planning consultants

23 February 2023
Our Ref: 20909G.4RP.docx

Adam Susko
Principal Planner
Development Assessment – North Team
Northern Beaches Council
PO Box 82
MANLY NSW 1655

Attention: Adam Susko (Adam.Susko@northernbeaches.nsw.gov.au)

Dear Adam

Development Application No. DA2022/1649 for Alterations and Additions to the Narrabeen North Public School and Narrabeen Sports High School at 6 & 10 Namona Street, North Narrabeen

We refer to Development Application No. DA2022/1649 for alterations and additions to the Narrabeen North Public School (NNPS) and the Narrabeen Sports High School (NSHS) at 6 and 10 Namona Street, North Narrabeen (the Site) submitted by School Infrastructure NSW (SINSW) on behalf of NSW Department of Education to Northern Beaches Council (Council) on 18 October 2022.

We also refer to Council's letter dated 3 February 2023 requesting further information (Council's RFI letter) in respect to the following issues:

- Construction access; and
- Flooding.

The purpose of this letter is to provide Council with a response to the issues raised in Council's RFI letter, as well a response to Council's Traffic Engineer comments on the proposed development.

Construction Access

Attachment 1 to this letter is a revised Construction Traffic Management Plan (revised CTMP) for the proposed development prepared by Ason Group dated 16 February 2023.

Your attention is drawn to Section 2.4 Truck Routes and Figure 9: Construction Vehicle Haulage Routes of the revised CTMP. The construction vehicle access to the site for both ingress and egress will now be via Pittwater Road, Jacksons Road and the Warriewood Valley Sportsground car park driveway and then through the southern boundary of the Warriewood Valley Sportsground to reach the Site. No construction vehicle access will be via the adjoining

Northern Beaches Indoor Sports Centre (NBISC) site. It is noted that SINSW will undertake further consultations with the Council regarding the proposed construction access.

Response to Traffic Engineer Comments

Attachment 2 is a letter prepared by Ason Group dated 16 February 2023 in response to issues raised in the Council's Traffic Engineer comments on the proposed development which are self-explanatory.

More specifically, Ason Group have provided additional comments on the parking assessment for the proposed development noting that there are no proposed changes to the number of students, staff or car parking across both schools. Therefore, no changes are required as part of the proposal. Ason Group further state as follows:

> *"As such, based on existing data and information, the car parking demand generated by the school staff are mostly contained within off-street parking areas. With consideration to the target mode share, there would be a short-fall of just 3 spaces for NNPS and a surplus of 19 spaces for NSHS."*

In relation to the issue of providing a drop-off/pick-up facility for the NNPS and NSHS, Ason Group have acknowledged that neither NNPS nor NSHS have any formal drop-off/pick-up facilities. The project team provided a preliminary drop-off/pick-up proposal and has explored other options. However, there are limited opportunities in relation to the conversion of the setback areas along the Namona Street frontages of either NNPS or NSHS as these are mapped as "high biodiversity value" under the Biodiversity Conservation Act 2016 and "Coastal Wetland" under State Environmental Planning Policy (Biodiversity and Conservation) 2021.

Ason Group also state as follows:

> *"It is clear from the travel mode surveys that the school community is willing to consider other forms of travel to/from school, and will consider active travel choices, public transport and car pooling to reduce the demand for parking, and in particular pick-up/set-down areas.*
>
> *Whilst it is accepted that the demand for drop-off/pick-up facilities will exist, however, given the primary purpose for this project is to replace buildings on-site, and as part of the project, improvements to pedestrian connection onto Namona Street, as well as the upgrading of bicycle parking infrastructure, it is considered that additional program measures via the Operational School Travel Plan can offer some benefits and support a reduction in demand for a pick-up/set-down area."*

Flooding

BMT Engineers have prepared a letter dated 23 February 2023 in response to the flood-related issues with the proposed construction of Building A at NSHS raised in the Council's Stormwater and Floodplain Engineers comments on the Development Application No. DA2022/1649 for the proposed development and also in Council's RFI letter (see **Attachment 3**).

BMT Engineers note that Council has no flood-related issues for the proposed construction of Building D at NNPS.

The BMT Engineers letter provides additional information addressing Council's concerns regarding the proposed Finished Floor Levels (FFL) which are below the Flood Planning Level (FPL) of 3.53mAHD, including further details of the use of the First Aid Room and some of the Store Rooms, the likely specific contents of these Store Rooms and the potential for floodwaters to damage contents.

The BMT Engineers letter states as follows:

"First Aid Room
The first aid room provides the facilities for initial first aid treatment. Under the EFSG (school design guidelines) direct access is required to the gymnasium. Additionally, as advised by SINSW, a clear line of sight is also required from the gymnasium into the first aid room due to child protection concerns.
Therefore, it is not practical to locate the first aid room above the PMF level of 4.87 mAHD.

The first aid room is only a temporary assessment room rather than an area where injured or ill students will remain for extended periods of time. Instead, severely ill/injured child will be transferred to an existing sick bay within NSHS. Please refer to "Clinic ER0010" located in existing building Block E to which the severely ill/injured student will be transferred, refer floor plan for Block E below in Figure 1.1.

Considering the concerns that have been raised by Council regarding potential floodwaters and the use of the first aid room by students with mobility impairments, it is noted that the Applicant will detail the management strategy for the use of the first aid room in the in Safety in Design Report for NSHS and include this in the School's Flood Emergency Response Plan.

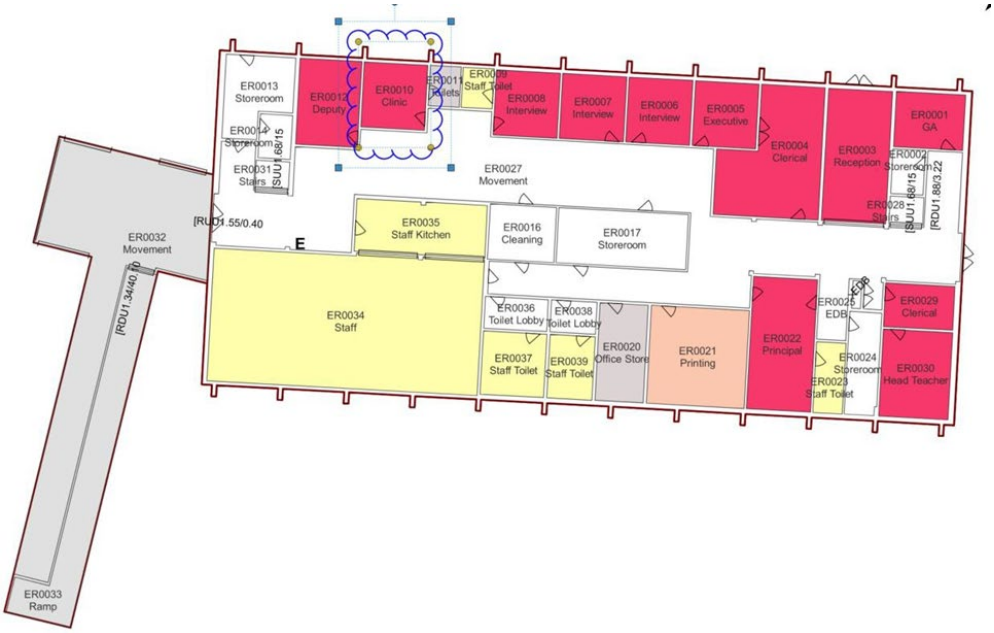


Figure 1.1 Block E Floor Plan Showing the Location of the Clinic ER0010 and GA Room ER0001

Store Rooms
• The PE and Large Equipment Stores include sports equipment such as balls, and gym equipment such as large mats, or vaults, that are used within the gym, so needs direct, level access to / from the gym. Due to the nature of this equipment, it is designed for outdoor, all weather use and/or flood resilient in design (e.g. vaults have metal supports, mats have waterproof coverings, etc). Therefore, items stored in these areas would not suffer high value flood damage.

• The Sports Store is used to store outdoor equipment for use at the sports courts and pitches. It requires access from the sports pitches and may need to be accessed outside school hours, thus it is accessed externally. It is noted that this outdoor sports equipment is designed for outdoor, all weather use. Therefore, items stored in these areas are water resilient and would not suffer high value flood damage.

• The P&C Store is currently located on the ground floor within part of the building which is being demolished. This store is used by the wider school community to store equipment used during out of school hours events (such as school fairs). It is assumed that this may include BBQ equipment, bunting, folding tables, etc. An external entry is required because this store is used out of school hours. Items stored in these areas are flood resilient (e.g. folding plastic/steel design tables), designed for outdoor and all-weather use (e.g. BBQ equipment) and/or are low value items (e.g. bunting) that would not suffer high value flood damage.

• The Bulk Store is used by the General Assistant ("GA" or Janitor). This room is for the storage of bulk goods and requires easy access for deliveries. This room may sometimes contain a desk and workbench for the GA. The GA also currently has a desk within the main Administration building, refer floor plan for Block E in Figure 1.1. It is noted that the Applicant intends to store the high value computing equipment in the existing GA room in Block E. Any high value items within the Bulk Store that may be damaged by floodwaters (e.g. electrical tools) will be stored above the FPL.

