SSD 9491

Shiraz Ahmed
Planning Secretary
Department of Planning, Industry and Environment
12 Darcy Street
Parramatta NSW 2150

Attn: Shiraz Ahmed

10 August 2021

Dear Mr Ahmed

**Lake Cathie Public School Redevelopment (SSD 9491)- Submission of Operational Transport & Access Management Plan in accordance with condition D10**

I refer to Lake Cathie Public School Redevelopment approved on the 30 January 2020.

In accordance with condition D10 of the Development Consent, Operational Transport and Access Management Plan (OTAMP), the following document has been submitted to the Planning Secretary for approval:

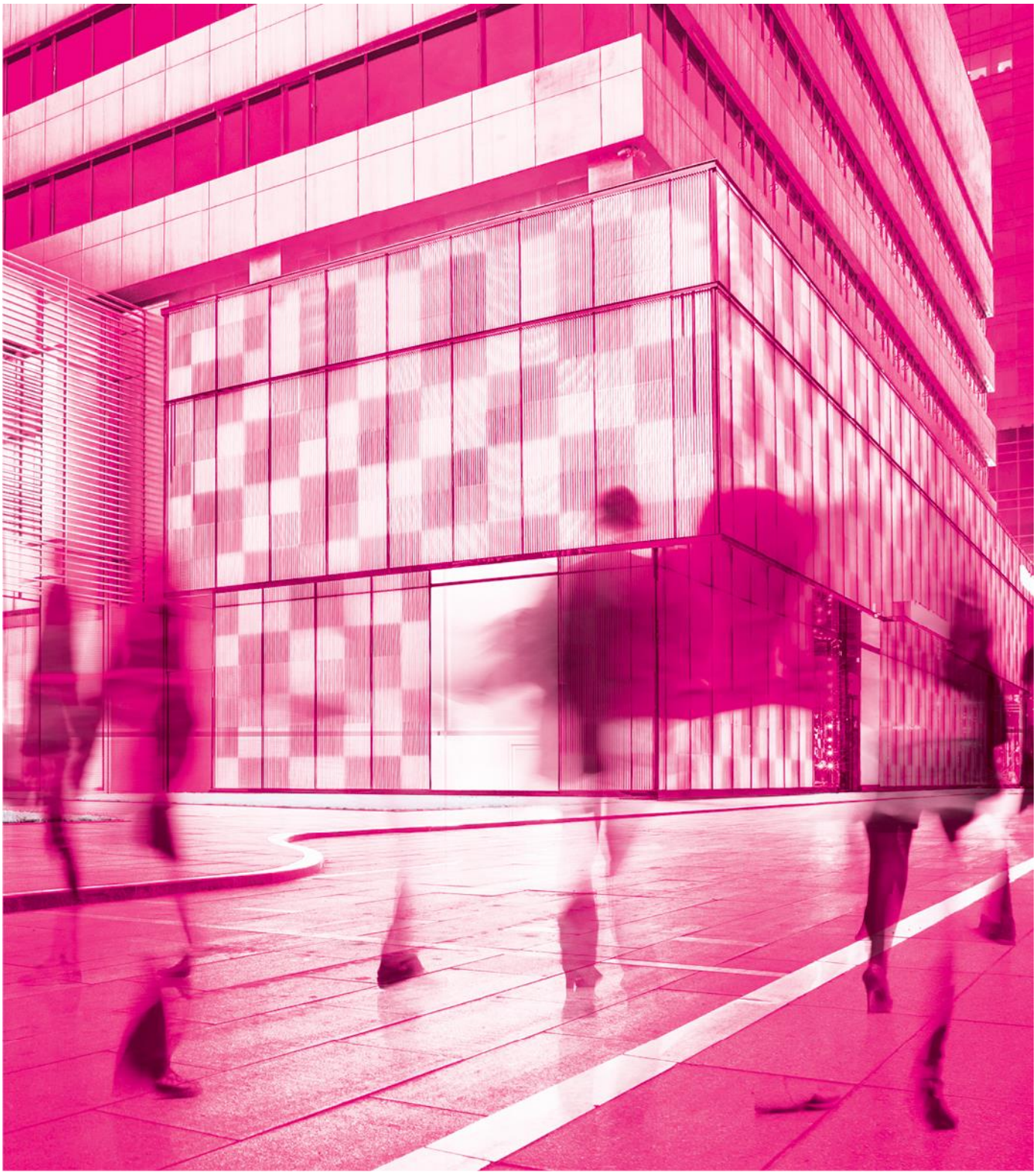
- Operational Transport and Access Management Plan (OTAMP)

The OTAMP was prepared in consultation with Council and Transport for NSW (TfNSW) in accordance with the requirements of SSD condition D10.

