conservation Register. The Double Binishell Dome (Block B) is listed on the State Heritage Register (SHR).

Narrabeen Sports High School (NSHS) is located on the southern side of Namona Street.



Figure 1: Site Aerial Map, Source: DFP Planning

1.3 Overall Principles of Construction Traffic Management

The overall principles of traffic management during construction activities include:

- Minimising the impact on pedestrian and cyclist safety and movements
- Maintaining appropriate public transport and school bus access
- Minimising the impact on existing traffic on adjacent roads and intersections
- Minimising the loss of on-street parking
- Maintaining access to/from adjacent properties
- Restricting construction vehicle movements to designated routes to/from the site
- Managing and controlling construction vehicle activity near the site
- Ensuring construction activity is carried out in accordance with Council’s approved hours of work.

1.4 Project Representatives & Stakeholders

This report has been prepared by a consultant who holds a SafeWork NSW Work Health & Safety Traffic Control Work card, accredited for the ‘Prepare a Work Zone Traffic Management Plan’. Details of the accredited consultant are provided below:

- Dora Choi Ticket No. TCT0021456

This Preliminary Construction Traffic Management Plan has been prepared to meet the requirements outlined in Appendix A and Appendix E, Section E.2 of the Transport for NSW Traffic Control at Work Sites Technical Manual (Issue No. 6.1, 2022).

Through the preparation of the detailed CTMP, the following project representatives and stakeholders should be consulted in the development of the traffic management strategy:

TABLE 1: PROJECT REPRESENTATIVES AND STAKEHOLDERS

Organisation	Name	Role
Contractor	TBC	TBC
Ason Group	Dora Choi	Principal Lead - Traffic Management & Operations
Ason Group	Meg Kong	Principal - Traffic Management & Operations
Ason Group	Alan Tan	Traffic Engineer
Northern Beaches Council	TBC	TBC
Transport for NSW	TBC	TBC

1.5 SEARs

A summary of the Planning Secretary's Environmental Assessment Requirements for schools relating to Transport & Accessibility is highlighted in **Table 2**.

TABLE 2 SEARS

No.	SEARs Requirement	Ason Group Response
	<p>Construction traffic management – including:</p> <ul style="list-style-type: none"> Provide a preliminary Construction Traffic Management Plan detailing predicted construction vehicle movements, routes, access and parking arrangements, coordination with other construction occurring in the area, and how impacts on existing traffic, pedestrian and bicycles networks would be managed and mitigated. 	<p>See the following sections for details:</p> <ul style="list-style-type: none"> Section 2.3: predicted construction vehicle movements Section 2.4: routes and access Section 3.3: parking arrangements Section 3.10: coordination with other construction occurring in the area Sections 3.1 – 3.5: how impacts on existing traffic, pedestrian and bicycles networks would be managed and mitigated.
	<ul style="list-style-type: none"> Identify whether there is a need for the relocation of existing stop 182 on Namona Street during construction activities and associated identification of suitable temporary bus stop location (if required). 	<p>The bus stop will be retained during the construction activities. See details in Section 3.4.</p>

1.6 Project Details

1.6.1 The Proposal

Narrabeen North Public School (NNPS) forms part of the Narrabeen Education Precinct.

The Designated Development (DD) seeks consent for the following works at NNPS within a mapped coastal wetlands area:

- Removal of eight (8) trees;
- New accessible pedestrian pathways;
- New substation on Namona Street frontage along with associated conduit connections;
- New fire hydrant booster and associated conduit connections;
- New hard and soft landscaping including planting of 12 new trees.

Other development works are occurring on the site under separate planning pathways including:

- Development Application (DA);
- Tree Removal (DA);
- Development without Consent (REF); and
- Exempt development

The proposed development does not seek to increase staff or student numbers.

Reference should be made to the reduced plans for NNPS provided in **Figure 2**.

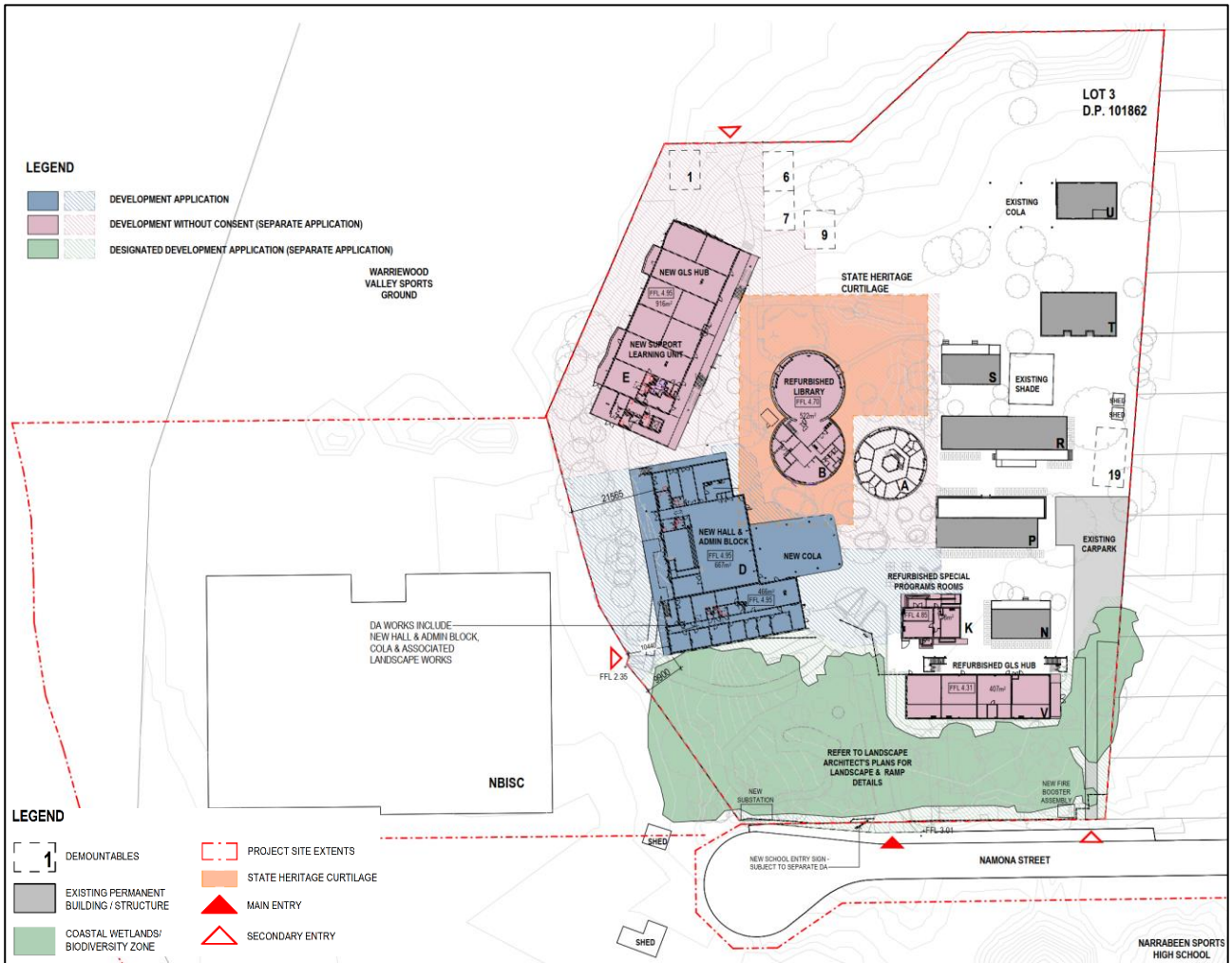


Figure 2: Site Plan (received 28 October 2022)

1.6.2 Site Location

The subject site, Narrabeen North Public School (NNPS) is located at 6 Namona Street, North Narrabeen and falls within the local government area of Northern Beaches Council. A description of the School is provided below:

TABLE 3: SITE DESCRIPTION		
School	Title	Approximate Area (Ha)
NNPS	Lot 3 / DP 1018621	2.4

The school is located approximately 21km to the northeast of the Sydney CBD, surrounded by local businesses and low-density residential dwellings. The Warriewood Square Shopping Centre is located within 750m walking distance of north of the School.

Narrabeen North Public School is currently a primary school and includes the following building and facilities:

- Two (2) Binidomes;

- Six (6) Homebase buildings;
- Fourteen (14) demountable Homebase buildings;
- One (1) library;
- One (1) staff building;
- One (1) programs / craft building;
- One (1) Covered Outdoor Learning Area (COLA);
- A number of outdoor spaces;
- At-grade car parking accommodating 20 formal car parking spaces, inclusive of 1 accessible car space and 16 informal car spaces accessed via Namona Street;
- Three (3) pedestrian accesses are as follows:
 - One (1) pedestrian access point from Warriewood Valley Sportsground
 - One (1) pedestrian access point from Namona Street; and
 - One (1) pedestrian access point from the Northern Beaches Indoor Sports Centre (NBISC) car park.
- 94 on-site bicycle parking spaces.

The Site and surrounding context are demonstrated in **Figure 3** below.



Figure 3: Site Location and Context, Source: Ason Group

1.6.3 Existing Site Transport Facilities

As it relates to travel planning, the Schools and immediate surroundings of the schools provide the following transport facilities:

- On-site bicycle parking rails (94 spaces);
- On-site car parking spaces for staff (20 formal spaces and 16 informal spaces);
- Constructed concrete footpaths along the Namona Street frontage
- A bus zone on either side of Namona Street fronting both schools (approximately 35m along the northern side and 55m along the southern side).
- Existing school crossing on Namona Street

The existing arrangements are presented in **Figure 4**, **Figure 5** and **Figure 6**.