• The Chair Store is only for storage of chairs associated with the gym. Direct level access is required between the gym and chair store. As acknowledged by Council, these are typically constructed from plastic and metal and are therefore flood resilient and would not suffer high value flood damage.

• The Cleaner Store Room and student amenities may contain hazardous chemicals. All potentially hazardous substances in these areas will be stored above the FPL or protected from floodwaters.

Stage

The shortest routes from the stage to stairs accessing Level 1 of the Building A extension are shown in Figure 1.2. These routes will provide access to the second storey for occupants to shelter in place above the PMF.

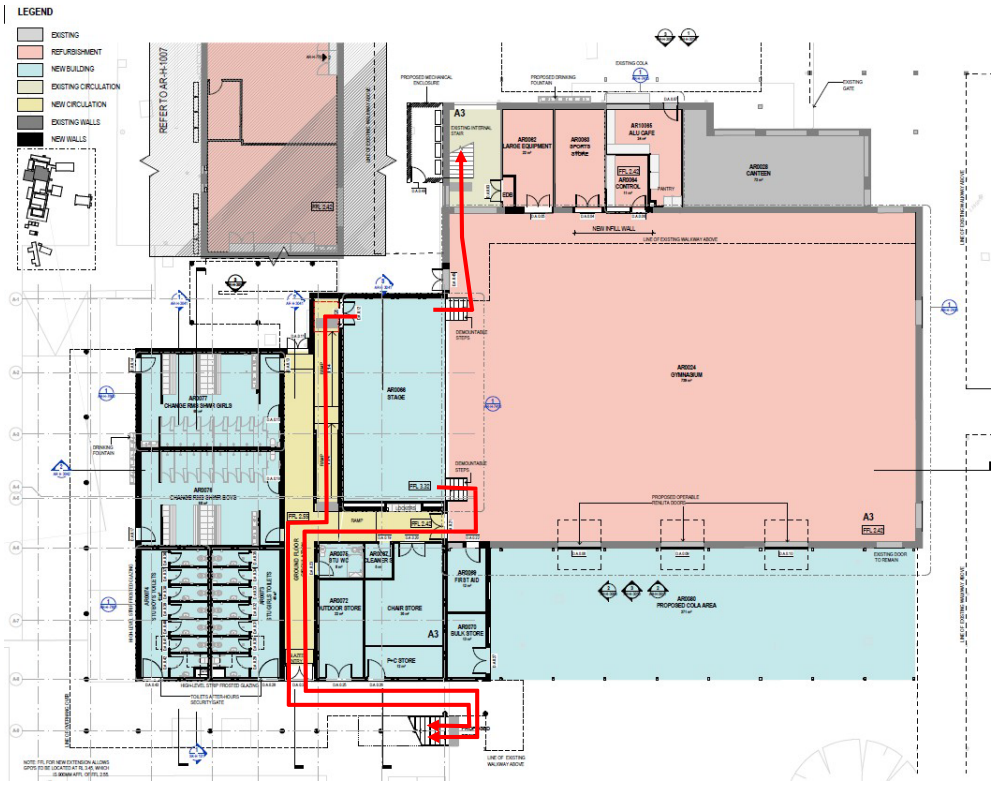


Figure 1.2 Access Routes from Stage 1 to Level 1 of Building A (refer red arrows)

Flood Storage
It is acknowledged that the extension to Building A is larger in area than the structure to be demolished and therefore, the extension of Building A would result in a reduction of available flood storage below the 1% AEP flood level. The following unmitigated 1% AEP flood storage volumes have been estimated based on the assumption that existing and proposed buildings result in complete loss of flood storage during a flood:

• Current loss of available 1% AEP storage from Building A section to be demolished = 117 m3

• Loss of available storage from proposed Building A extension (i.e. without any allowance of compensatory flood storage) = 295 m3

• Change in available 1% AEP flood storage volume within NSHS as a result of proposed Building A works = 178 m3

Opportunities for compensatory flood storage are raised within Council's letter dated 3 February 2023 and were discussed with Council's Ms Valerie Tulk on 15 February 2023. In line with this advice and where considered feasible based on suitable areas that could practically be ingressed by floodwaters, compensatory flood storage will be incorporated into the design of the Building A extension by allowing floodwaters to enter and be temporarily stored within:

• the ground floor amenities (toilets and change rooms) through the open style security gates into these facilities (refer Drawing Number AR-H-3010 in DA plans).

• the Outdoor Store, P&C Store and Bulk Store through a gap under external doors.

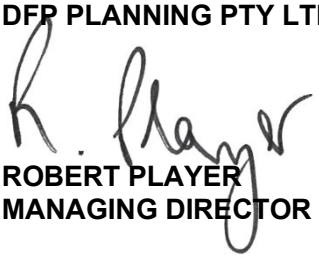
In order to reduce water passing from these areas into other internal areas within Building A, flood doors will be installed at internal accessways between the amenities and ground floor circulation area and an impenetrable hob will be constructed along internal walls, where required, to reduce water penetration of the walls.

The compensatory 1% AEP flood storage volume within the above listed areas is estimated to be 124 m3. Therefore, the nett loss of available flood storage during the 1% AEP flood as a result of the Building A extension with provision of compensatory flood storage as outlined above is estimated to be 54 m3.

Lift Motor
The lift proposed for NSHS is MRL (Machine Room Less) lifts. Lift motors are located inside the shaft which is located at the highest level served. Lift equipment will be above FPL of 3.53 mAHD."

Should you have any queries, please contact Rob Player, Managing Director of DFP Planning.

Yours faithfully
DFP PLANNING PTY LTD



ROBERT PLAYER
MANAGING DIRECTOR

rplayer@dfpplanning.com.au

Encl. Attachment 1 - Construction Traffic Management Plan prepared by Ason Group dated 16/2/2023

Attachment 2 - Ason Group letter on Response to Traffic Engineer Comments dated 16/2/2023

Attachment 3 - BMT Engineers letter on Response to Flood-Related Issues dated 23/2/23

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ATTACHMENT I

Narrabeen Education Precinct - Narrabeen North Public School

Construction Traffic Management Plan

6 Namona Street, North Narrabeen NSW 2101
16/02/2023
P2008r01

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Document Control

Project No	P2008
Project	Narrabeen Education Precinct - Narrabeen North Public School
Client	SINSW
File Reference	P2008r01v12 CTMP_ Narrabeen North Public School, North Narrabeen

Revision History

Revision No.	Date	Details	Author	Approved by
-	05/08/2022	Draft	L. Liu, M. Kong	D. Choi
01	24/08/2022	Issue	L. Liu, M. Kong	D. Choi
02	24/08/2022	Issue	L. Liu, M. Kong	D. Choi
03	05/09/2022	Issue	L. Liu, M. Kong	D. Choi
04	15/09/2022	Issue	L. Liu, M. Kong	D. Choi
05	19/09/2022	Issue	A. Tan, M. Kong	D. Choi
06	19/09/2022	Issue	A. Tan, M. Kong	D. Choi
07	03/11/2022	Issue	J. Wu, M. Kong	D. Choi
08	31/01/2022	Minor Amendments to Text	A. Tan, S. Bandaranayake	D. Choi
09	03/02/2022	Change to Haulage Route	A. Tan	D. Choi
10	06/02/2022	Update to TGS	A. Tan	D. Choi
11	16/02/2022	Update to TGS	A. Tan	D. Choi
12	16/02/2022	Minor Amendments to Text	A. Tan	D. Choi

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APPENDICES

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 and is legally described as Lot 12 DP 1119562. NSHS is surrounded by Pittwater Road to the east, Pittwater Sports Centre to the south and Mullet Creek to the west. See site aerial map in **Figure 1**.

Figure 1: Site Aerial Map, Source: Nearmap

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 Project Details

1.5.1 The Proposal

The proposed Narrabeen Education Precinct development includes the redevelopment of Narrabeen North Public School (NNPS) and Narrabeen Sports High School (NSHS). The Public School and High School have been identified by the NSW Department of Education (DoE) as requiring upgrade works.

The works at NNPS upgrade the school includes the demolition of existing buildings (Blocks H and J), and the construction of three (3) new buildings with the refurbishment of three (3) existing buildings (Blocks B, K and V).

This Development Application (DA) will seek consent for the following works at NNPS:

- Construction of a new two (2) storey building containing administration facilities, multi-purpose hall and out-of-school-hours care (OSHC) facility on the ground floor with staff facilities and amenities on the first floor; and New Covered Outdoor Learning Area (COLA).

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

- 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**.