Attached:
1. Operational Transport and Access Management Plan (OTAMP)
2. Post Approval – Consultation – Council
3. Post Approval – Consultation – TfNSW
4. PTC Consultant Team

Yours sincerely,

David Wheeler
**Project Director**
**Schools Infrastructure NSW**



# Operational Transport and Access Management Plan

Lake Cathie Public School, 1240 Ocean Drive, Lake Cathie

For SINSW

9th August 2021

parking;
traffic;
civil design;
wayfinding;

ptc.

## Document Control

Lake Cathie Public School, 1240 Ocean Drive, Lake Cathie, Operational Transport and Access Management Plan

| Issue | Date | Issue Details | Author | Reviewed | For the attention of |
|---|---|---|---|---|---|
| 1 | 27/01/2021 | Draft | PS | KB/DB | Craig McIlveen |
| 2 | 09/03/2021 | Final | PS | KB/DB | Craig McIlveen |
| 3 | 09/08/2021 | Revision 1 | KB | SW | Craig McIlveen |

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# Contents

# 1 Introduction

## 1.1 Background

ptc. has been engaged by SINSW to prepare an Operational Transport and Access Management Plan (OTAMP) report for Lake Cathie Public School (LCPS) at 1240 Ocean Drive, Bonny Hills, NSW 2445.

The report sets out the traffic, pick-up and drop-off and parking management for daily school operations.

The location of the subject site is outlined in Figure 1.

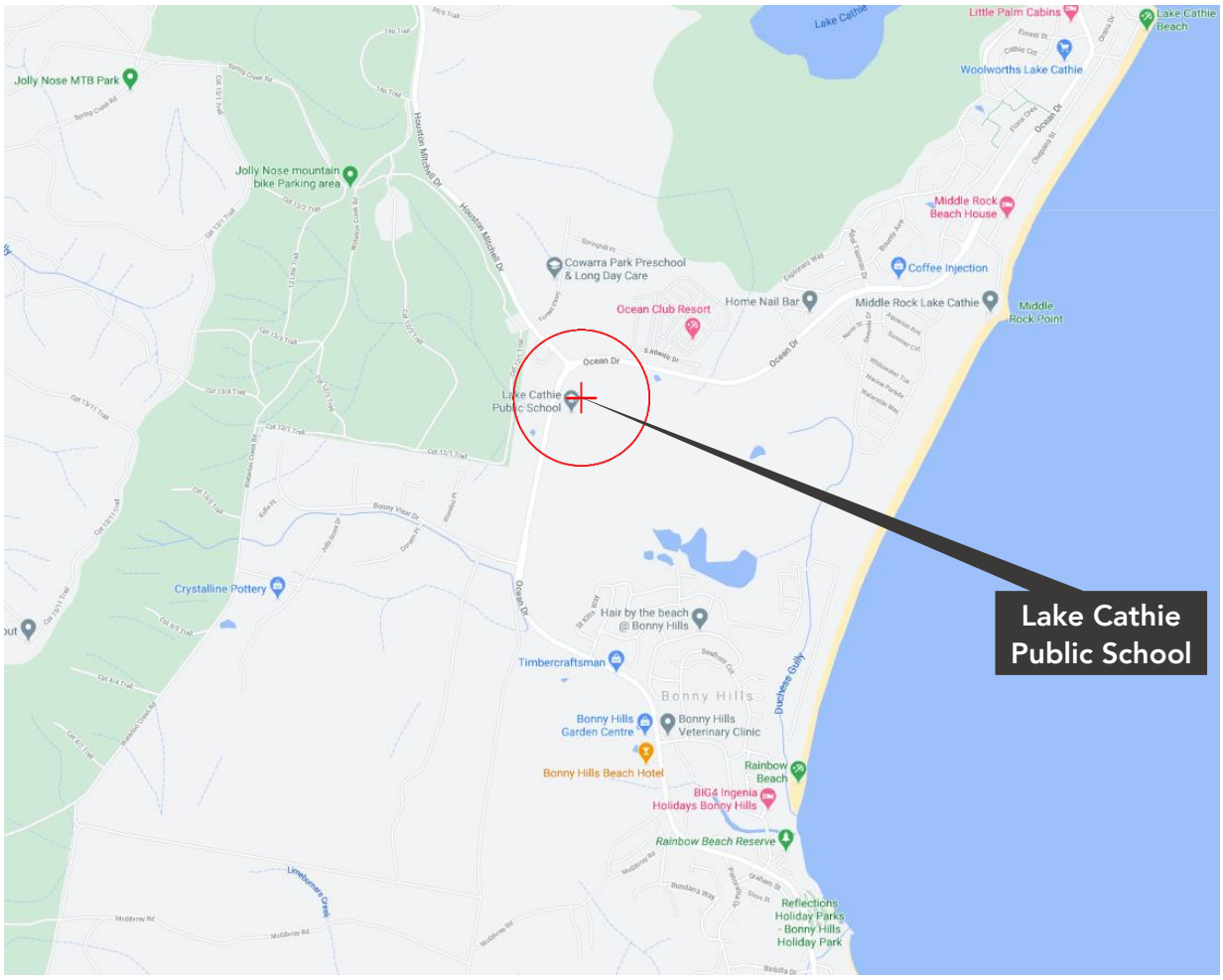



Figure 1: Site Location (Source: Google Maps)

## 1.2 Response to Conditions of Consent, SSD 9491

This report has been prepared as a response to Condition D9 of the development consent for the redevelopment of Lake Cathie Public School.