Figure 4: Existing Transport Facilities, Source: Ason Group

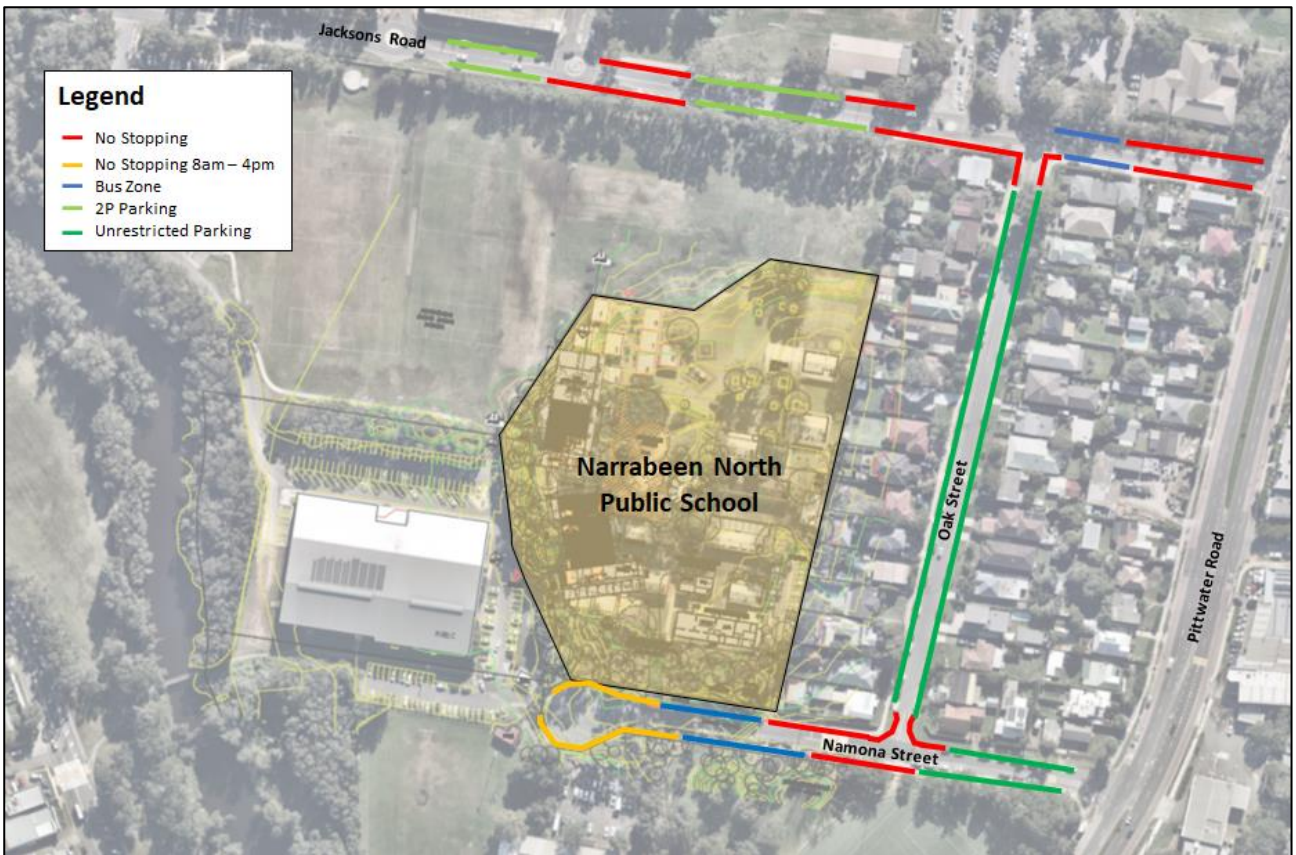


Figure 5: Existing Parking Restrictions, Source: Ason Group

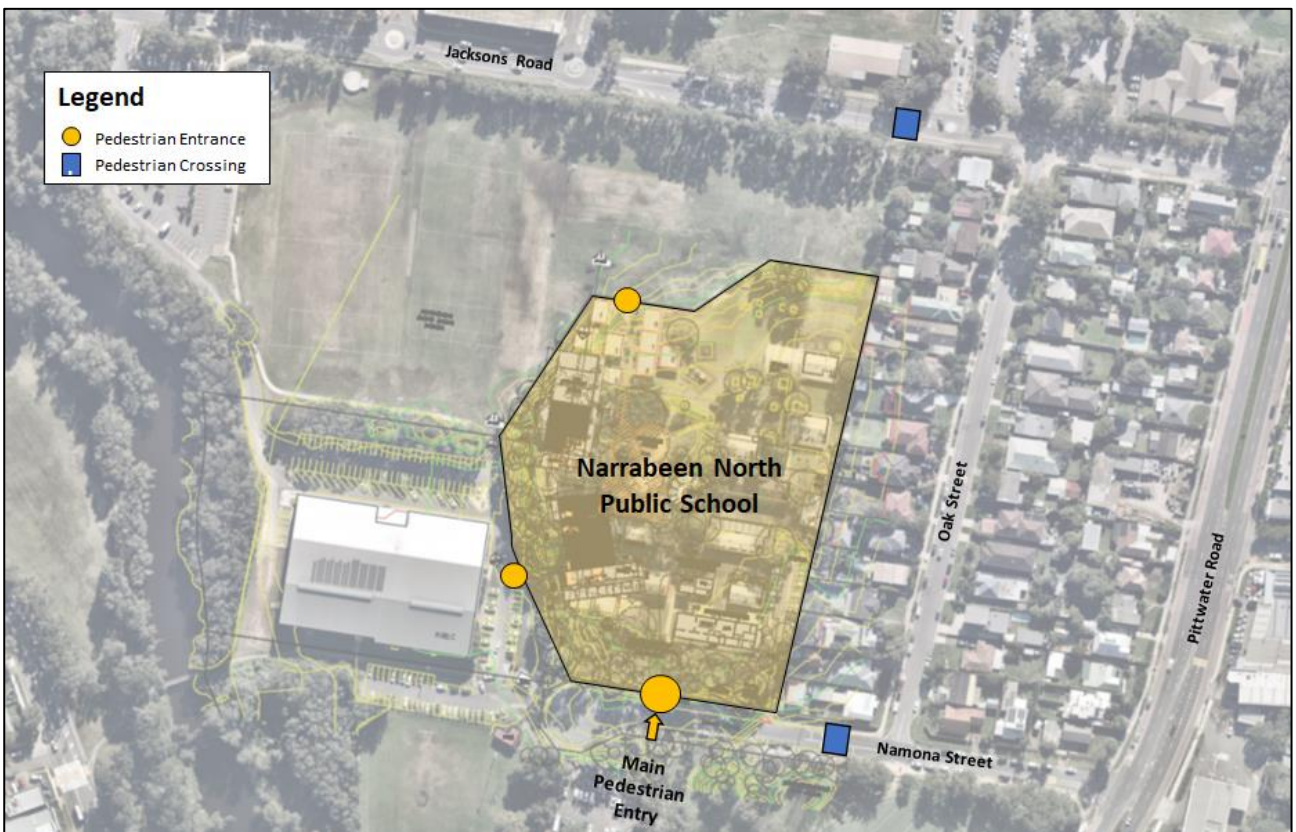


Figure 6: Existing Pedestrian Facilities, Source, Ason group

1.7 Site Related Data

1.7.1 Road Details

The key roads in the proximity of the site are summarised in **Figure 7** with reference to the site plan and road hierarchy in **Table 4**.