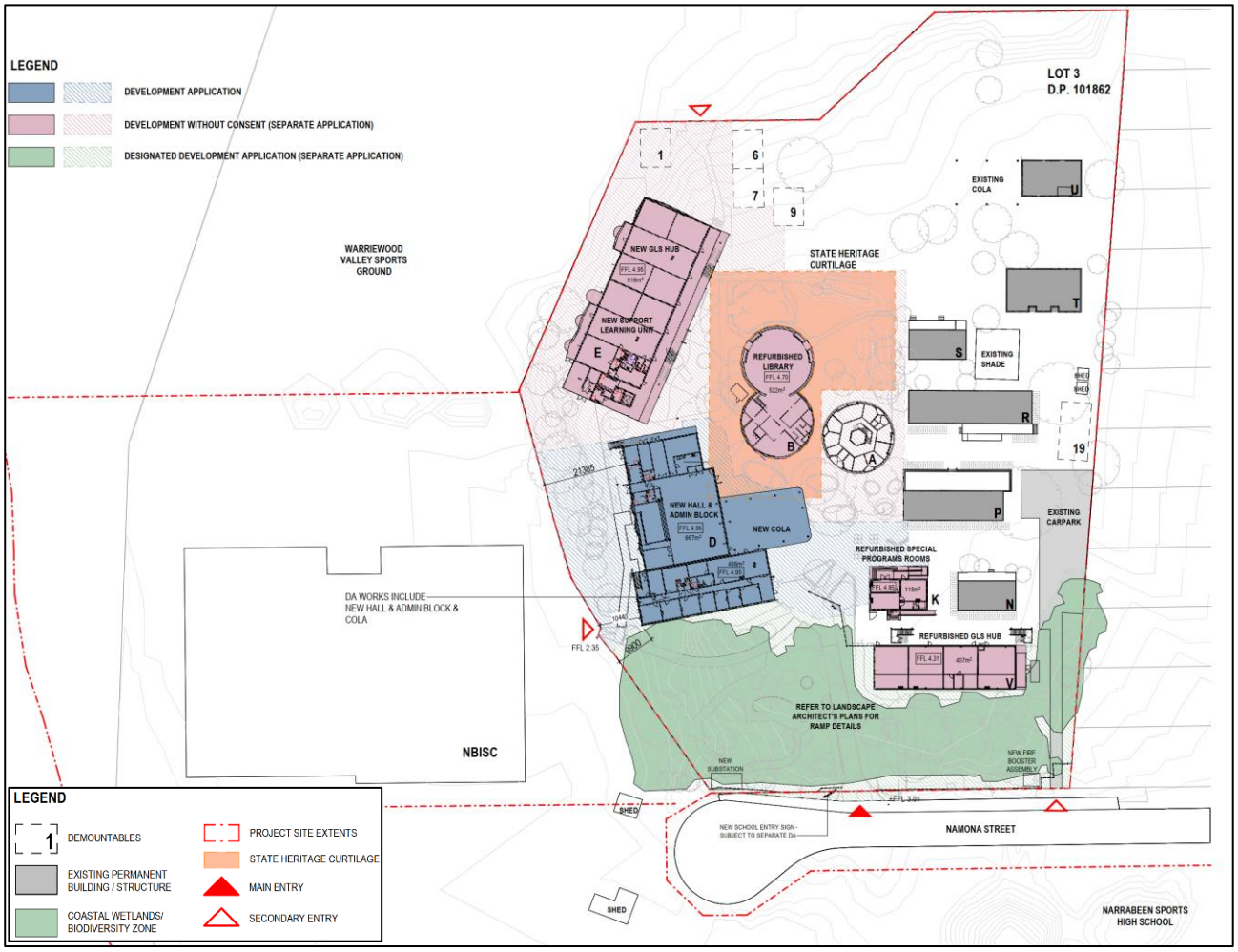

Figure 2: Site Plan (received 23 August 2022)

1.5.2 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 2: 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.