D10. Prior to the commencement of operation, an OTAMP is to be prepared by a suitably qualified person, in consultation with Council, Transport for NSW and TfNSW (RMS), and submitted to the satisfaction of the Planning Secretary. The OTAMP must address the following:

- detailed pedestrian analysis including the identification of safe route options – to identify the need for management measures such as staggered school start and finish times to ensure students and staff are able to access and leave the Site in a safe and efficient manner during school start and finish;
  → Section 3.1 and the Green Travel Plan
- the location of all car parking spaces on the school campuses and their allocation (i.e. staff, visitor, accessible, emergency, etc.);
  → Section 2.3.4
- the location and operational management procedures of the pick-up and drop-off parking located within the southern section of the school site, including staff management/traffic controller arrangements;
  → Section 3.5
- the location and operational management procedures for the pick-up and drop-off of students by buses and coaches for excursions and sporting activities during the hours of bus operations along the public Collector Road, including staff management/traffic controller arrangements;
  → Section 3.4
- delivery and services vehicle and bus access and management arrangements;
  → Section 3.8 and Section 3.3
- management of approved access arrangements;
  → Section 2.2 and Section 3
- potential traffic impacts on surrounding road networks and mitigation measures to minimise impacts, including measures to mitigate queuing impacts associated with vehicles accessing pick-up and drop-off parking on the southern section of the school site;
  → The potential traffic impacts have been addressed in the Traffic Impact Assessment submitted as part of the DA. Mitigation measures are discussed in Section 3.5 and Section 3.6
- car parking arrangements and management associated with the proposed use of school facilities by community members; and
  → Section 3.7
- a monitoring and review program.
  → Section 4

# 2 School Access and Transport Facilities

## 2.1 Staff and Student Numbers

The school has the following number of students and staff (as of 2019):

- School Staff:
    - Full Time Equivalent (FTE) Teaching Staff – 17.2
    - (FTE) Non-Teaching Staff – 3
- 365 student enrolments
- School bell times:
    - 8.45am in the morning and
    - 2.45pm in the afternoon.
- OOSH provides before and after school as well as vacation care services. The timetable are as follows:
    - Before School: 7:00am-9:00am
    - After School: 2:00pm-6:00pm, and
    - Vacation Care: 7:00am-6:00pm.

## 2.2 School Access

The school site can be accessed by public from Wollum Drive and additionally via Ocean Drive by emergency vehicles.

There are 3 gates providing access to the School property. The purpose of each gate is as follows:

**Gate 1**

- Location: it is the northern of the two gates on the eastern side of the property off Wollum Drive
- Purpose: the main pedestrian access for anyone arriving by foot, on scooters, bicycles or by bus. This is the only after-hours pedestrian access. A bus stop is located just outside the gate and bicycle racks are provided just inside the property.
- Operation:
    - Weekdays: open between 7:00am – 6:00pm for school and OOSH operation and as required before and/or after school hours for events
    - Weekends: only upon arrangement with the School for events

**Gate 2**

- Location: it is the southern of the two gates on the eastern side of the property off Wollum Drive
- Purpose: vehicular access for all pick-up / drop-off, staff and waste / delivery vehicles. It also provides a secondary pedestrian gate, which provides pedestrian access from the car park and the pick-up / drop-off outside of the main pick-up and drop-off times.
- Operation times:
    - Weekdays: generally operational between 7:00am – 6:00pm for school and OOSH. Permanently open between 7:45-9:15am and 2:15-3:45pm for drop-off and pick-up respectively, otherwise accessible via a staff swipe card or intercom. Also, open as required before and/or after school hours for waste collection / deliveries / events.
    - Weekends: only upon arrangement with the School for deliveries / events

**Gate 3**

- Location: on the western side of the property off Ocean Drive
- Purpose: access for emergency vehicles only
- Operation times: when required

There are also 2 additional pedestrian access points within the school property:

**Pedestrian Access 2**

- Location: on the norther side of the internal road, near the zebra crossing
- Purpose: student access for those travelling by private vehicles. It is operational only during the main pick-up and drop-off times.
- Operation times:
    - Weekdays: open between 7:45-9:15am and 2:15-3:45pm for drop-off and pick-up respectively

- Weekends: only upon arrangement with the School for events

**Pedestrian Access 3**

- Location: north of the staff car park
- Purpose: staff access from the car park
- Operation times: accessible only with a swipe card

The operation of gates depends on user groups and these are described in more detail in the following subsections.

The access points to and within Lake Cathie Public School are shown in Figure 2.