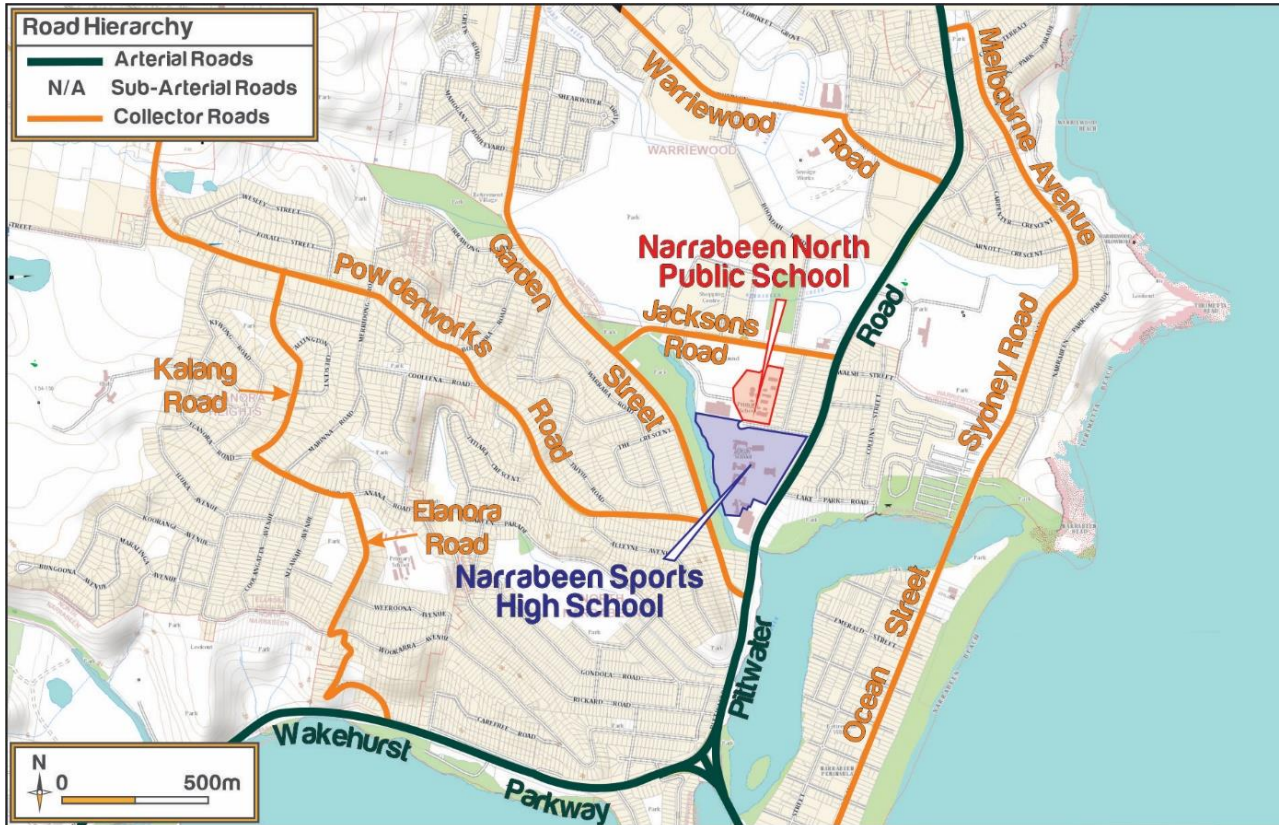


Figure 7: Road Hierarchy, Source: Ason Group

TABLE 4: KEY ROADS			
Road Name	Road Classification	AADT ¹ (vpd) ²	Speed Limit ³
Pittwater Road	State Road	16,165	70 km/h
Namona Street	Local Road	530	50 km/h
Jacksons Road	Local Road	5,355	50 km/h
Oak Street	Local Road	338	50 km/h
Garden Street	Regional Road	1,880	50 km/h

1.7.2 Crash History

A review of the TfNSW *Centre for Road Safety* database has been undertaken to establish the crash history within the immediate vicinity of the Site. The results are based on crashes over a five-year period between 2016 and 2020. Locations of recorded crashes are shown in **Figure 8** and details summarised in **Table 5**.

A review of the crashes indicates that the majority of crashes occurred along Pittwater Road, with three crashes occurring at the Pittwater Road/Berry Avenue intersection, five crashes occurring at the Pittwater Road/Namona Street intersection, two crashes occurring at the Pittwater Road/Lake Park Road signalled intersection and three crashes occurring at the Pittwater Road/Garden Street signalled intersection. The data indicates a majority of the crashes were attributed to “Right Through” RUM Descriptions, comprising approximately 62% of all recorded crashes.



Figure 8: Crash Locations¹

TABLE 5: CRASH HISTORY				
Reporting Year	Lighting	RUM Description	Location	Injury
2016	Daylight	21-Right through	Pittwater Road/Berry Avenue	Non-Casualty
	Daylight	21-Right through	Pittwater Road/Garden Road	Minor/Other Injury
2017	Daylight	21-Right through	Pittwater Road/Berry Avenue	Non-Casualty
	Daylight	21-Right through	Pittwater Road/Namona Street	Minor/Other Injury
	Daylight	21-Right through	Pittwater Road/Namona Street	Serious Injury
	Daylight	21-Right through	Pittwater Road/Namona Street	Minor/Other Injury
	Daylight	21-Right through	Pittwater Road/Namona Street	Non-Casualty
	Darkness	0-Ped nearside	Pittwater Road/Garden Road	Serious Injury

¹ https://roadsafety.transport.nsw.gov.au/statistics/interactivecrashstats/lga_stats.html?tblga=4

	Daylight	30-Rear end	Pittwater Road/Lake Park Road	Serious Injury
2018	Daylight	30-Rear end	Pittwater Road/Lake Park Road	Non-Casualty
2019	Daylight	37-Left turn sideswipe	Pittwater Road/Berry Avenue	Serious Injury
2020	Daylight	30-Rear end	Pittwater Road/Namona Street	Moderate Injury
	Darkness	21-Right through	Pittwater Road/Garden Road	Moderate Injury

With consideration of the table above, it is noted that there were 4 x 'right through' crashes (RUM code 21) which occurred at the intersection of Pittwater Road and Namona Street in 2017, indicating that this intersection is a 'black spot.' A rear-end (RUM code 30) incident also occurred at this intersection in 2020.

Furthermore, the crash data shows that there were 3 crashes at the intersection of Pittwater Road and Garden Road with 2 x 'right through' (RUM code 21) crashes and 1 x 'left turn sideswipe' (RUM code 37) crash.

There were also 3 accidents at the Pittwater Road / Berry Avenue, being 2 x 'right through' (RUM code 21) crashes and 1 x 'pedestrian nearside' (RUM code 0) crash.

1.7.3 Vulnerable Road Users

TABLE 6: VULNERABLE ROAD USERS

Road Name	Pedestrian	Cycling	Public Transport
Jacksons Road	Yes	Yes	Yes / Bus stops
Oak Street	Yes	Yes	No
Namona Street	Yes	Yes	Yes / Bus stops
Pittwater Road	Yes	Yes	Yes / Bus stops

1.8 Stakeholder Engagement

The Contractor will liaise with relevant stakeholders regarding construction schedules and truck routes and will raise any potential conflict with stakeholder at the earliest time. Stakeholder consultation actions required by the Contractor are detailed in **Table 6**.

TABLE 7: STAKEHOLDER CONSULTATION ACTIONS

Stakeholder	Action
TfNSW	The Contractor to submit CTMP to stakeholder. The Contractor to liaise with stakeholder to address comments and re-submit final CTMP
Northern Beaches Council	The Contractor to submit CTMP to stakeholder. The Contractor to liaise with stakeholder to address comments and re-submit final CTMP
NSW Police	The Contractor to submit CTMP to stakeholder. The Contractor to liaise with stakeholder to address comments and re-submit final CTMP

Emergency Services	The Contractor to submit CTMP to stakeholder. The Contractor to liaise with stakeholder to address comments and re-submit final CTMP
State Transit Authority	The Contractor to submit CTMP to stakeholder. The Contractor to liaise with stakeholder to address comments and re-submit final CTMP

2 Proposed Works and Staging

2.1 Overview of Works

2.1.1 Proposed Staging and Duration of Works

The construction program would generally consist of the following construction stages with duration to be determined once a contractor has been appointed:

- Stage 1: Site Preparation
- Stage 2: Minor Excavation
- Stage 3: Main Works (Construction and Fitout)

Note that the duration for each stage would be confirmed by the Contractor once appointed.

It is noted that during all stages, all vehicle entry and exit movements are to be in a forward direction only, with spoil to be loaded within the site and under the careful supervision of an authorised traffic controller. Accordingly, supervision by an authorised traffic controller would also be required for the movements of vehicles that would cross the footpath during deliveries.

2.2 Proposed Construction Hours

The construction work will vary depending on the phase of construction and associated activities. Construction works however will be undertaken during standard construction-working hours, with no deliveries allowed prior to the AM and PM school bell time as follows:

- Monday to Friday: 7.00 am to 5:00 pm.
- Saturday: 8.00 am to 1.00 pm
- Sunday and Public holidays: No planned work
- No construction deliveries between 7:30 am to 9:30 am, and between 2:30 pm to 4:00 pm on school days.

It may (on occasions) be necessary to undertake night works to minimise disruption to traffic however any works undertaken outside of these times will only occur with prior approval from Council.

2.3 Construction Traffic Volumes

Construction traffic will generally incorporate:

- Vehicles up to the dimensions of a Truck + Dog Trailers for removal of spoil and transportation of material.
- Concrete mixer trucks up to 12m in length.
- Vehicles up to the dimension of a 19m long Articulated Vehicle for delivery of material such as steel / façade panels, and roof panels.

Any oversize vehicles using local roads to access the site would require additional Council and/or Transport for NSW approval.

The maximum number of trucks accessing the site is subject to the development of a detailed construction staging plan upon the appointment of the Contractor, however, is anticipated to be no more than 20 trucks per day.

2.4 Truck Routes

It is proposed that all heavy vehicles associated with the construction activities would enter and exit the Site via the routes shown in **Figure 9**. The truck will access the Site via the Warriewood Valley Sportsground car park driveway, and then through the southern boundary of Warriewood Valley Sportsground to reach the Site. It is noted that SINSW will undertake further consultation with the Council regarding the proposed construction access.

The existing footpath will be decommissioned, and a new temporary footpath will be installed to facilitate pedestrian movements. The Traffic Guidance Scheme (TGS) for construction traffic is provided in **Appendix B**.

A copy of the truck route maps shall be provided to all drivers prior to attending the Site.

No trucks are to be queued on local roads. Mobile phones and two-way radios will be used to coordinate truck arrivals.



Figure 9: Construction Vehicle Haulage Routes

2.5 Works Zone

It is not expected Works Zone will be required for the construction activities. All civil and construction works will take place within the work site.