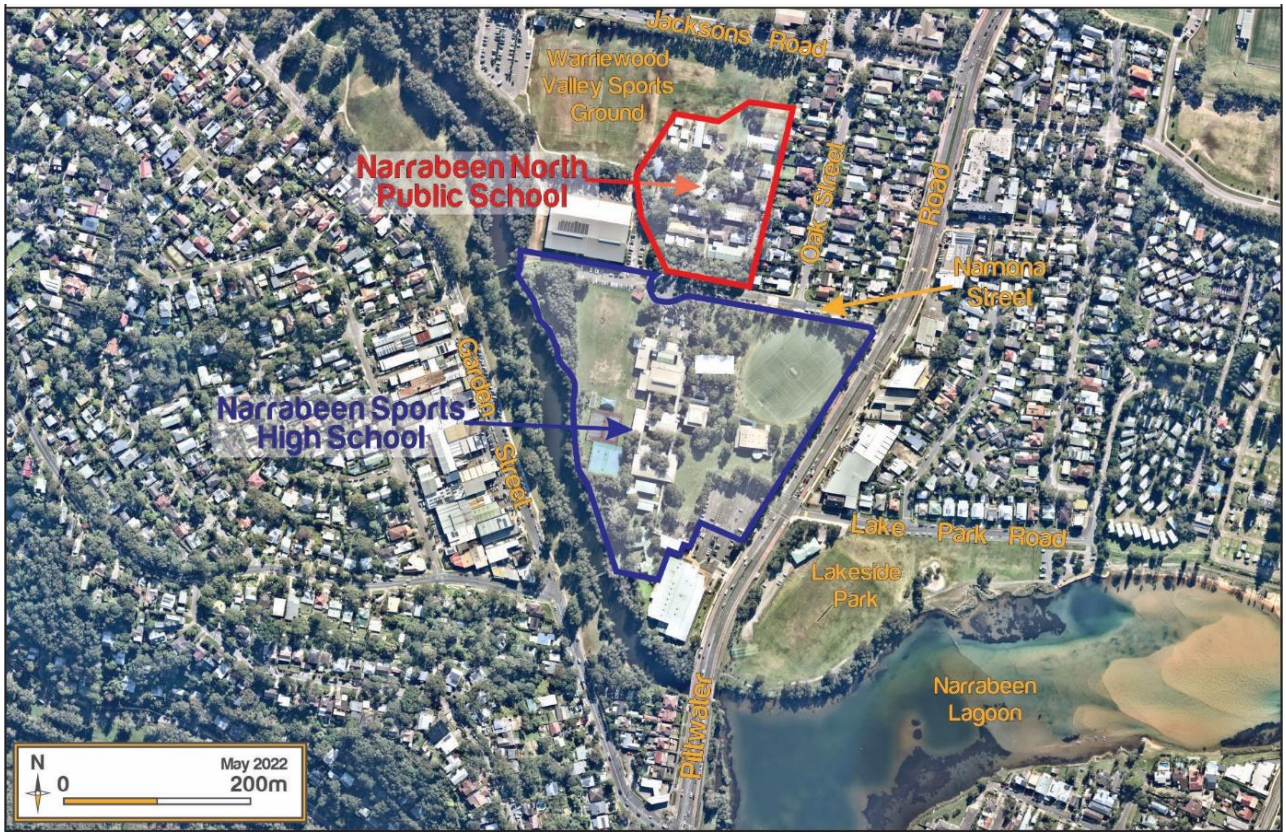

Figure 3: Site Location and Context

1.5.3 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

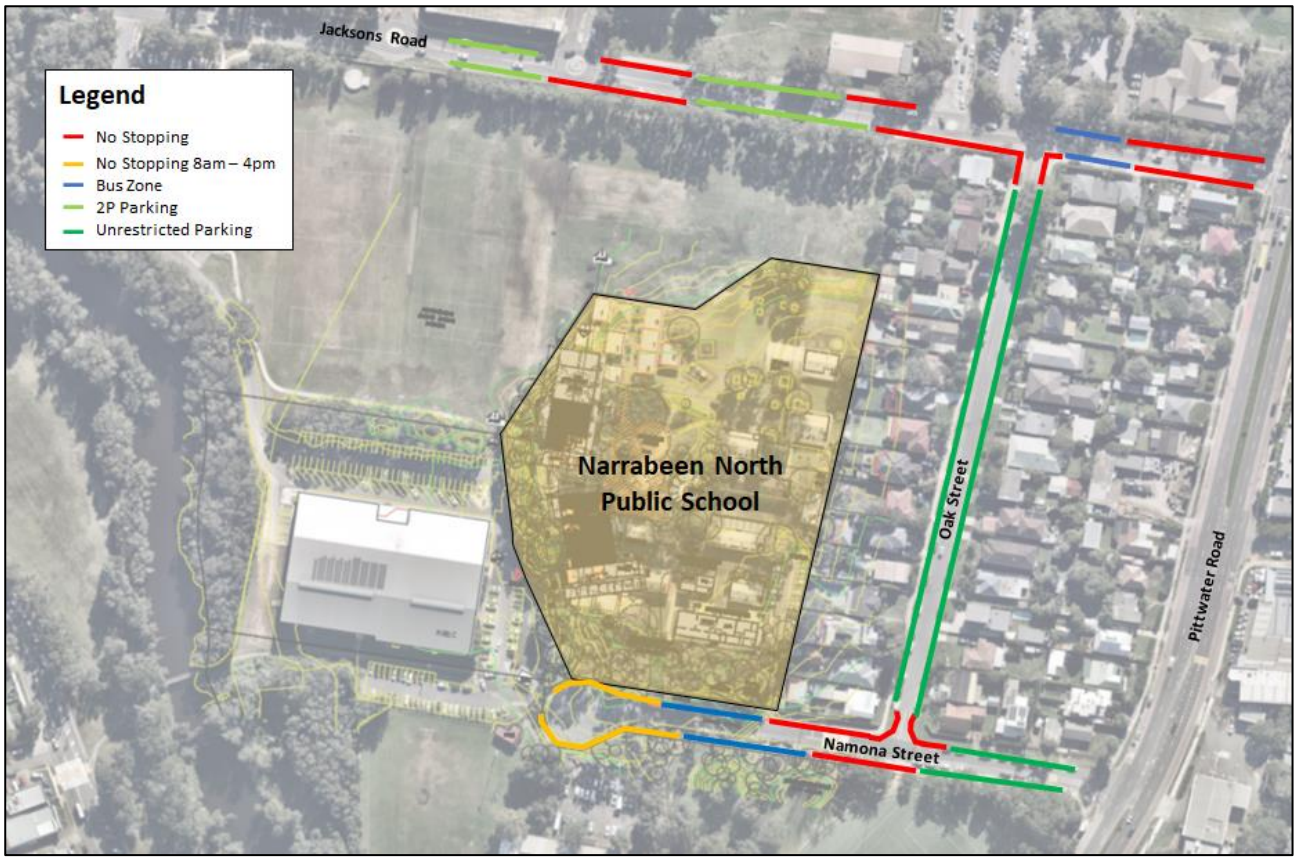

Figure 5: Existing Parking Restrictions

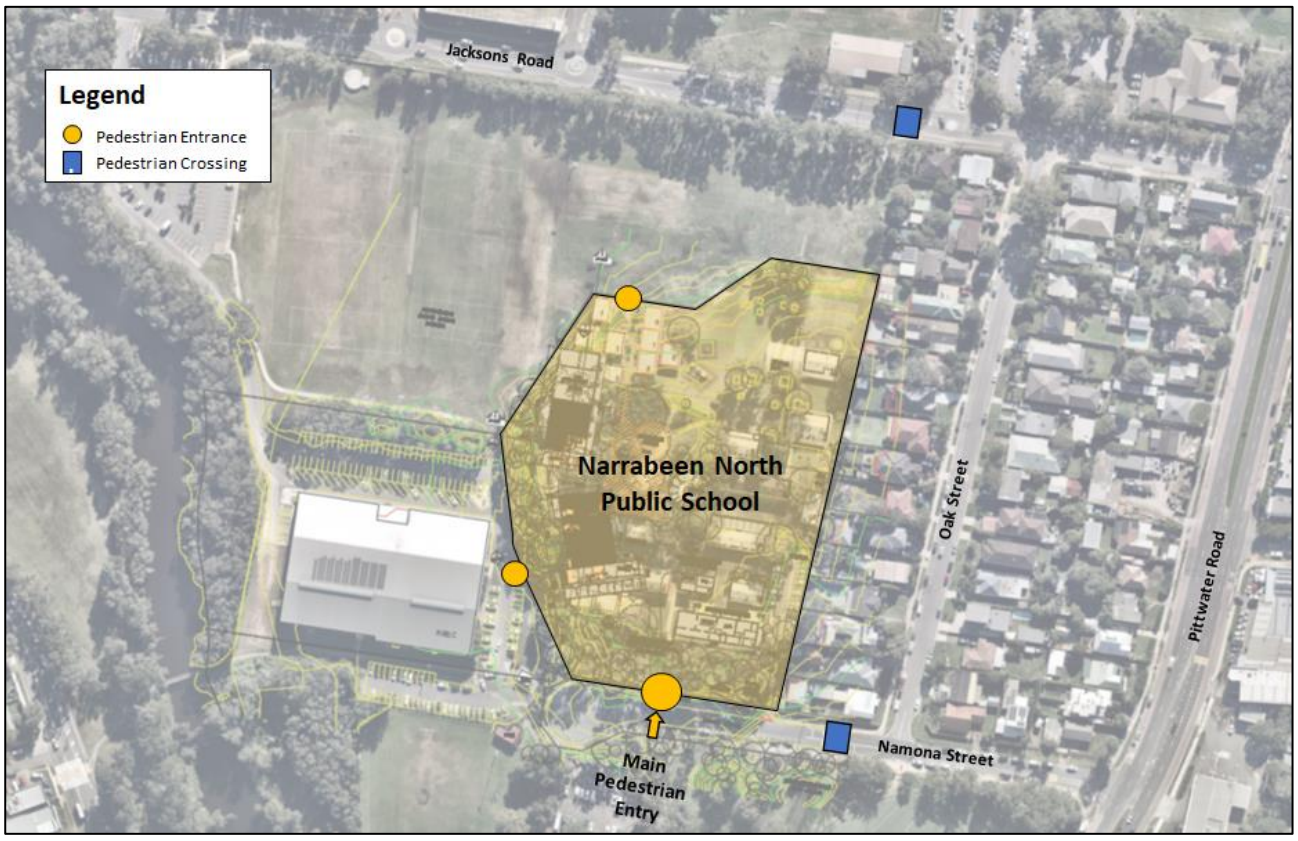

Figure 6: Existing Pedestrian Facilities

1.6 Site Related Data

1.6.1 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 3.**

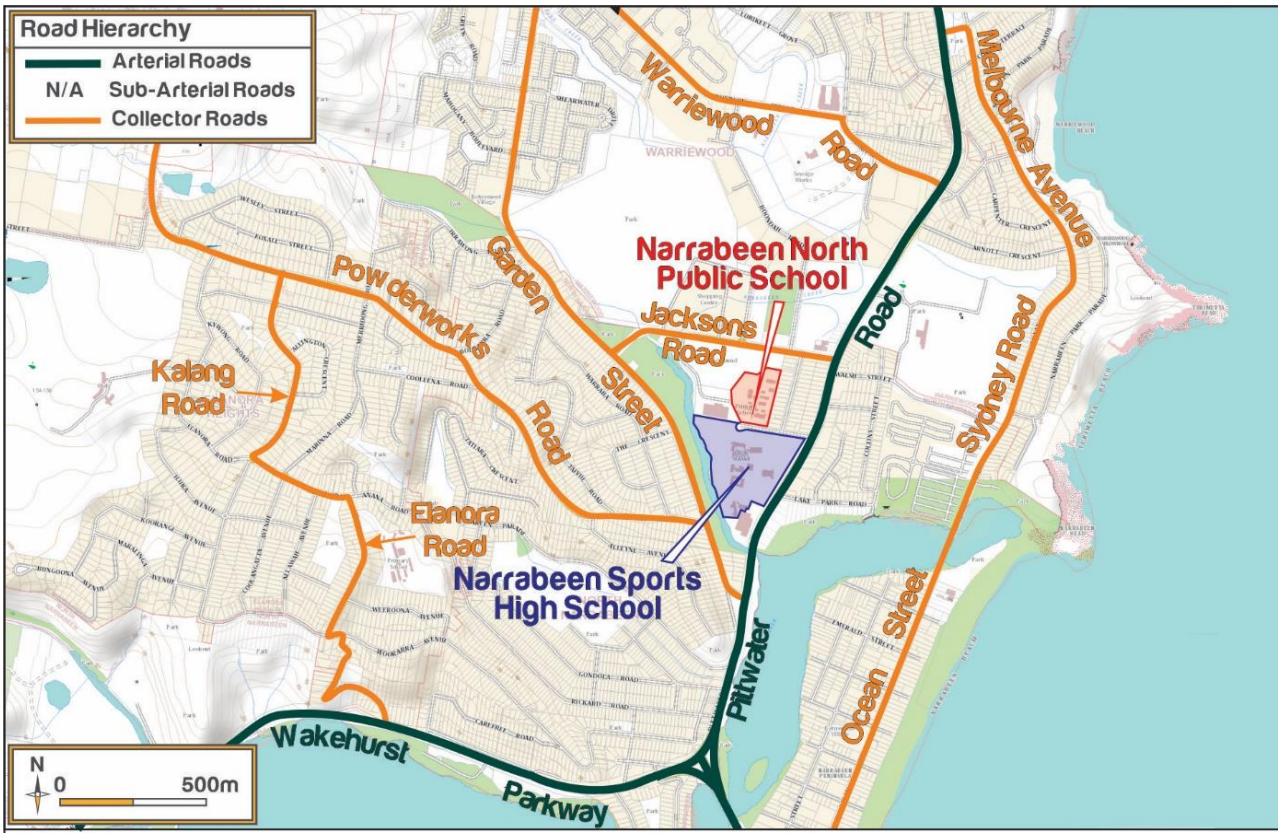

Figure 7: Road Hierarchy

TABLE 3: 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	TBC	50 km/h
Garden Street	Regional Road	TBC	50 km/h

1.6.2 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 4.**

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 signalised intersection and three crashes occurring at the Pittwater Road/Garden Street signalised 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 Locations[1]

TABLE 4: 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

[1] *https://roadsafety.transport.nsw.gov.au/statistics/interactivecrashstats/lga_stats.html?tablga=4*

	Daylight	21-Right through	Pittwater Road/Namona Street	Non-Casualty
	Darkness	0-Ped nearside	Pittwater Road/Garden Road	Serious Injury
	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.

1.6.3 Vulnerable Road Users

TABLE 5: 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

1.7 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 6: 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.

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 queuing.

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 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 Jacksons Road 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. 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**.