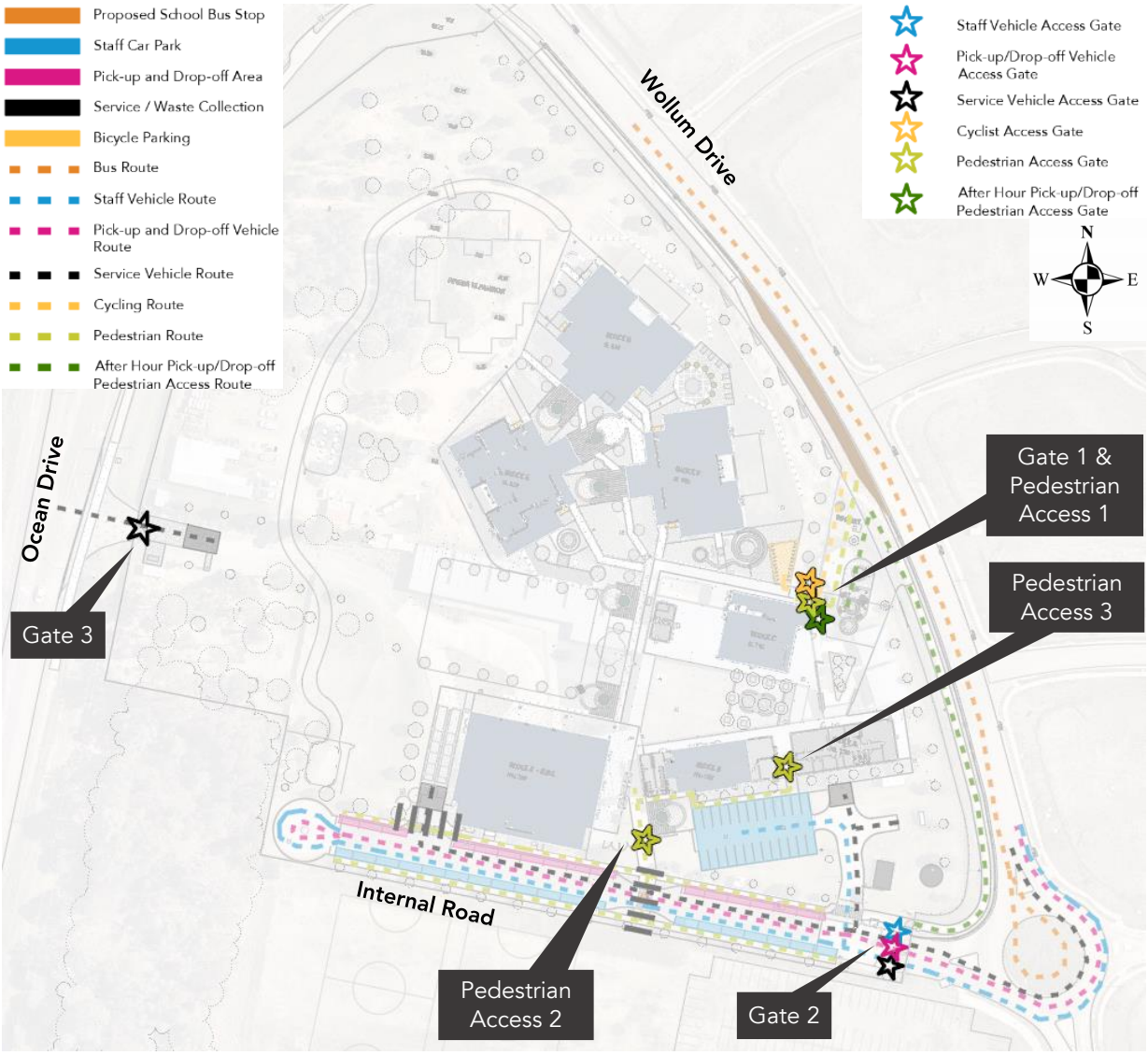



Figure 2: School Access Gates

## 2.3 Facilities and their Accessibility

### 2.3.1 Bicycle Parking and End of Trip Facilities

The 22 bicycle racks are located just inside the school property and are accessible through Gate 1, as shown in Figure 3.

The School currently does not have any End of Trip Facilities (EOTF).