In the event that the implementation of any temporary traffic control measures on public road/road-related areas, the Contractor will obtain a Road Occupancy Permit (ROP) from Council. If excavation and/or road opening work on a public road is required, the Contractor will obtain a Road Opening Permit.

2.6 Cranage and Materials Handling

Specific areas will be available for loading/unloading, materials handling and storage, and worker sheds, etc. Mobile crane will be utilised for materials handling within the site.

3 Traffic Management

3.1 Construction Mitigation Measures

Construction of the above development would generate a moderate increase in traffic on the surrounding road network. In this regard, the following measures should be undertaken to minimise the impacts of the construction activities of the development:

- A construction fence and Class A Hoarding will be provided along the site boundaries to provide safe pedestrian access. The hoardings will consist of a combination of timber and chain wire fencing along the remaining site boundaries, that will be maintained for the duration of the construction program.
- Traffic control would be required to manage and regulate traffic movements into and out of the site during construction, with pedestrian priority provided during peak hour periods to maintain accessibility to public transport facilities.
- Disruption to road users would be kept to a minimum by scheduling intensive delivery activities outside of peak network hours.
- Supervised traffic control will be required where two-way flow is restricted over any length of the roadway, depending on the number of truck movements required and would be managed outside of peak hour vehicle and pedestrian activity.

3.2 Vehicle Management

In accordance with TfNSW requirements, all vehicles transporting loose materials will have the entire load covered and/or secured to prevent any large items, excess dust, or dirt particles from depositing onto the roadway during travel to and from the site. All drivers are to be familiar with the Driver Code of Conduct before attending the Site. A copy of the Code is included in **Appendix A**.

All subcontractors must be inducted by the lead contractor to ensure that the procedures are met for all vehicles entering and exiting the construction site. The lead contractors will monitor the roads leading to and from the site and take all necessary steps to rectify any road deposits caused by site vehicles.

Vehicle movements to, from and within the site shall do so in a manner, which does not create unreasonable or unnecessary noise or vibration. No tracked vehicles will be permitted or required on any paved roads. Public roads and access points will not be obstructed by any materials, vehicles, refuse skips, or the like, under any circumstances.

At no stage shall queueing occur on the public road network. A schedule for deliveries of materials and goods will be established prior to a typical workday. The project team will be liaising with the suppliers as well as the truck drivers to ensure deliveries arrive and leave the site with adequate buffer time to prevent queueing.

3.3 Contractor Parking

It is not expected that on-site car parking spaces will be provided for contractors and staff as the School will continue to operate throughout the construction programme.

The incumbent contractor will be required to ensure contractors working on the project are aware of no on-site parking being available, and any reliance on on-street parking shall comply with parking restrictions displayed.

Given the site's proximity to high-frequency public transport services, all workers will be encouraged to use public transport to access the site and car-pooling whenever possible, to reduce the reliance on private vehicles and minimise parking demands.

A tool drop-off and storage facility will be provided within the site. This would allow tradespeople to drop off and store their tools and machinery, allowing them to use public transport to travel to/ from the site on a daily basis. Workers will also be informed of appropriate tool/ equipment drop-off and storage arrangements made within site sheds and amenities provided on-site.

Bus schedules will be provided to all workers during site induction to demonstrate alternative modes of transport available.

3.4 Public Transport Services

Construction works are generally not expected to impact existing public transport services as the construction works are expected to be largely contained on-site. The bus stop and zone along Namona Street and Pittwater Road will be retained throughout the construction activities.

It is proposed to provide a Kiss and Ride facility on the southern side of Namona Street prior to the provision of demountable within the NBISC carpark. Traffic management (See details in **Section 3.7**) will be in place at the proposed Kiss and Ride facility to ensure the facility's operation will not result in vehicles queuing onto the bus lane on Pittwater Road. See **Figure 10**.

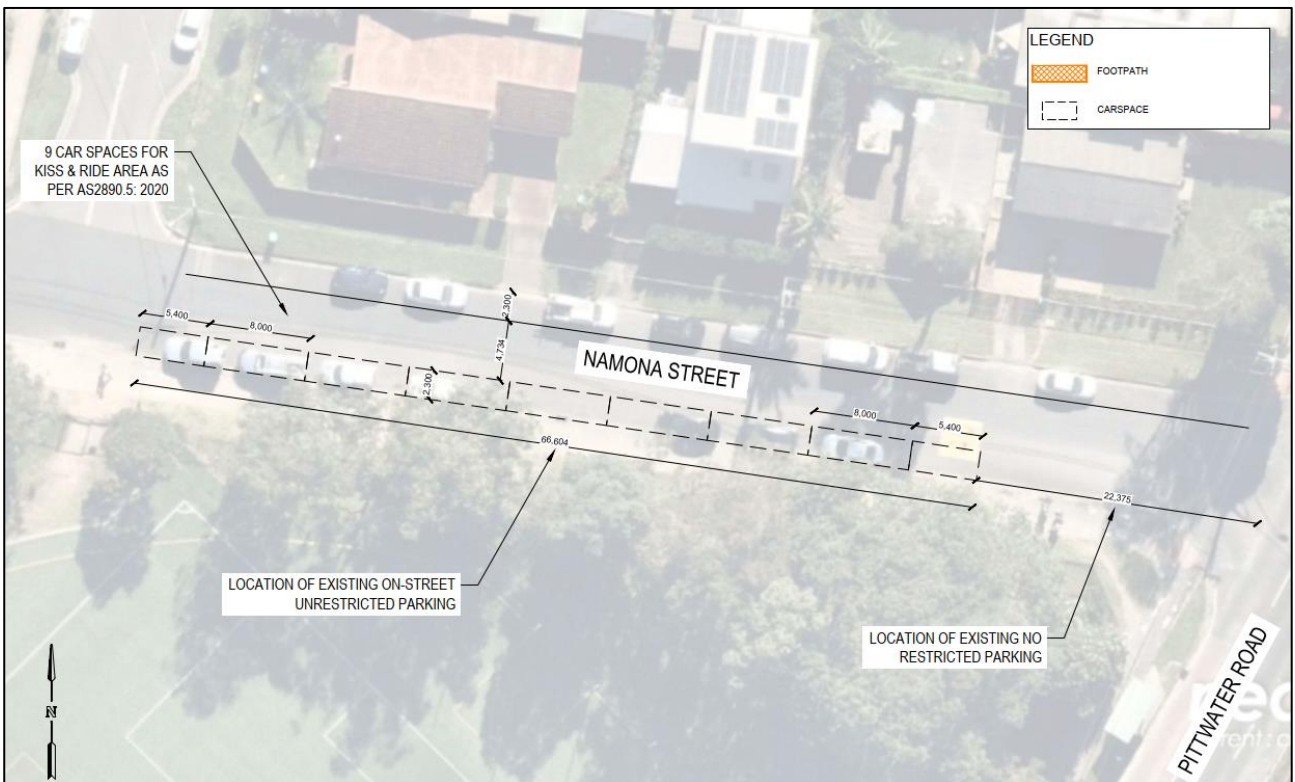


Figure 10: Proposed Kiss and Ride Facility on Namona Street

3.5 Pedestrian and Cyclist Management

During construction, pedestrian movements will be maintained along Jacksons Road and the Namona Street frontage of the site. It is expected that the fencing/hoarding is to be located as close as possible to the property boundary, maintaining maximum footpath width around the Site to minimise the impact on pedestrian amenity.

Specifically, there will be no footpath closure along Namona Street during the school term due to high volumes of pedestrian movements and safety considerations within the vicinity of an operational School.

To ensure pedestrian safety, the construction vehicle movements will be separated from pedestrians via the implementation of Type F Concrete Safety Barrier - MASH TL5. Temporary site fencing will be provided along the south side of the truck access roadway to prevent any pedestrian movement from entering the truck access roadway.

Construction hoarding/fencing will be provided around the perimeter of the site and shall be documented in the Project's Construction Management Plan.

Traffic controller will be present at the truck access to Warriewood Valley Sportsground to manage pedestrian and vehicular traffic (especially during pick-up and drop-off periods) to ensure public safety while construction vehicles enter and exit the site. Also, traffic controls would need to be in accordance with AS1742.3 and RMS 'Traffic Control at Worksites' manual at all times.

Should any unforeseen activities require the temporary closure of any existing pedestrian access, a TGS should be developed and implemented by the contractor to ensure a safe alternative for pedestrians traversing these routes in the vicinity of the site.

3.6 Fencing Requirements

A mix of existing perimeter fencing and temporary construction fencing will be utilised along the entire boundary of the site and will be maintained for the duration of the construction program. The fencing is to ensure unauthorised persons are kept out of the Site. One Site access gate will be provided along at the Warriewood Valley Sportsground frontage and will be closed at all times outside of the permitted construction hours.

3.7 Authorised Traffic Controller

There is a requirement for authorised traffic controllers to be present throughout the construction stage of the project. The responsibilities include:

- Implementation of the Traffic Guidance Scheme.
- Pedestrian and cyclist management, to ensure that adverse conflicts between vehicle movements and pedestrians do not occur.
- Supervision of all vehicle movements across pedestrian footpaths at all times, and
- Supervision of all loading and unloading of construction materials during the deliveries in the construction phase of the project.

1 traffic controller will be in place at the truck access into Warriewood Valley Sportsground and 1 traffic controller will be at the School frontage to the NBISC car park to ensure pedestrian safety.