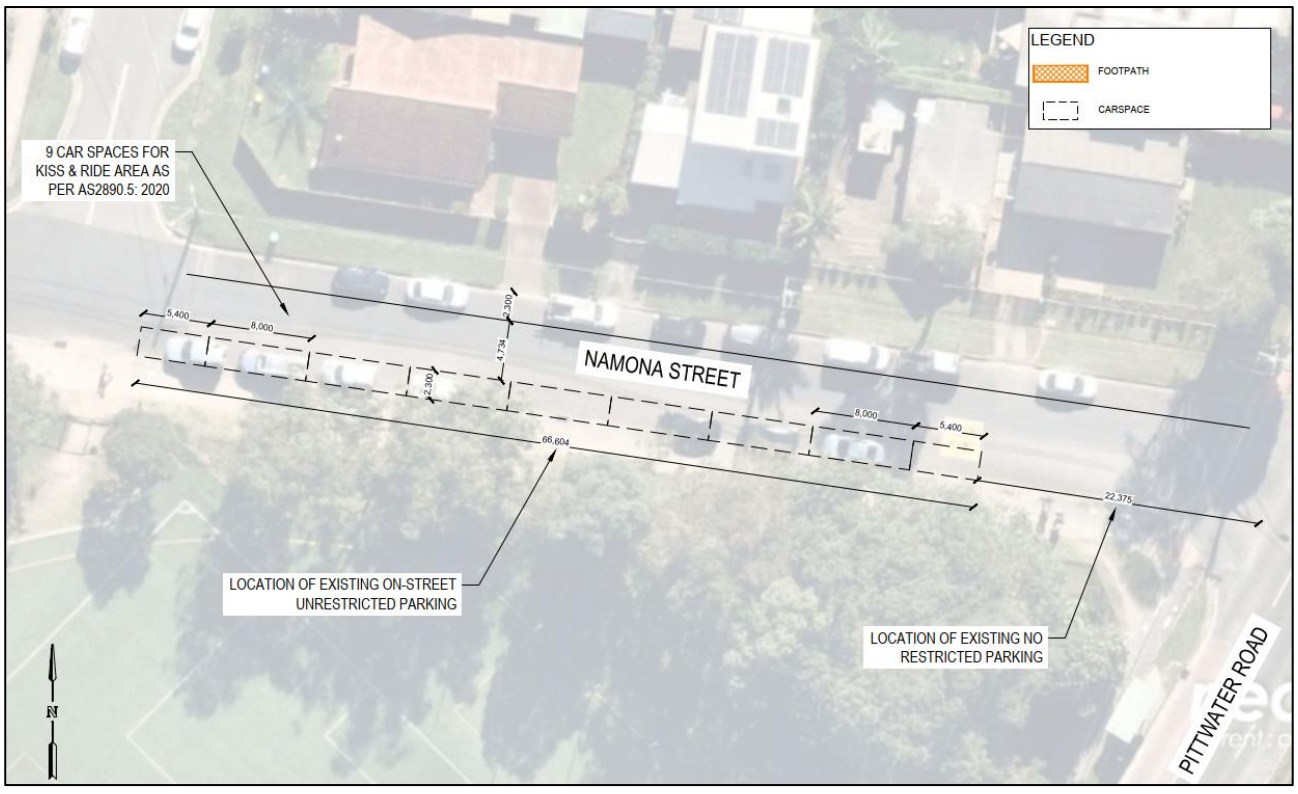

Figure 10: Proposed Kiss and Ride Facility on Namona Street

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 7: EXAMPLE REVIEW OF ACTIVITIES

Activity	`		Frequency or Details
Shift Inspections	☐ Yes	☐ No	
Weekly Inspections	☐ Yes	☐ No	
TMP Review	☐ Yes	☐ No	
Road Safety Audit	☐ Yes	☐ No	
Other	☐ Yes	☐ 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 8** 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 8: 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: • Review CTMP and update where necessary • Provide additional training.	As with Condition Amber, plus; • 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: • Provide additional training (including toolbox talks and further notification of Driver Code of Conduct)	As with Condition Amber, plus; • 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	As with Condition Amber, plus • Review and investigate

			should be provided with additional training and an extra copy of the Driver Code of Conduct	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 measures, where appropriate. Implement additional remedial measures, such as:	As with Condition Amber. • If it is concluded that construction activities were directly responsible for the exceedance, submit an incident

			• 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	report to government agencies. • Implement relevant responses and undertake an immediate review to avoid such occurrences in the future.

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

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
- 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.
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- 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	PAPER SIZE: A1
CHECKED BY: D. CHOI	DATE: 15.02.2023
APPROVED BY: D. CHOI	SCALE: NOT TO SCALE

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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PLOT DATE: 16/02/2023 8:55:17 AM | CAD REFERENCE: C:\Users\Alan Tan\Ason Group\Ason Group Team Site - 2008\Projects\Design\AG 2008-07-v03.dwg | Alan Tan |

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- TEMPORARY PEDESTRIAN FENCING
- TRAFFIC CONTROLLER
- CONSTRUCTION VEHICLE GATE ACCESS

JACKSONS ROAD

W8-207N 50 m ON RIGHT W5-22 50,000 W5-22 50,000 W5-22 W5-22 50 m ON LEFT W8-207N

W8-207N 50 m ON RIGHT W5-22 50,000 W5-22 50,000 W5-22 W5-22 50 m ON LEFT W8-207N

T1-5 T1-5 50,000 50,000 TM1-34A PREPARE TO STOP TM1-18A TM1-18A PREPARE TO STOP TM1-34A

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

10,500 3,000 9,500 2,400 1,600 10,500 40,000 60,000

0 2.5 5

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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: AG02

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- 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

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  * 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

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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
PAPER SIZE: A1
CHECKED BY: D. CHOI
DATE: 15.02.2023
APPROVED BY: D. CHOI
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
FILE NAME: AG 2008-07-v03.dwg
SHEET: AG03

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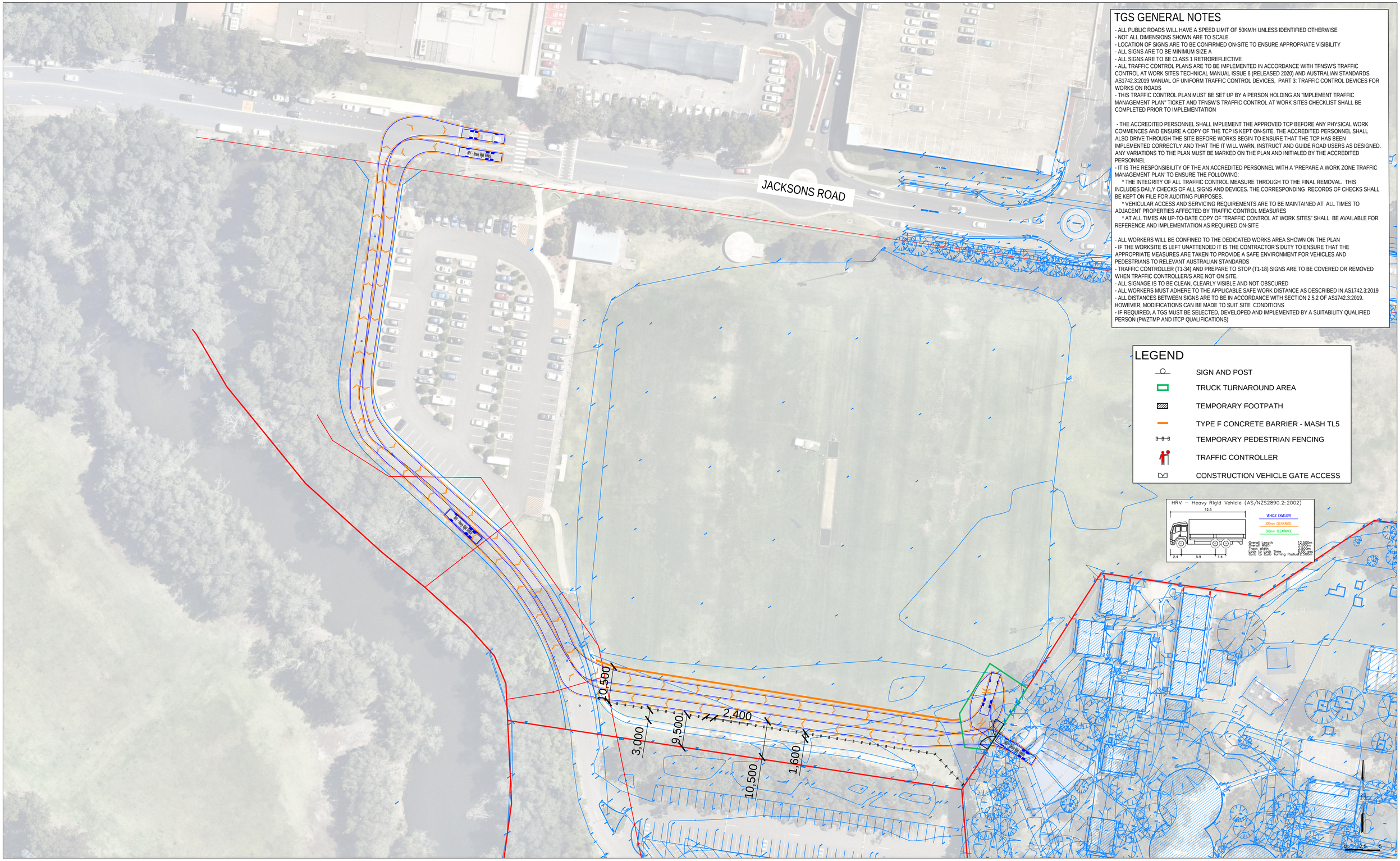
PLOT DATE: 16/02/2023 8:55:27 AM | CAD REFERENCE: C:\Users\Alan Tan\Ason Group\Ason Group Team Site - 2008\Projects\Design\AG 2008-07-v03.dwg | Alan Tan |



TGS GENERAL NOTES

- ALL PUBLIC ROADS WILL HAVE A SPEED LIMIT OF 50KM/H UNLESS IDENTIFIED OTHERWISE
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DOCUMENT INFORMATION

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Construction Vehicle Access into Narrabeen North Public School

DRAWING STATUS: Final

FILE NAME: AG 2008-07-v03.dwg

SHEET: AG04

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planning consultants

ATTACHMENT 2

16 February 2023

School Infrastructure NSW c/- Johnstaff
Level 8, 259 George Street,
SYDNEY NSW 2000

Attn: Joel Lidden, Project Director

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+61 2 9083 6601
Suite 17.02, Level 17,
1 Castlereagh Street,
Sydney, NSW 2000
ABN: 81 168 423 872

RE: Narrabeen Education Precinct – Response to Traffic Engineer Comments

Dear Joel,

This letter has been prepared in response to Northern Beaches Council (Council)'s Traffic Engineer response in relation to proposed alterations and additions (the Proposal) at Narrabeen Education Precinct (NEP).