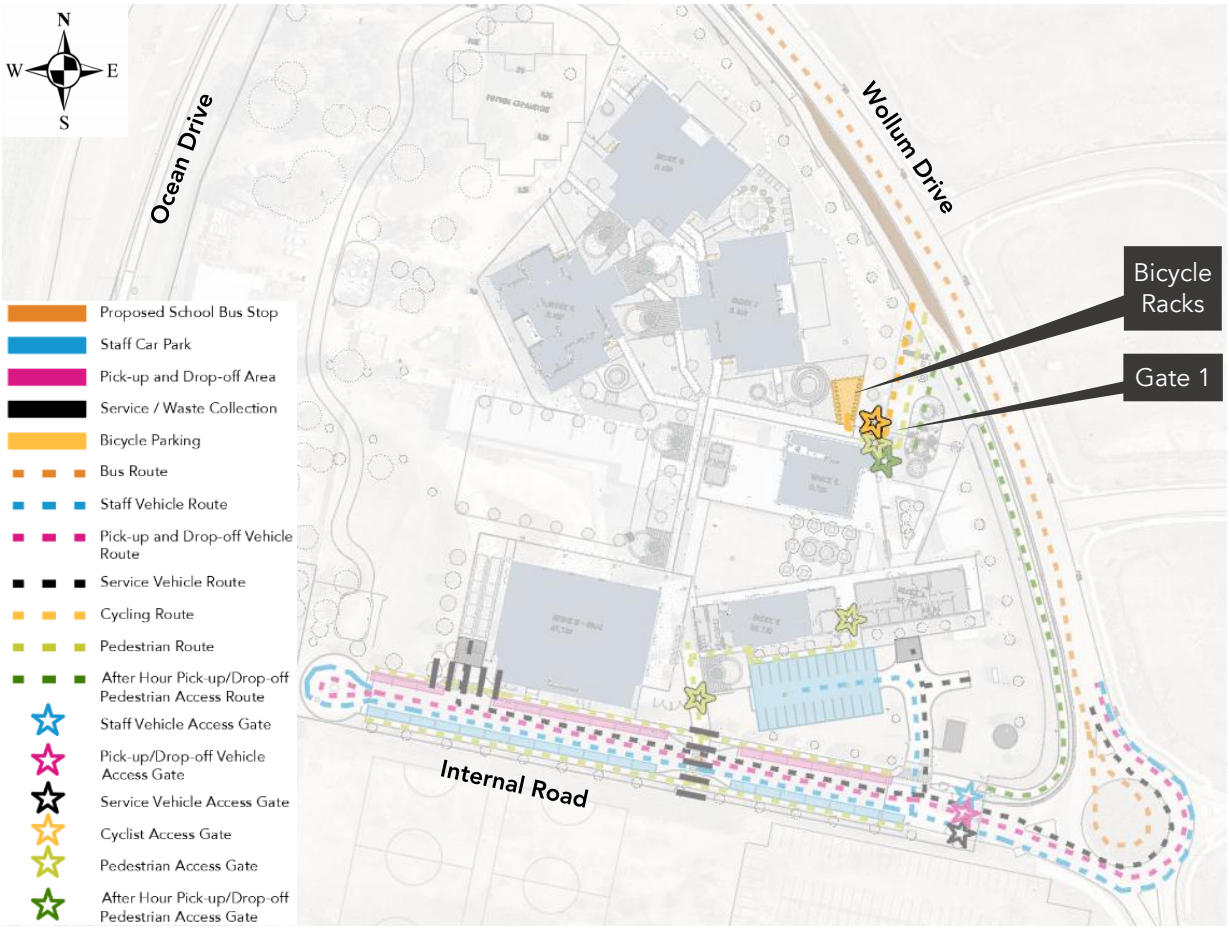



Figure 3: Bicycle Rack Location and Access

### 2.3.2 Bus Stop

The bus stop is located on the western side of Wollum Drive (refer to , meaning that students / staff do not need to cross the road to access the bus is either direction. Access to the School is provided via Gate 1.