3.8 Temporary Traffic Management Method

Traffic management shall be undertaken in accordance with the methodology outlined within the TGSs (**Appendix B**). Traffic and non-vehicle-related road users are expected to be directed around the worksite in order to physically separate the road user from any hazards within the work site.

It is noted that the TGSs place the following signage within the NBISC car park:

- Traffic Controller symbolic sign (T1-34 / TM1-34)
- PREPARE TO STOP (T1-18 / TM1-18)
- Workers symbolic (T1-5 / TM1-5)

Although the NBISC car park is on private property, the Transport for New South Wales Traffic Control at Work Sites Manual (TCAWS) stipulates the following for the aforementioned signs:

Section 5.4.3 Requirements for traffic controllers – Table 5-11:

'A PTCD sign relevant to the device used, such as Boom Barrier symbolic (T1-272n) or Signals symbolic sign (T1-30), or a Traffic Controller symbolic sign (T1-34) must be used to give advance warning of the presence of traffic control.'

6.5.9 Requirements for specific signs – Table 6-10:

'Workers symbolic (T1-5) – Must be used where worker on foot will be visibly working adjacent to traffic.'

'PREPARE TO STOP (T1-18) – Must be used where traffic is required to stop at a PTCD or traffic controller.'

It is further noted that for the signage to be effective, signage are required to be placed on each approach where vehicular traffic is present. Distances are set based on the speed limit applicable on approach to the Traffic Controller to ensure vehicular drivers in particular have sufficient advance warning and time to slow down and stop the vehicle to ensure safety of traffic controllers, as well as to protect the occupants of vehicles on approach. Based on the values set in TCAWS, and taking into consideration that there is off-street parking and road related areas within the south approach to the temporary access proposed that is located on private property.

The signs located within the NBISC car park is a strict requirement by TCAWS despite being located on private property.

3.9 Worker Induction

All workers and subcontractors engaged on-site would be required to complete a site induction. The induction should include permitted access routes to and from the construction site for all vehicles, as well as standard environmental, work, health and safety (WHS), driver protocols and emergency procedures.

Any workers required to undertake works or traffic control within the public domain would be suitably trained and covered by adequate and appropriate insurance.

3.10 Existing and Approved/Planned Surrounding Construction Activities

A review of Council's Application Search, there will be only 1 major planned construction site within 400m of the site. This construction activities involve the demolition works and construction of a community centre with associated carparking and landscaping at 2 Jacksons Road, Warriewood.

In addition to the above, it is noted that the construction activities of the adjacent Narrabeen Sports High School is expected to have overlaps with the construction works of the proposed School.

Notwithstanding the above, the Contractor will maintain regular contact with the surrounding project contractors to identify any potential overlap of major construction works and cooperate to ensure such overlaps are minimised during the lifecycle of the works.

With the above measures, it is not expected that this level of traffic movement would create any adverse impact on the surrounding road network.

4 Monitoring and Review

4.1 Monitoring Program

This CTMP shall be subject to ongoing review and will be updated accordingly. Regular reviews will be undertaken by the on-site coordinator. A review of the CTMP shall occur monthly. All and any reviews undertaken should be documented, however key considerations regarding the review of the CTMP shall be:

- Tracking deliveries against the volumes outlined within the report. Deliveries will be tracked against approved volumes and will keep a vehicle log - including Rego & time of entry - for the purpose of assessing the effectiveness of these monitoring programs.
- To identify any shortfalls and develop an updated action plan to address issues that may arise during construction (Parking and access issues)
- To ensure TGS's are updated (if necessary) by "Prepare a Work Zone Traffic Management Plan" cardholders to ensure they remain consistent with the set-up on-site.
- Regular checks to ensure all loads entering and leaving the site are covered.
- A Dilapidation report shall be undertaken periodically to assess the condition of the road and note whether there has been any reduction in the quality of the road as a result of construction vehicles.

The development of a program to monitor the effectiveness of this CTMP shall be established by the Contractor. This process is expected to form part of the monitoring plan required to be included as part of the overarching Construction Environmental Management Plan (CEMP), of which this CTMP forms a part.

The roadway (including the footpath) must be kept in a serviceable condition for the duration of construction. At the direction of Council, undertake remedial treatments such as patching at no cost to Council.

4.2 Work Site Inspections, Recording and Reporting

Recording and reporting of the monitoring programs shall be done in accordance with Section E.3, E.4 and E.5 of the TCAWs Manual. As such, the structure, schedule and frequency of these activities have been considered and identified.

To inspect, review and audit the temporary traffic management (TTM) arrangements implemented on-site, the following actions are to be undertaken by suitably qualified personnel in accordance with TCAWS 6.1 requirements during all phases of construction, being:

TABLE 8: EXAMPLE REVIEW OF ACTIVITIES

Activity			Frequency or Details
Shift Inspections	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Weekly Inspections	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
TMP Review	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Road Safety Audit	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Other	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments			

Given the length of construction and that no regular works have been proposed outside of the site, monthly TTM inspections are considered to be sufficient.

4.3 Contingency Plan

A contingency plan shall be established by the Contractor and is to be included in the overarching CEMP. Notwithstanding, **Table 9** outlines an indicative plan to be undertaken by the builder in the event that the monitoring program identifies the management plan is not effective in managing the construction impacts.

TABLE 9: CONTINGENCY PLAN				
Risk		Condition Green	Condition Amber	Condition Red
Construction Movements	Trigger	Construction traffic volume is in accordance with permissible and programmed volume and time constraints	Construction traffic volumes exceed programmed volume but are within permissible volume constraints	Construction traffic volumes exceed permissible volume and time constraints
	Response	No response required	Review and investigate construction activities, and where appropriate, implement additional remediation measures such as: <ul style="list-style-type: none"> Review CTMP and update where necessary Provide additional training. 	As with Condition Amber, plus; <ul style="list-style-type: none"> If it is concluded that construction activities were directly responsible for the exceedance, submit an incident report to government agencies. Stop all transportation into and out of the site.
	Trigger	No construction vehicle movement during peak periods	Construction vehicle movement close to peak periods	Construction vehicle movement during peak periods
	Response	No response required Continue monitoring program	Review and investigate construction activities, and where appropriate, implement additional remediation measures such as: <ul style="list-style-type: none"> Provide additional training (including toolbox talks and further notification of Driver Code of Conduct) 	As with Condition Amber, plus; <ul style="list-style-type: none"> If it is concluded that construction activities were directly responsible for the exceedance, submit an incident report to government agencies. Stop all transportation into and out of the site. Review CTMP and update where necessary.
Queuing	Trigger	No queuing identified	Queuing identified within the site	Queuing identified on the public road

	Response	No response required Continue monitoring program	Review the delivery schedule prepared by the builder. If drivers are not following the correct schedule, then they should be provided with additional training and an extra copy of the Driver Code of Conduct	As with Condition Amber, plus <ul style="list-style-type: none"> Review and investigate construction activities. If it is concluded that construction activities were directly responsible for the exceedance, submit an incident report to government agencies. The temporary halting of activities and resuming when conditions have improved. Stop all transportation into and out of the site. Review CTMP and update where necessary, and provide additional training.
Noise	Trigger	Noise levels do not exceed imposed noise constraints	Noise levels in minor excess of imposed noise constraints	Noise levels are greatly in excess of imposed noise constraints
	Response	No response required	Undertake all feasible and reasonable mitigation and management measures to minimise noise impacts.	As with Condition Amber If noise levels cannot be kept below applicable limits, then a different construction method or equipment must be utilised.
Traffic Guidance Scheme	Trigger	No observable issues	Minor inconsistencies with TGS to onsite operations	Near miss or incident occurring regardless of/as a result of the TGS being implemented
	Response	No response required	Traffic Controller to amend TGS on site and keep a log of all changes	Stop work until an investigation has been undertaken into the incident. There are to be changes made to the TGS to ensure that the safety of all workers, students and civilians is catered for.
Dust	Trigger	No observable dust	Minor quantities of dust in the air and tracking onto the road	Large quantities of dust in the air and tracking onto the road
	Response	No response required	Review and investigate construction activities and respective control	As with Condition Amber.

			<p>measures, where appropriate. Implement additional remedial measures, such as:</p> <ul style="list-style-type: none"> • Deployment of additional water sprays • Relocation or modification of dust-generating sources • Check the condition of vibrating grids to ensure they are functioning correctly. • The temporary halting of activities and resuming when conditions have improved 	<ul style="list-style-type: none"> • If it is concluded that construction activities were directly responsible for the exceedance, submit an incident report to government agencies. • Implement relevant responses and undertake an immediate review to avoid such occurrences in the future.
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Appendix A. Driver Code of Conduct

Drivers Code of Conduct

Safe Driving Policy for Narrabeen North Public School, 6 Namona Street, North Narrabeen.

Objectives of the Drivers Code of conduct

- To minimise the impact of earthworks on the local and regional road network;
- To minimise conflict with other road users;
- To minimise road traffic noise; and
- To ensure truck drivers use specified heavy vehicle routes between the Site and the sub-regional road network.