The NEP comprises Narrabeen North Public School (NNPS) at 6 Namona Street, North Narrabeen and Narrabeen Sports High School (NSHS) at 10 Namona Street, North Narrabeen.

The comments were issued on 13 Dec 2022 as part of Council's response to the Development Application (DA no.: DA2022/1649).

In this regard, School Infrastructure NSW (SINSW) have commissioned Ason Group to prepare a response to the Council's traffic comments. Details of our assessment are as follows.

Background - DA2022/1649

The Proposal was submitted as a DA (DA no.: DA2022/1649) and sought approval of the following key works:

- NNPS
  - Removal of three (3) trees
  - Construction of a new part-one and part-two storey administration building, multipurpose hall, staff hub and out-of-school hours care (OSHC) building with associated Covered Outdoor Learning Area (COLA) (to be known as Building D)
  - New entry pathway from Northern Beaches Indoor Sports Centre (NBISC) car park to the new building
  - New hard and soft landscaping in the vicinity of the building
- NSHS
  - Removal of three (3) trees
  - Alterations and additions to Building A3 including:
    - Demolition of the existing two (2) storey structure to the west of the existing gymnasium
    - Construction of a two (2) storey extension to Building A3 comprising a new stage to the gymnasium, girls' and boy' amenities, girl and boys change rooms, storage and first aid room on the ground floor and movement studio, Physical Education (PE) classrooms, amenities and storage on the first floor.

- Internal alterations to Building A3
- New lift access

– New Covered Outdoor Learning Area (COLA) to the south of building A3 with new hard and soft landscaping.

Response to Council's Traffic Engineer Comments

The comments raised by Council's Traffic Engineer in relation to DA2022/1649 are provided in the sections below.

Traffic Generation:

"The proposed development does not seek to increase staff or student numbers and traffic generation from the schools is therefore unlikely to increase.

Preliminary School Travel Plans have been prepared for NNPS and NSHS. These Plans identify site-specific measures to promote and maximise the use of sustainable travel modes, including active transport, public transport and carpooling. These strategies, if implemented will assist in reducing reliance on private vehicle usage, support sustainability initiatives and promote healthy outcomes for students. Traffic generation from the schools may reduce as a result of increased levels of walking, cycling and public transport use."

Ason Group Response:

No further comments from Ason Group.

Parking:

"The proposed development does not seek to increase staff or student numbers. The parking arrangements are not proposed to be changed under this DA and the traffic impact assessment report concludes that there is no impact on parking and that the development application should be supported.

The staff travel surveys have however highlighted that there is an existing shortfall in staff parking (28 space shortfall for the high school and a 35 space shortfall for the primary school). The shortfall has been determined from data outlining that 85% of high school staff drive to school and 89% of primary school staff drive to school. The Transport Impact report also highlights that staff have a low propensity to use active travel modes or public transport to travel to and from school as they are generally needing their vehicles to transport equipment and materials to and from the workplace. This means that even if Work Place travel plans are introduced they are unlikely to result in significant levels of staff travel behaviour change and many staff will be unable to park on school premises and will therefore remain reliant, to a large extent, upon parking on surrounding streets or parking informally on school green space. Neither option is considered appropriate.

It is also noted that neither school currently provides any offstreet facilities for drop off or pick up of students and there are no on-street drop off and pick up parking restrictions. The high school also provides no parking facilities for students who drive to school.

These are deficiencies in the existing school operations and improvements such as the provision of an on-site kiss and drop facility should be explored in conjunction with the school development works."

Ason Group Response:

As mentioned, there are no proposed changes to the number of students, staff or car parking across both schools. Therefore, no changes are required as part of the Proposal.

Regarding the staff travel surveys for NNPS, it is noted that Council's calculations have been undertaken based on 62 staff. However, the 62 staff is the total number of staff and includes casual and temporary workers. Based on our experience, and indeed consistent with NSHS, approximately 80% of total staff will be full-time staff, resulting in 50 full-time staff.

Furthermore, there are currently 16 informal car spaces in the NNPS car park which are being used for car parking, resulting in a capacity of 36 spaces. The application of the existing driver mode split (89%) results in a demand of 45 car spaces (shortfall of 9 spaces) and the target mode share of 78% results in a demand of 39 car spaces (shortfall of 3 spaces).

For NSHS, the existing car park provides 44 spaces and the overflow car park provides 40 spaces, resulting in a total of 84 car spaces. Application of the existing driver mode split (85%) to the number of full-time staff (85 staff) results in a parking demand of 72 spaces (surplus of 12 spaces) and the target mode share of 76% results in a demand of 65 car spaces (surplus of 19 spaces).

It is also noted that the Traffic Report describes that:

"In our experience, teachers within NSW exhibit lower dependency on public transport modes and private vehicle (as passenger) as they are generally required to bring equipment and materials to and from the workplace. As such, these factors are likely to impact the viability of modal shift towards public and active travel modes, which do not necessarily accommodate staff requirements."

This statement has been provided to explain the low reduction from existing to target car driver mode share and is not to suggest that the existing car driver mode share is static and unable to change.

As such, based on existing data and information, the car parking demand generated by the school staff are mostly contained within off-street parking areas. With consideration to the target mode share, there would be a shortfall of just 3 spaces for NNPS and a surplus of 19 spaces for NSHS.

Drop-off/ Pick-up facility (Preliminary proposal subject to a separate DA):

"Neither NNPS or NSHS have any formal drop-off/pick-up facilities. This is a deficiency and student drop off/pick facilities are required to ease congestion. Observations suggest that parents undertaking school drop off and pick ups are currently parking illegally within clearly signposted Bus Zones and No Stopping zones. These Bus Zones and No Stopping zones are however necessary and there are no appropriate locations on-street within close proximity to either school where drop off and pick up zones can be created. A drop off and pick up zone located on one or both school premises is required.

The Transport Assessment report prepared by Ason Group have identified the above as a concern and have prepared a preliminary proposal for a 17 space drop-off/pick-up facility with a turning circle accessed off Namona Street within the NSHS site (off-street). This facility would be made available for use by both NNPS and NSHS students. A new footpath is also proposed to be constructed around the new facility, which will ensure that students can safely exit/enter vehicles without crossing any vehicle travel paths.

The above change is strongly supported and considered essential given the current absence of appropriate drop off and pick facilities. It is however noted that the work would result in the loss of 40 offstreet parking spaces that can currently be used by staff. The loss of these spaces is not supported and they must be relocated elsewhere on school property to prevent a worsening of existing staff parking shortfall on the site.

As the material provided with the current DA has highlighted that there is both an absence of any format drop off and pick up zone and an undersupply of staff parking it is considered that the implementation of the off-

street kiss and drop facility together with the construction of an additional staff carparking area to offset the loss of staff parking should be completed in conjunction with the current DA and not as a separate DA."

Ason Group Response:

It is acknowledged that neither NNPS nor NSHS have any formal drop-off / pick-up facilities. As Council identified, the project team provided a preliminary proposal and has explored other options. However, due to the controls within Section B4.14 of the Pittwater DCP applicable to land within the Coastal Wetlands, there are limited opportunities in relation to the conversion of the setback area along the Namona Street frontages of either NNPS or NSHS.

We further note that in the travel mode surveys undertaken with both the students / families, and staff were asked questions concerning the measures that would encourage greater utilisation of active travel modes, public transport, and willingness to car pool.

The survey results indicated that there are a series of interventions where families have indicated that will influence mode choices. These measures include:

Active Travel

1. Bicycle group to enable riding with others (25.41% of responses)
2. Safe bicycle parking (24.86% of responses)
3. More weather protection (23.76% of responses)
4. Back up options in case of inclement weather (23.20% of responses)
5. Walking group to enable walking with others (22.65% of responses)

Public Transport

1. Improved bus route to the student's neighbourhood (33.33% of responses)
2. Improved waiting area at the school (26.54% of responses)
3. More frequent public transport (19.75% of responses)

Car Pooling

1. If the family know the driver personally (58.21% of responses)
2. Help finding someone to carpool with (34.33% of responses)
3. Certainty in finding a car space (21.64% of responses)

It is clear from the travel mode surveys that the school community is willing to consider other forms of travel to / from school, and will consider active travel choices, public transport, and car pooling to reduce the demand for parking, and in particular pick-up / set-down areas.