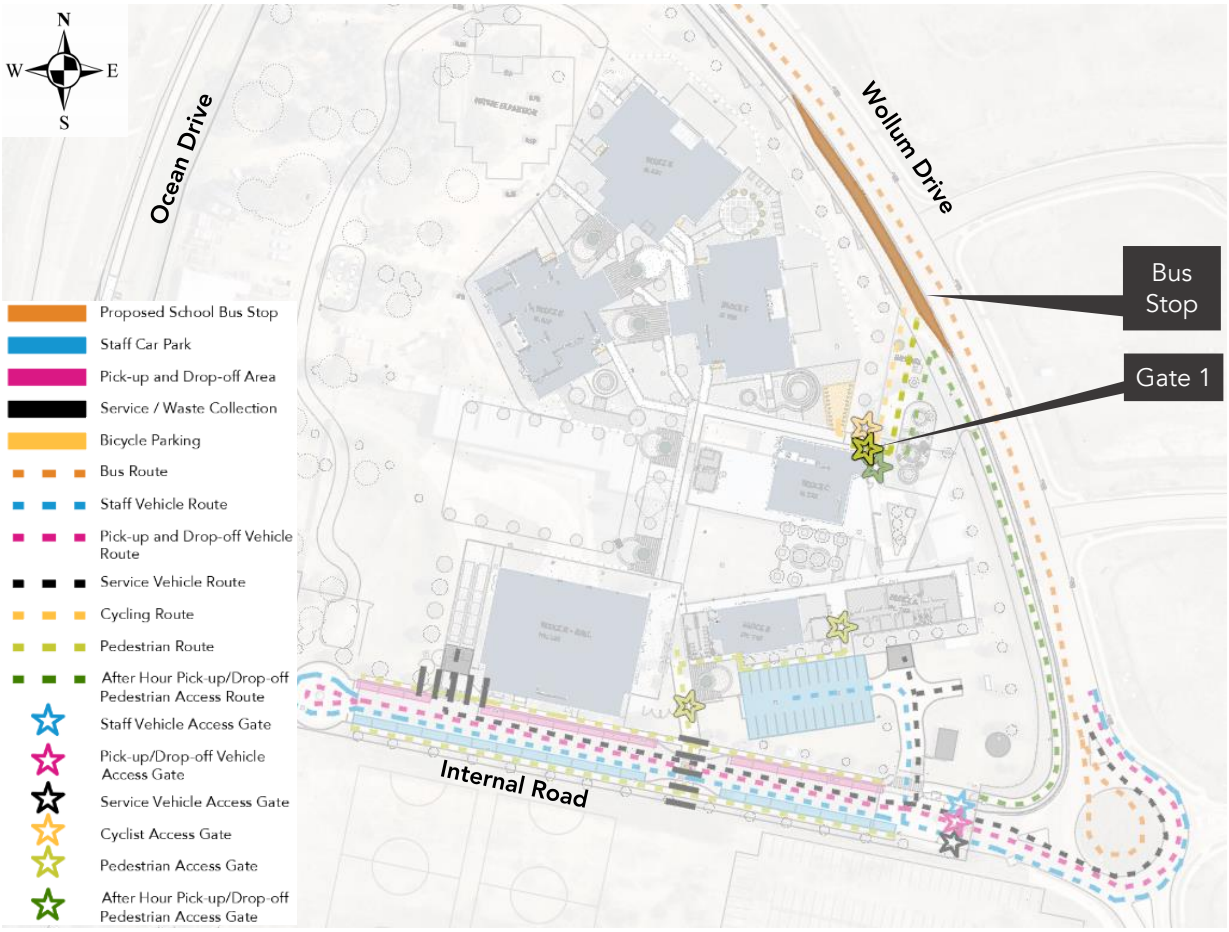



Figure 4: Bus Stop Location and Access

### 2.3.3 Pick-up and Drop-off

Pick-up and drop-off zone is located along the northern side of the internal road and is accessible by vehicles via Gate 2 Students can access the school through the Pedestrian Access 2 during the pick-up and drop-off times and through Gate 1 outside of these hours.

The location of the facility is shown in Figure 5, and the operational management of it is described in Section 3.5.