Code of Conduct

All vehicle operators accessing the site must:

- Take reasonable care for his or her own personal health and safety;
- Not adversely, by way of actions or otherwise, impact on the health and safety of other persons;
- Notify their employer if they are not fit for duty prior to commencing their shift;
- Obey all applicable road rules and laws at all times;
- In the event of an emergency vehicle behind your vehicle, pull over and allow the emergency vehicle to pass immediately;
- Contact the site manager utilizing two-way radio or similar devices on approach to the Site to be assigned an access location
- Obey the applicable driving hours in accordance with legislation and take all reasonable steps to manage their fatigue and not drive with high levels of drowsiness;
- Obey all on-site signposted speed limits and comply with directions of traffic control supervisors in relation to movements in and around temporary or fixed work areas;
- Ensure all loads are safely contained/restrained, as necessary;
- Drive over devices – located at the site’s access – to vibrate off and wash off any loose material attached to heavy vehicles;
- Operate their vehicles in a safe and professional manner, with consideration for all other road users;
- Hold a current Australian State or Territory-issued driver’s license;
- Notify their employer or operator immediately should the status or conditions of their driver’s license change in any way;
- Comply with other applicable workplace policies, including a zero tolerance of driving while under the influence of alcohol and/or illicit drugs;
- Not use mobile phones when driving a vehicle or operating equipment. If the use of a mobile device is required, the driver shall pull over in a safe and legal location prior to the use of any mobile device;
- Advise management of any situations which you know, or think, may present a threat to workplace health and safety;
- Drive according to prevailing conditions (such as during inclement weather) and reduce speed, if necessary; and
- Have necessary identification documentation at hand and ready to present to security staff on entry and departure from the Site, as necessary, to avoid unnecessary delays to other vehicles.

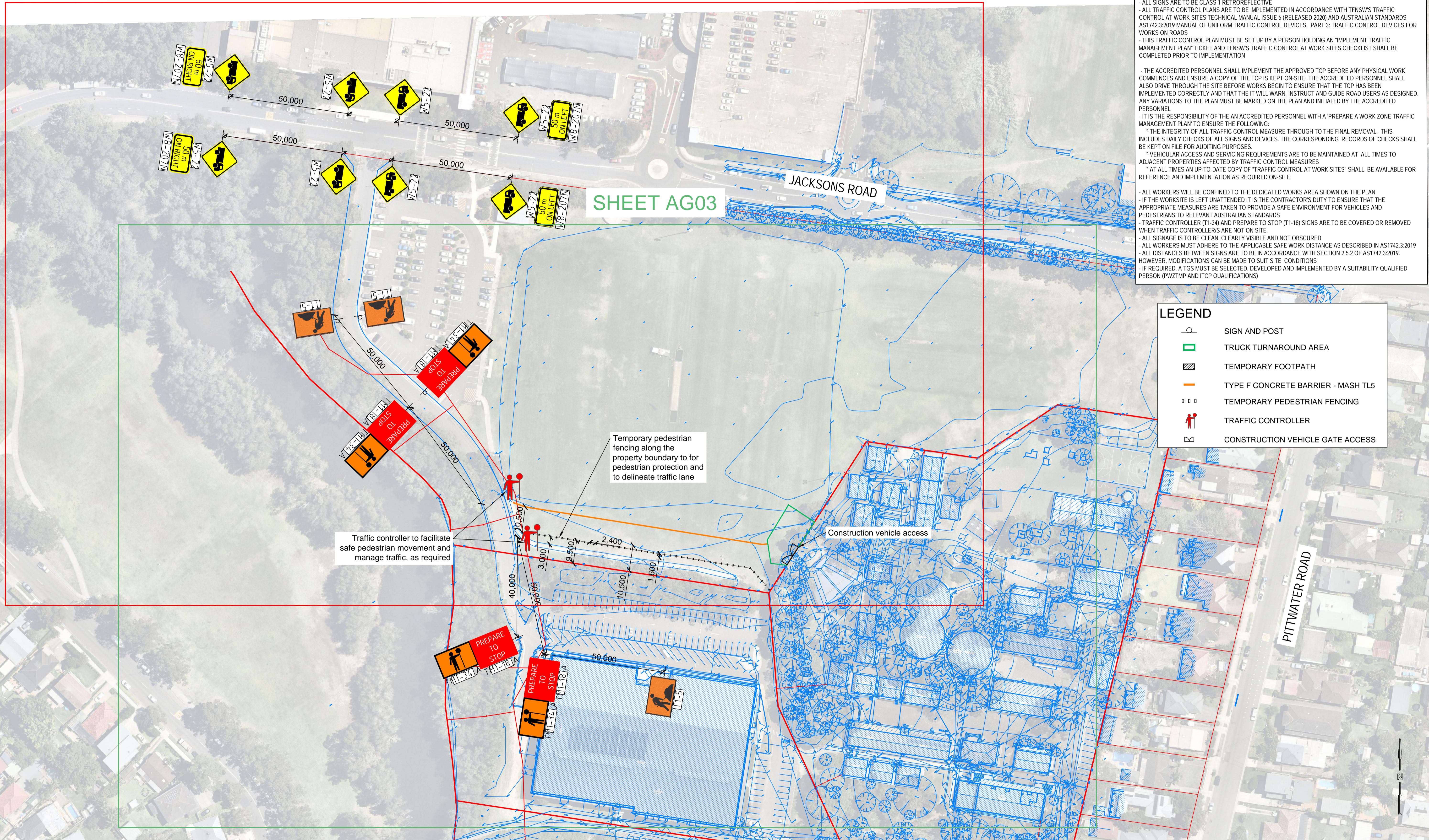
Crash or incident Procedure

- Stop your vehicle as close to it as possible to the scene, making sure you are not hindering traffic. Ensure your own safety first, then help any injured people and seek assistance immediately if required.
- Ensure the following information is noted:
 - Details of the other vehicles and registration numbers;
 - Names and addresses of the other vehicle drivers;
 - Names and addresses of witnesses; and
 - Insurers details.
- Give the following information to the involved parties:
 - Name;
 - Address; and
 - Company details
- If the damaged vehicle is not occupied, provide a note with your contact details for the owner to contact the company.
- Ensure that the police are contacted should the following circumstances occur:
 - If there is a disagreement over the cause of the crash;
 - If there are injuries; and/or
 - If you damage property other than your own.
- As soon as reasonably practical, report all incident details to your manager.

Appendix B. Traffic Guidance Scheme

SHEET AG02

- ### TGS GENERAL NOTES
- ALL PUBLIC ROADS WILL HAVE A SPEED LIMIT OF 50KM/H UNLESS IDENTIFIED OTHERWISE
 - NOT ALL DIMENSIONS SHOWN ARE TO SCALE
 - LOCATION OF SIGNS ARE TO BE CONFIRMED ON-SITE TO ENSURE APPROPRIATE VISIBILITY
 - ALL SIGNS ARE TO BE MINIMUM SIZE A
 - ALL SIGNS ARE TO BE CLASS 1 RETROREFLECTIVE
 - ALL TRAFFIC CONTROL PLANS ARE TO BE IMPLEMENTED IN ACCORDANCE WITH TfNSW'S TRAFFIC CONTROL AT WORK SITES TECHNICAL MANUAL ISSUE 6 (RELEASED 2020) AND AUSTRALIAN STANDARDS AS1742.3:2019 MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, PART 3: TRAFFIC CONTROL DEVICES FOR WORKS ON ROADS
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 - IT IS THE RESPONSIBILITY OF THE AN ACCREDITED PERSONNEL WITH A 'PREPARE A WORK ZONE TRAFFIC MANAGEMENT PLAN' TO ENSURE THE FOLLOWING:
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 - * VEHICULAR ACCESS AND SERVICING REQUIREMENTS ARE TO BE MAINTAINED AT ALL TIMES TO ADJACENT PROPERTIES AFFECTED BY TRAFFIC CONTROL MEASURES
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 - IF REQUIRED, A TGS MUST BE SELECTED, DEVELOPED AND IMPLEMENTED BY A SUITABILITY QUALIFIED PERSON (PWZTMP AND ITCP QUALIFICATIONS)



LEGEND

- SIGN AND POST
- TRUCK TURNAROUND AREA
- TEMPORARY FOOTPATH
- TYPE F CONCRETE BARRIER - MASH TL5
- TEMPORARY PEDESTRIAN FENCING
- TRAFFIC CONTROLLER
- CONSTRUCTION VEHICLE GATE ACCESS