Whilst it is accepted that the demand for drop-off / pick-up facilities will exist, however, given the primary purpose of this project is to replace buildings on-site, and as part of the project, improvements to pedestrian connection onto Namona Street, as well as the upgrading of bicycle parking infrastructure, it is considered that additional programme measures via the Operational School Travel Plan can offer some benefits and support a reduction in demand for a pick-up / set-down area.

Bicycle Parking:

"Currently, Narrabeen North Public School and Narrabeen Sports High School have 94 bicycle parking spaces each.

A total of 200 new bicycle parking spaces will be provided across the NEP site (100 spaces at NNPS and 100 spaces at NSHS). These bicycle parking spaces will be designed as a Class B facility in accordance with the requirements of AS 2890.3 (2015) In addition, an end-of-trip facility will be provided at NSHS for the use of staff.

The increase in bicycle parking is supported and appropriate to encourage greater take up of active travel for trips to and from school."

Ason Group Response:

No further comments from Ason Group.

Accessible Parking:

"Existing accessible parking remains and no changes are proposed."

Ason Group Response:

No further comments from Ason Group.

Access and swept paths:

"Existing vehicular accesses are retained.

As parking layouts are not changed, swept paths are not needed."

Ason Group Response:

No further comments from Ason Group.

Pedestrian safety:

"No major concerns."

Ason Group Response:

No further comments from Ason Group.

Public transport availability:

"Available from Namona Street, Jacksons Road and Pittwater Road. Consistent with current arrangements."

Ason Group Response:

No further comments from Ason Group.

Waste Collection and Other Services:

"No changes in Servicing. Deliveries and waste collection will continue to occur within the existing staff car park. Delivery times are organised to take place outside the school's peak drop off and pick up hours."

Ason Group Response:

No further comments from Ason Group.

We trust the above is of assistance and if you have any questions, please do not hesitate to contact the undersigned.

Yours sincerely,

Dora Choi

Principal Lead: Traffic Management & Operations

E dora.choi@asongroup.com.au

M 0450 923 889

planning consultants

ATTACHMENT 3

Our ref: L.A12029.004.02_NEP-DA_FIA_Addendum1_FINAL.docx

23 February 2023

SINSW
c/o: JohnStaff
Level 5, 9 Castlereagh Street
Sydney NSW 2000
Milsons Point, NSW Australia 2061

Attention: Priya Mekala

Dear Priya

RE: NARRABEEN EDUCATION PRECINCT – ADDENDUM #1 TO FLOOD RISK AND IMPACT ASSESSMENT FOR DEVELOPMENT APPLICATION

Background

Northern Beaches Council ("Council") has undertaken a preliminary assessment of Development Application DA2022/1649 for alterations and additions to Narrabeen Sports High School (NSHS) and Narrabeen North Public School (NNPS) for the Narrabeen Education Precinct (NEP) development. The outcomes of Council's preliminary assessment are outlined in their letter dated 3 February 2023.

As an outcome of this preliminary assessment, it is noted that Council has no flood-related objections for the construction of Building D at NNPS (refer Council letter dated 3 February 2023). However, Council has requested additional flooding information in relation to the proposed works associated with the two storey extension of Building A at NSHS. The following responds to those flooding related items raised by Council and provides additional supporting information, where required. Please note that this letter forms an addendum to the 'Narrabeen Education Precinct - Flood Risk and Impact Assessment for DA' (BMT, 2022) (document reference: 'R.A12029.001.01_NEP-DA_FIA_FINAL.pdf') (hereafter referred to as the "NEP DA FIA").

Response to Council's Request for Further Information

Updated Flood Planning Level

It is noted that Council has extracted flood information from the 'Narrabeen Lagoon Flood Study; (NLFS) (2013) and has indicated the following adopted flood information applies to NEP:

- 1% AEP flood level = 3.03 mAHD
- 1% AEP flood level with climate change = 3.79 mAHD
- Probable Maximum Flood (PMF) level = 4.87 mAHD.

Therefore, Council's adopted Flood Planning Level (FPL) for the NEP site is 3.53 mAHD (i.e. 3.03 mAHD plus 0.5 m freeboard). This FPL of 3.53 mAHD should be adopted for NEP (i.e. in lieu of 3.46 mAHD as outlined in the NEP DA FIA).

Floor Levels within NNPS Building A Extension

As outlined in the NEP DA FIA, as an educational establishment, the NEP is classified as “Vulnerable & Critical Land Use”. Minimum habitable FFLs must be set at the higher of the FPL and PMF level. Therefore the minimum FFL requirement for development within NEP is the PMF level of 4.87 mAHD.

As noted by Council, the ground floor Finished Flood Levels (FFL) for the Building A extension are as follows:

- Stage = 3.32 mAHD
- Amenities, change rooms and first aid room = 2.42 to 2.55 mAHD

Level 1 of the Building A extension has a FFL of 5.9 mAHD and is therefore located higher than the PMF level of 4.97 mAHD.

Whilst these proposed FFLs are situated below the1% AEP flood level, FPL and PMF level, the above listed ground floor facilities questioned by the Council are co-located with the gymnasium (existing and proposed for refurbishment) due to functional adjacency requirements. The Applicant intends to construct and furnish these areas with flood compatible materials that would not be damaged during a flood event. It is noted by Council in their letter dated 3 February 2023 that areas to be refurbished may retain their existing FFLs.

Additional information addressing Council’s concerns regarding the proposed FFLs, including further details of the use of these areas, the likely specific contents of store rooms and the potential for floodwaters to damage contents, is provided below.

First Aid Room

The first aid room provides the facilities for *initial* first aid treatment. Under the EFSG (school design guidelines) direct access is required to the gymnasium. Additionally, as advised by SINSW, a clear line of sight is also required from the gymnasium into the first aid room due to child protection concerns. Therefore, it is not practical to locate the first aid room above the PMF level of 4.87 mAHD.

The first aid room is only a temporary assessment room rather than an area where injured or ill students will remain for extended periods of time. Instead, severely ill/injured child will be transferred to an existing sick bay within NSHS. Please refer to “Clinic ER0010” located in existing building Block E to which the severely ill/injured student will be transferred, refer floor plan for Block E below in Figure 1.1.

Considering the concerns that have been raised by Council regarding potential floodwaters and the use of the first aid room by students with mobility impairments, it is noted that the Applicant will detail the management strategy for the use of the first aid room in the in Safety in Design Report for NSHS and include this in the School's Flood Emergency Response Plan.

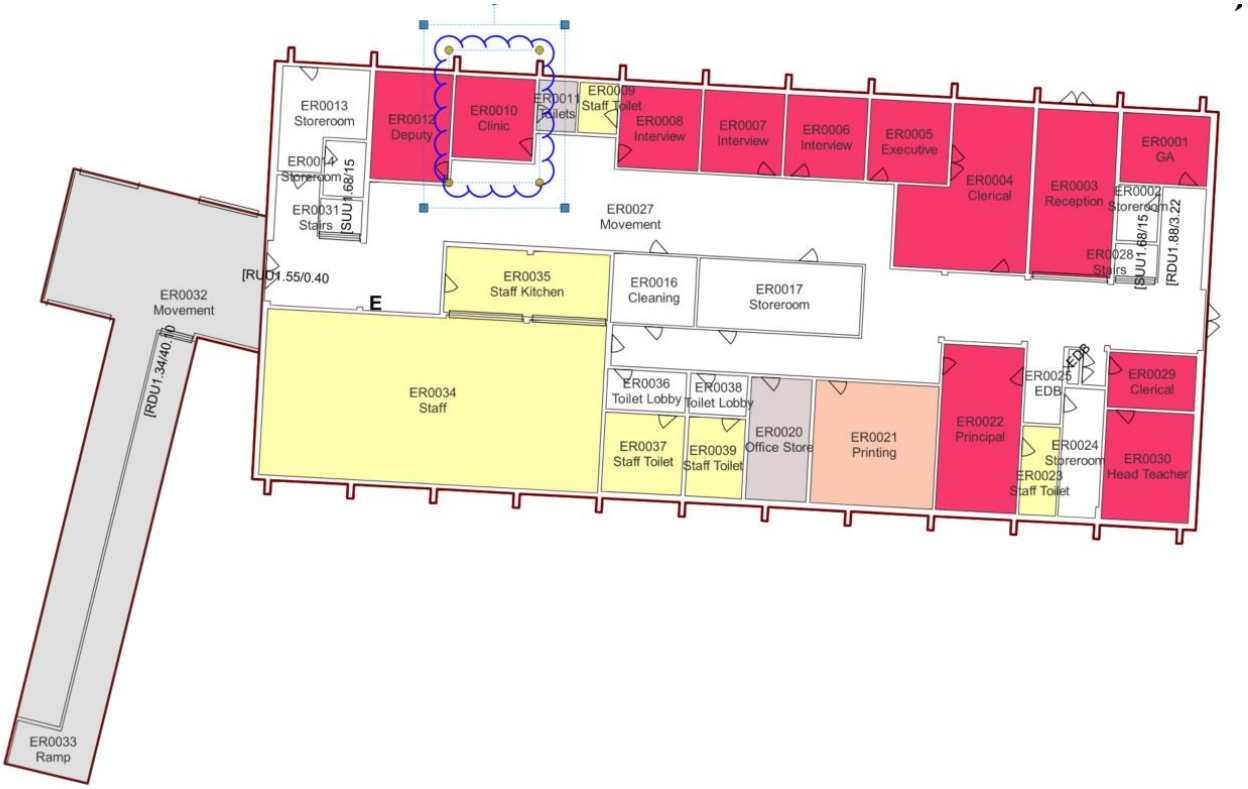

Figure 1.1 Block E Floor Plan Showing the Location of Clinic ER0010 and GA Room ER0001