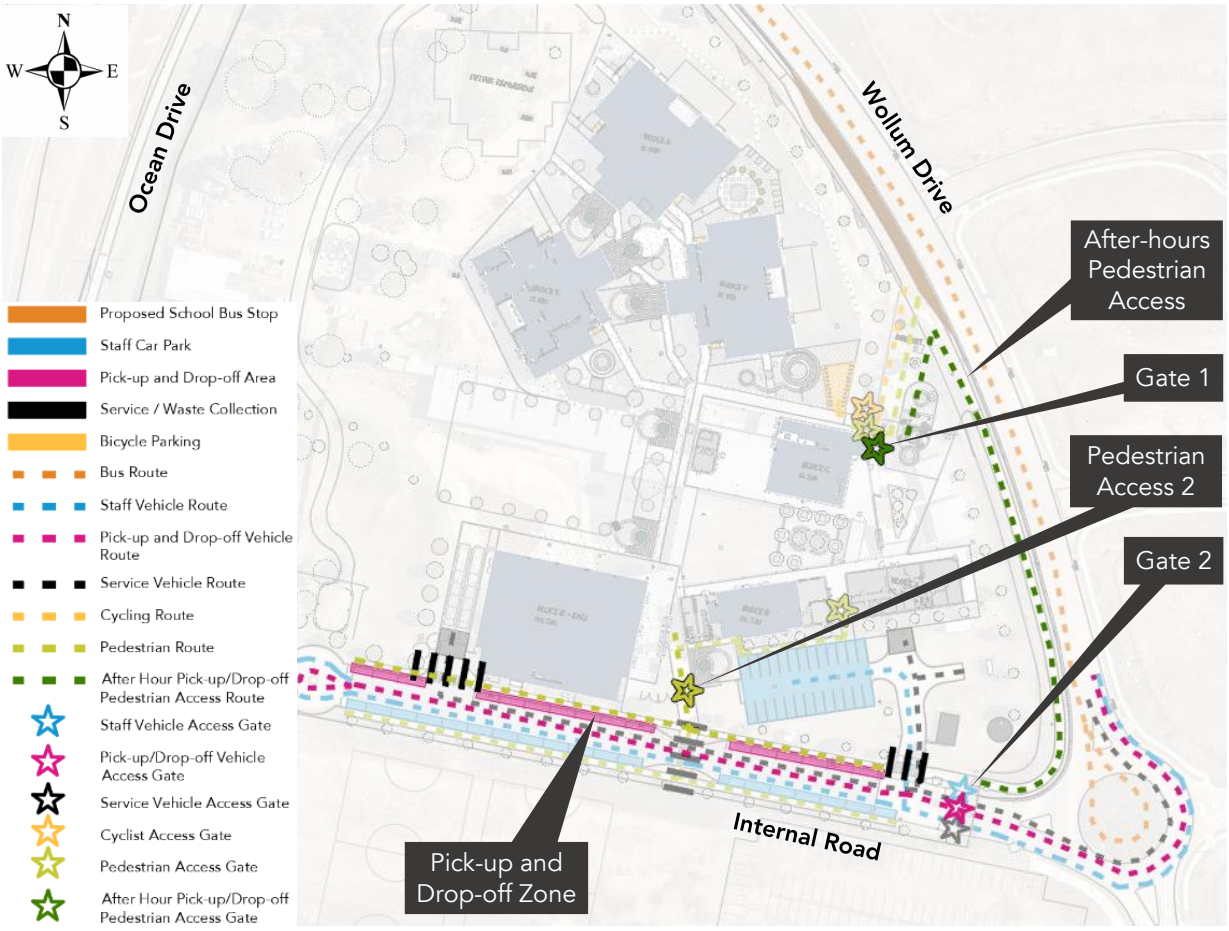



Figure 5: Pick-up and Drop-off Location and Access

### 2.3.4 Staff Car Parking

The staff car park areas are located on the southern end of the site, with access via Gate 2.

A 25-space car park is located between Bock B and the internal road and can be accessed via a boom gate. Only staff with an appropriate swipe card have access to this parking area. Further 17 spaces are located along the southern side of the internal road. These spaces can be used by staff, visitors, deliveries and parents / guardians.

Staff can enter the School via a gated Pedestrian Access 3 located directly north of the car park by using a swipe card. Alternatively, Pedestrian Access 2 can also be used.

The location of the facility is shown in Figure 6 and a more detailed view of the parking areas is presented in Figure 7.

The operational management of it is described in Section 3.6.