AMENDMENTS					
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DESIGNED	ALAN TAN
CHECKED BY	D. CHOI
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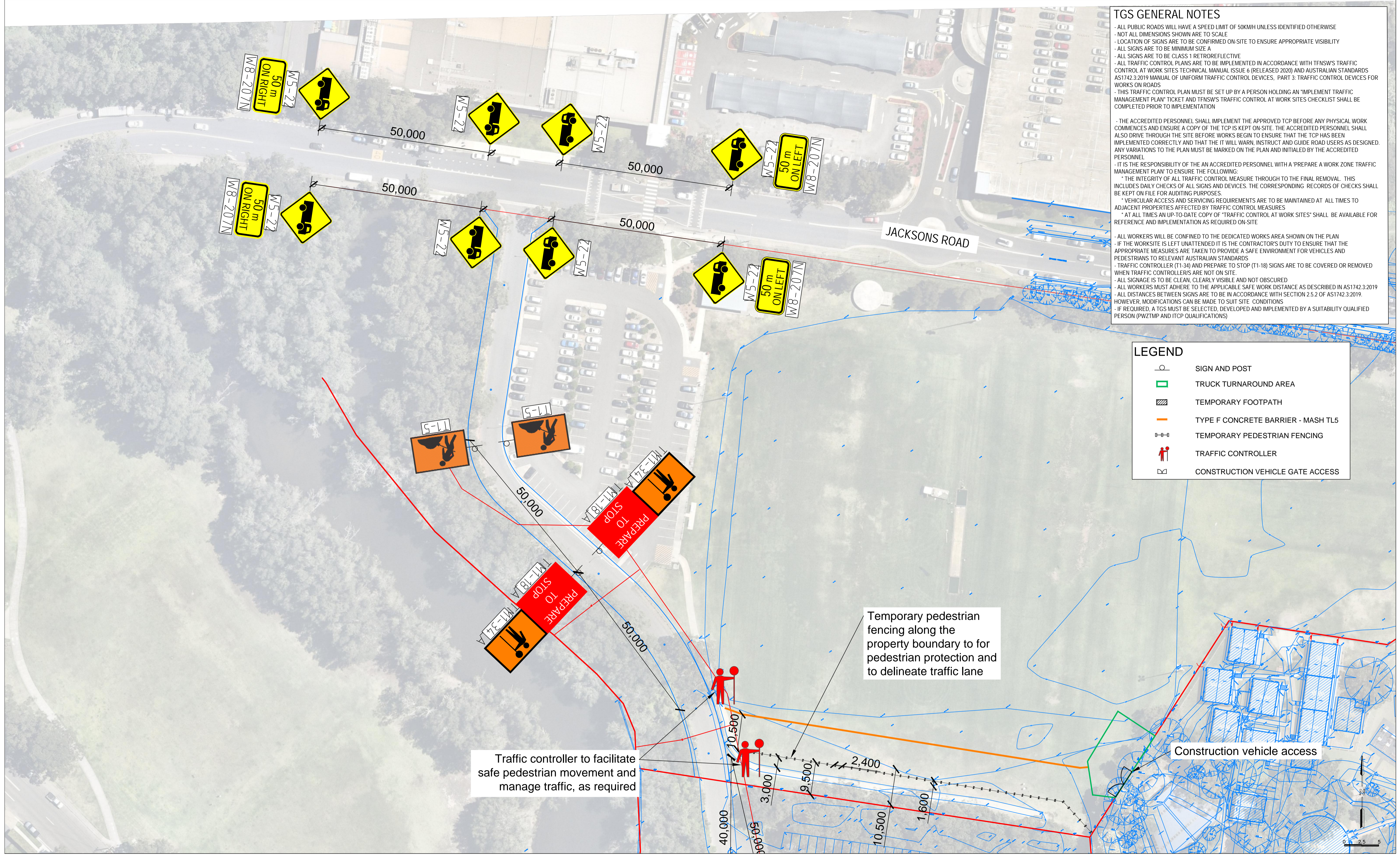
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DATE	15.02.2023
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CLIENT	SINSW
PROJECT	AG 2008
	Narrabeen Education Precinct

DOCUMENT INFORMATION	
Traffic Guidance Scheme	
Construction Vehicle Access into Narrabeen North Public School	
DRAWING STATUS	Final
FILE NAME	AG 2008-07-v03.dwg
SHEET	AG01



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LEGEND

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	TYPE F CONCRETE BARRIER - MASH TL5
	TEMPORARY PEDESTRIAN FENCING
	TRAFFIC CONTROLLER
	CONSTRUCTION VEHICLE GATE ACCESS

Temporary pedestrian fencing along the property boundary to for pedestrian protection and to delineate traffic lane

Traffic controller to facilitate safe pedestrian movement and manage traffic, as required

Construction vehicle access

AMENDMENTS

REV	DATE	DESCRIPTION	DRW	CHK	APP
03	15.02.23	TGS for NNPS construction vehicle routes	AT	DC	DC
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Design vehicle: HRV Check Vehicle: HRV

DESIGNED	Alan Tan
CHECKED BY	D. CHOI
APPROVED BY	D. CHOI
PAPER SIZE	A1
DATE	15.02.2023
SCALE	1:500

CLIENT	SINSW
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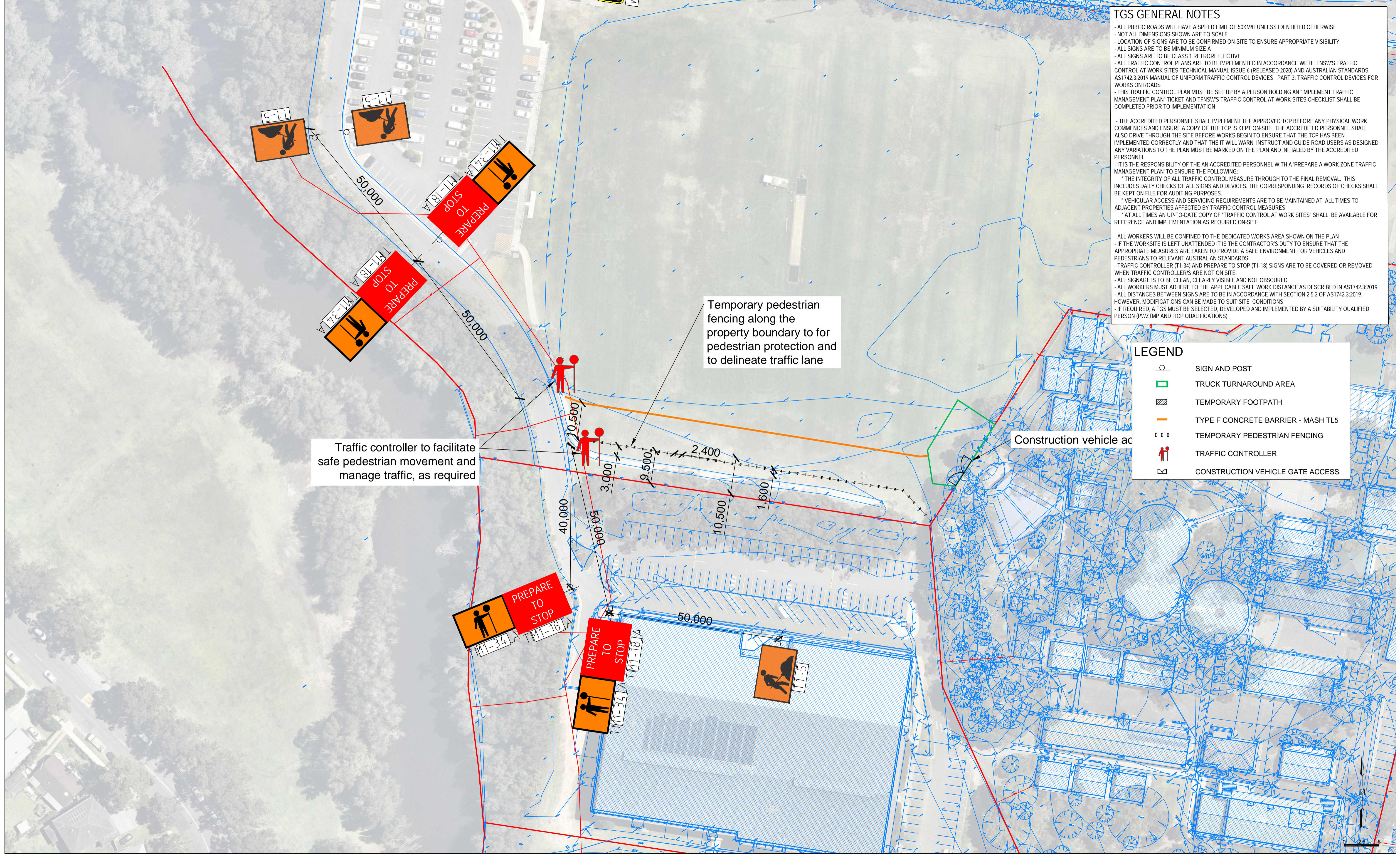
DOCUMENT INFORMATION

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DRAWING STATUS	Final

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Sydney NSW 2000
info@asongroup.com.au