Store Rooms

- The PE and Large Equipment Stores include sports equipment such as balls, and gym equipment such as large mats, or vaults, that are used within the gym, so needs direct, level access to / from the gym. Due to the nature of this equipment, it is designed for outdoor, all weather use and/or flood resilient in design (e.g. vaults have metal supports, mats have waterproof coverings, etc). Therefore, items stored in these areas would not suffer high value flood damage.
- The Sports Store is used to store outdoor equipment for use at the sports courts and pitches. It requires access from the sports pitches and may need to be accessed outside school hours, thus it is accessed externally. It is noted that this outdoor sports equipment is designed for outdoor, all weather use. Therefore, items stored in these areas are water resilient and would not suffer high value flood damage.
- The P&C Store is currently located on the ground floor within part of the building which is being demolished. This store is used by the wider school community to store equipment used during out of school hours events (such as school fairs). It is assumed that this may include BBQ equipment, bunting, folding tables, etc. An external entry is required because this store is used out of school hours. Items stored in these areas are flood resilient (e.g. folding plastic/steel design tables), designed for outdoor and all-weather use (e.g. BBQ equipment) and/or are low value items (e.g. bunting) that would not suffer high value flood damage.
- The Bulk Store is used by the General Assistant (“GA” or Janitor). This room is for the storage of bulk goods and requires easy access for deliveries. This room may sometimes contain a desk and workbench for the GA. The GA also currently has a desk within the main Administration building, refer floor plan for Block E in Figure 1.1. It is noted that the Applicant intends to store the high value computing equipment in the existing GA room in Block E. Any high value items within the Bulk Store that may be damaged by floodwaters (e.g. electrical tools) will be stored above the FPL.

- The Chair Store is only for storage of chairs associated with the gym. Direct level access is required between the gym and chair store. As acknowledged by Council, these are typically constructed from plastic and metal and are therefore flood resilient and would not suffer high value flood damage.
- The Cleaner Store Room and student amenities may contain hazardous chemicals. All potentially hazardous substances in these areas will be stored above the FPL or protected from floodwaters.

Therefore, the above listed store rooms have a functional need to be located on the ground floor in order to be co-located with the gymnasium and/or to enable external access. Additionally, the contents of these areas are proposed to be either:

- Low value items or items that will not suffer high value flood damage (e.g. flood resilient equipment) that will be stored below the FPL.
- Higher value or hazardous materials that will be stored above the FPL within these store rooms.

Stage

The shortest routes from the stage to stairs accessing Level 1 of the Building A extension are shown in Figure 1.2. These routes will provide access to the second storey for occupants to shelter in place above the PMF.

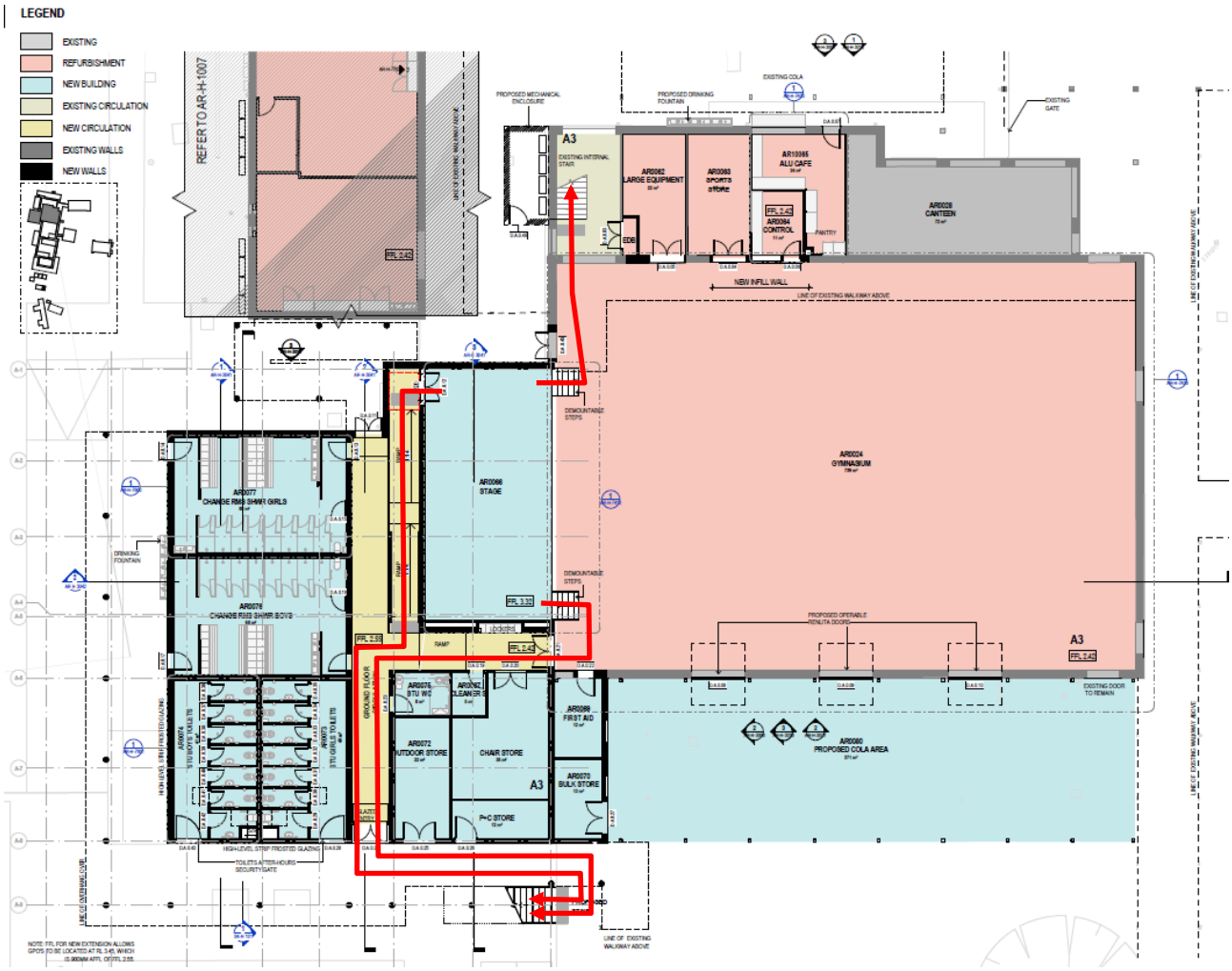

Figure 1.2 Access Routes from Stage to Level 1 of Building A (refer red arrows)

Flood Storage

It is acknowledged that the extension to Building A is larger in area than the structure to be demolished and therefore, the extension of Building A would result in a reduction of available flood storage below the 1% AEP flood level. The following unmitigated 1% AEP flood storage volumes have been estimated based on the assumption that existing and proposed buildings result in complete loss of flood storage during a flood:

- Current loss of available 1% AEP storage from Building A section to be demolished = 117 m^3
- Loss of available storage from proposed Building A extension (i.e. without any allowance of compensatory flood storage) = 295 m^3
- Change in available 1% AEP flood storage volume within NSHS as a result of proposed Building A works = 178 m^3

Opportunities for compensatory flood storage are raised within Council's letter dated 3 February 2023 and were discussed with Council's Ms Valerie Tulk on 15 February 2023. In line with this advice and where considered feasible based on suitable areas that could practically be ingressed by floodwaters, compensatory flood storage will be incorporated into the design of the Building A extension by allowing floodwaters to enter and be temporarily stored within:

- the ground floor amenities (toilets and change rooms) through the open style security gates into these facilities (refer Drawing Number AR-H-3010 in DA plans).
- the Outdoor Store, P&C Store and Bulk Store through a gap under external doors.

In order to reduce water passing from these areas into other internal areas within Building A, flood doors will be installed at internal accessways between the amenities and ground floor circulation area and an impenetrable hob will be constructed along internal walls, where required, to reduce water penetration of the walls.

The compensatory 1% AEP flood storage volume within the above listed areas is estimated to be 124 m^3. Therefore, the nett loss of available flood storage during the 1% AEP flood as a result of the Building A extension with provision of compensatory flood storage as outlined above is estimated to be 54 m^3.

Lift Motor

The lift proposed for NSHS is MRL (Machine Room Less) lifts. Lift motors are located inside the shaft which is located at the highest level served. Lift equipment will be above FPL of 3.53 mAHD.

We trust that this document suitably addresses the concerns detailed in Council's letter dated 3 February 2023 with respect to flooding. Please feel free to contact the undersigned (ph.: (02) 8960 7755 or email: jacquie.hannan@bmtglobal.com) if you require any further clarification.

Yours Sincerely,
BMT

Jacquie Hannan
Principal Engineer