FILE NAME	AG 2008-07-v03.dwg	SHEET	AG02
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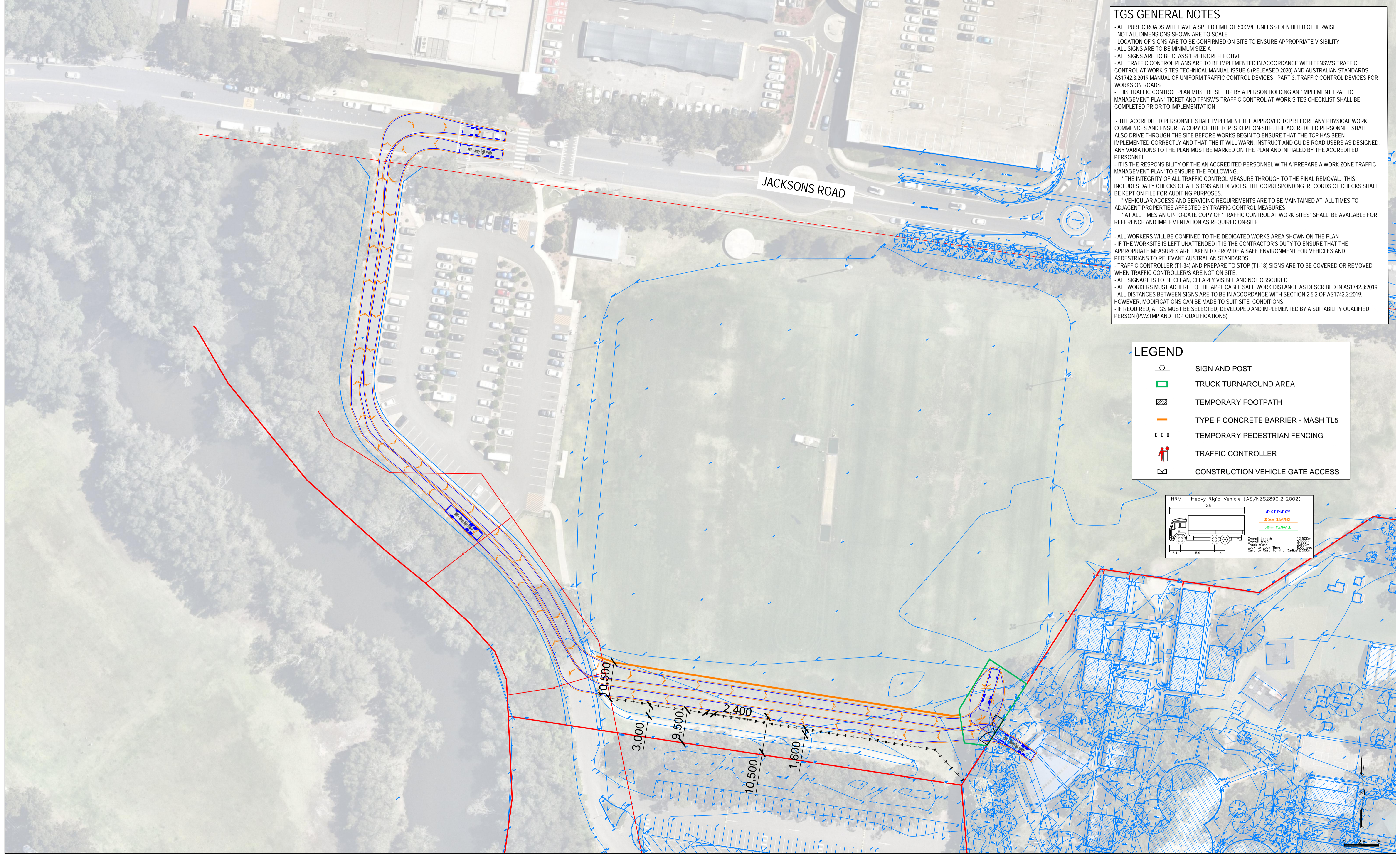
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FILE NAME: AG 2008-07-v03.dwg

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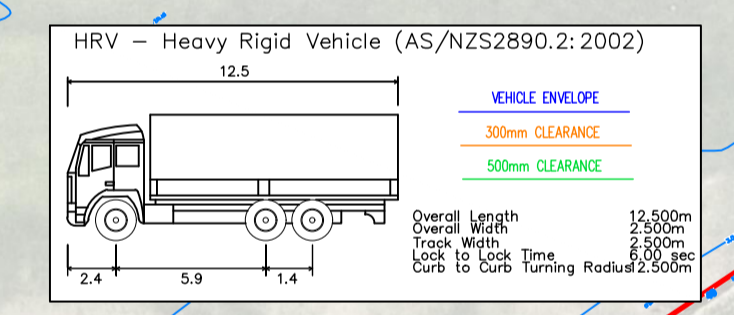


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- NOT ALL DIMENSIONS SHOWN ARE TO SCALE
- LOCATION OF SIGNS ARE TO BE CONFIRMED ON-SITE TO ENSURE APPROPRIATE VISIBILITY
- ALL SIGNS ARE TO BE MINIMUM SIZE A
- ALL SIGNS ARE TO BE CLASS 1 RETROREFLECTIVE
- ALL TRAFFIC CONTROL PLANS ARE TO BE IMPLEMENTED IN ACCORDANCE WITH TfNSW'S TRAFFIC CONTROL AT WORK SITES TECHNICAL MANUAL ISSUE 6 (RELEASED 2020) AND AUSTRALIAN STANDARDS AS1742.3:2019 MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, PART 3: TRAFFIC CONTROL DEVICES FOR WORKS ON ROADS
- THIS TRAFFIC CONTROL PLAN MUST BE SET UP BY A PERSON HOLDING AN 'IMPLEMENT TRAFFIC MANAGEMENT PLAN' TICKET AND TfNSW'S TRAFFIC CONTROL AT WORK SITES CHECKLIST SHALL BE COMPLETED PRIOR TO IMPLEMENTATION
- THE ACCREDITED PERSONNEL SHALL IMPLEMENT THE APPROVED TCP BEFORE ANY PHYSICAL WORK COMMENCES AND ENSURE A COPY OF THE TCP IS KEPT ON SITE. THE ACCREDITED PERSONNEL SHALL ALSO DRIVE THROUGH THE SITE BEFORE WORKS BEGIN TO ENSURE THAT THE TCP HAS BEEN IMPLEMENTED CORRECTLY AND THAT THE IT WILL WARN, INSTRUCT AND GUIDE ROAD USERS AS DESIGNED. ANY VARIATIONS TO THE PLAN MUST BE MARKED ON THE PLAN AND INITIALED BY THE ACCREDITED PERSONNEL
- IT IS THE RESPONSIBILITY OF THE AN ACCREDITED PERSONNEL WITH A 'PREPARE A WORK ZONE TRAFFIC MANAGEMENT PLAN' TO ENSURE THE FOLLOWING:
 - * THE INTEGRITY OF ALL TRAFFIC CONTROL MEASURE THROUGH TO THE FINAL REMOVAL. THIS INCLUDES DAILY CHECKS OF ALL SIGNS AND DEVICES. THE CORRESPONDING RECORDS OF CHECKS SHALL BE KEPT ON FILE FOR AUDITING PURPOSES.
 - * VEHICULAR ACCESS AND SERVICING REQUIREMENTS ARE TO BE MAINTAINED AT ALL TIMES TO ADJACENT PROPERTIES AFFECTED BY TRAFFIC CONTROL MEASURES
 - * AT ALL TIMES AN UP-TO-DATE COPY OF 'TRAFFIC CONTROL AT WORK SITES' SHALL BE AVAILABLE FOR REFERENCE AND IMPLEMENTATION AS REQUIRED ON-SITE
- ALL WORKERS WILL BE CONFINED TO THE DEDICATED WORKS AREA SHOWN ON THE PLAN
- IF THE WORKSITE IS LEFT UNATTENDED IT IS THE CONTRACTOR'S DUTY TO ENSURE THAT THE APPROPRIATE MEASURES ARE TAKEN TO PROVIDE A SAFE ENVIRONMENT FOR VEHICLES AND PEDESTRIANS TO RELEVANT AUSTRALIAN STANDARDS
- TRAFFIC CONTROLLER (T1-34) AND PREPARE TO STOP (T1-18) SIGNS ARE TO BE COVERED OR REMOVED WHEN TRAFFIC CONTROLLER'S ARE NOT ON SITE.
- ALL SIGNAGE IS TO BE CLEAN, CLEARLY VISIBLE AND NOT OBSCURED
- ALL WORKERS MUST ADHERE TO THE APPLICABLE SAFE WORK DISTANCE AS DESCRIBED IN AS1742.3:2019
- ALL DISTANCES BETWEEN SIGNS ARE TO BE IN ACCORDANCE WITH SECTION 2.5.2 OF AS1742.3:2019. HOWEVER, MODIFICATIONS CAN BE MADE TO SUIT SITE CONDITIONS
- IF REQUIRED, A TGS MUST BE SELECTED, DEVELOPED AND IMPLEMENTED BY A SUITABILITY QUALIFIED PERSON (PWZTMP AND ITCP QUALIFICATIONS)

LEGEND

	SIGN AND POST
	TRUCK TURNAROUND AREA
	TEMPORARY FOOTPATH
	TYPE F CONCRETE BARRIER - MASH TL5
	TEMPORARY PEDESTRIAN FENCING
	TRAFFIC CONTROLLER
	CONSTRUCTION VEHICLE GATE ACCESS



AMENDMENTS

REV	DATE	DESCRIPTION	DRW	CHK	APP
03	15.02.23	TGS for NNPS construction vehicle routes	AT	DC	DC
02	06.02.23	TGS for NNPS construction vehicle routes	AT	DC	DC
01	01.02.23	TGS for NNPS construction vehicle routes	AT	DC	DC

GENERAL NOTES

This drawing is provided for information purposes only and should not be used for construction.

Survey Plan prepared by CMS Surveyors Pty Ltd, received 20.01.2023.

Aerial Image obtained from NearMap, dated 18.05.2022.

Default speed limit of 50km/h for built up area to applies to Jacksons Road.

Swept path assessments completed at 10 km/h and 300mm clearance.

Design vehicle: HRV Check Vehicle: HRV

DESIGNED	ALAN TAN
CHECKED BY	D. CHOI
APPROVED BY	D. CHOI

PAPER SIZE	A1
DATE	15.02.2023
SCALE	1:500

CLIENT

SINSW

PROJECT

AG 2008

Narrabeen Education Precinct

DOCUMENT INFORMATION

Traffic Guidance Scheme

Construction Vehicle Access into Narrabeen North Public School

DRAWING STATUS: Final

Suite 17.02, Level 17, 1 Castlereagh St
Sydney NSW 2000
info@asongroup.com.au

FILE NAME: AG 2008-07-v03.dwg

SHEET: AG04