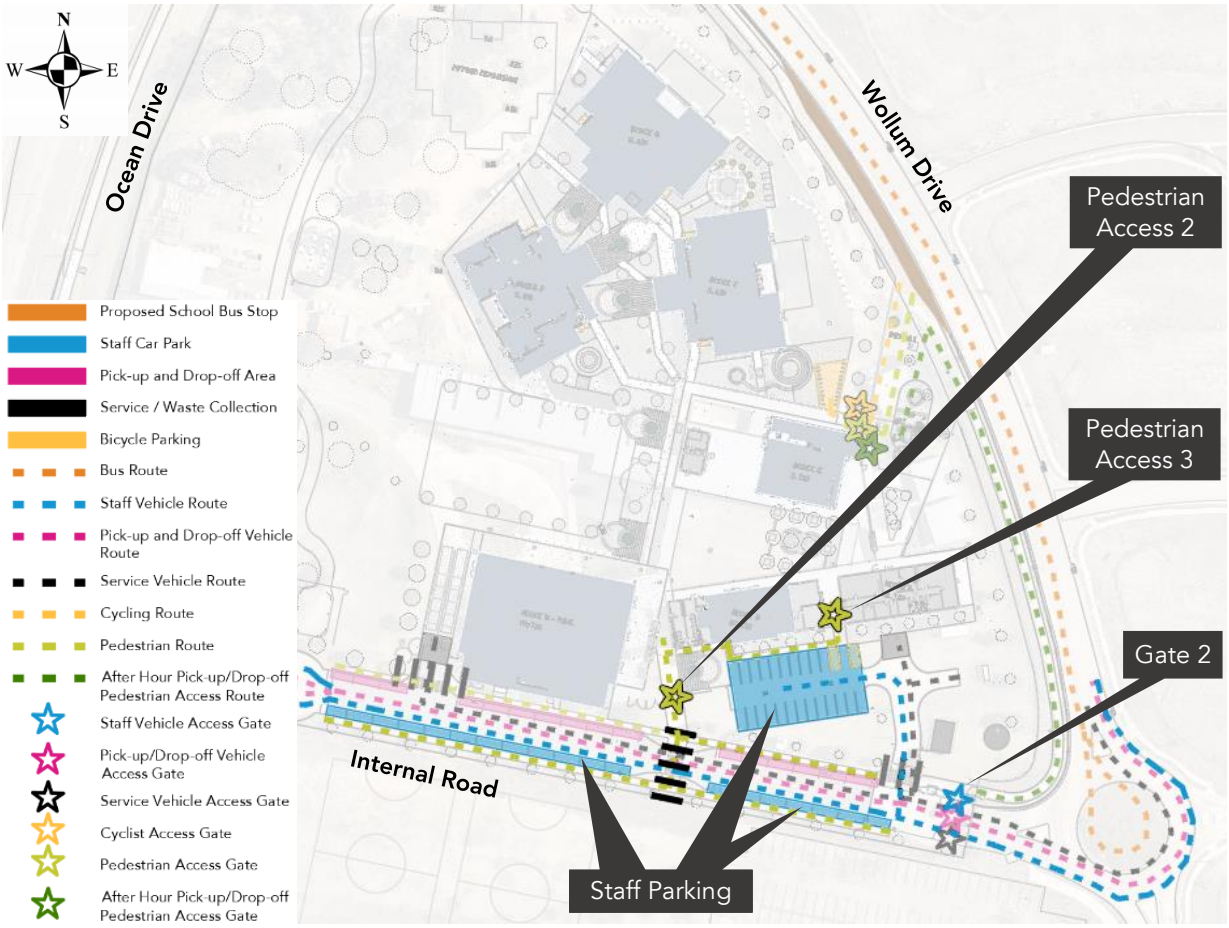



Figure 6: Car Parking Location and Access

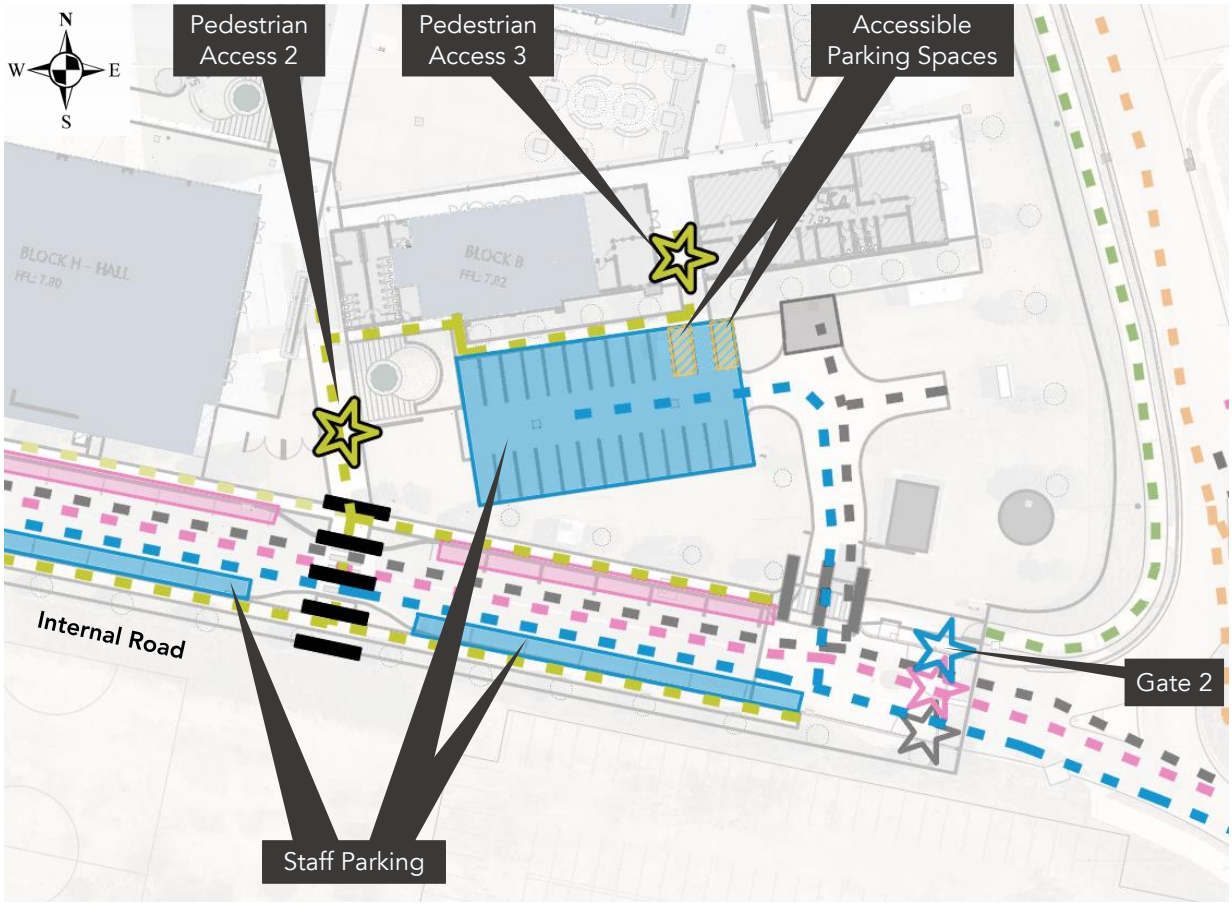



Figure 7: Car Parking Arrangement

# 3 Operational Transport and Access Management Plan

The OTAMP for Lake Cathie Public School is presented in Figure 8. The operational management of the individual user groups is described in the following subsections.

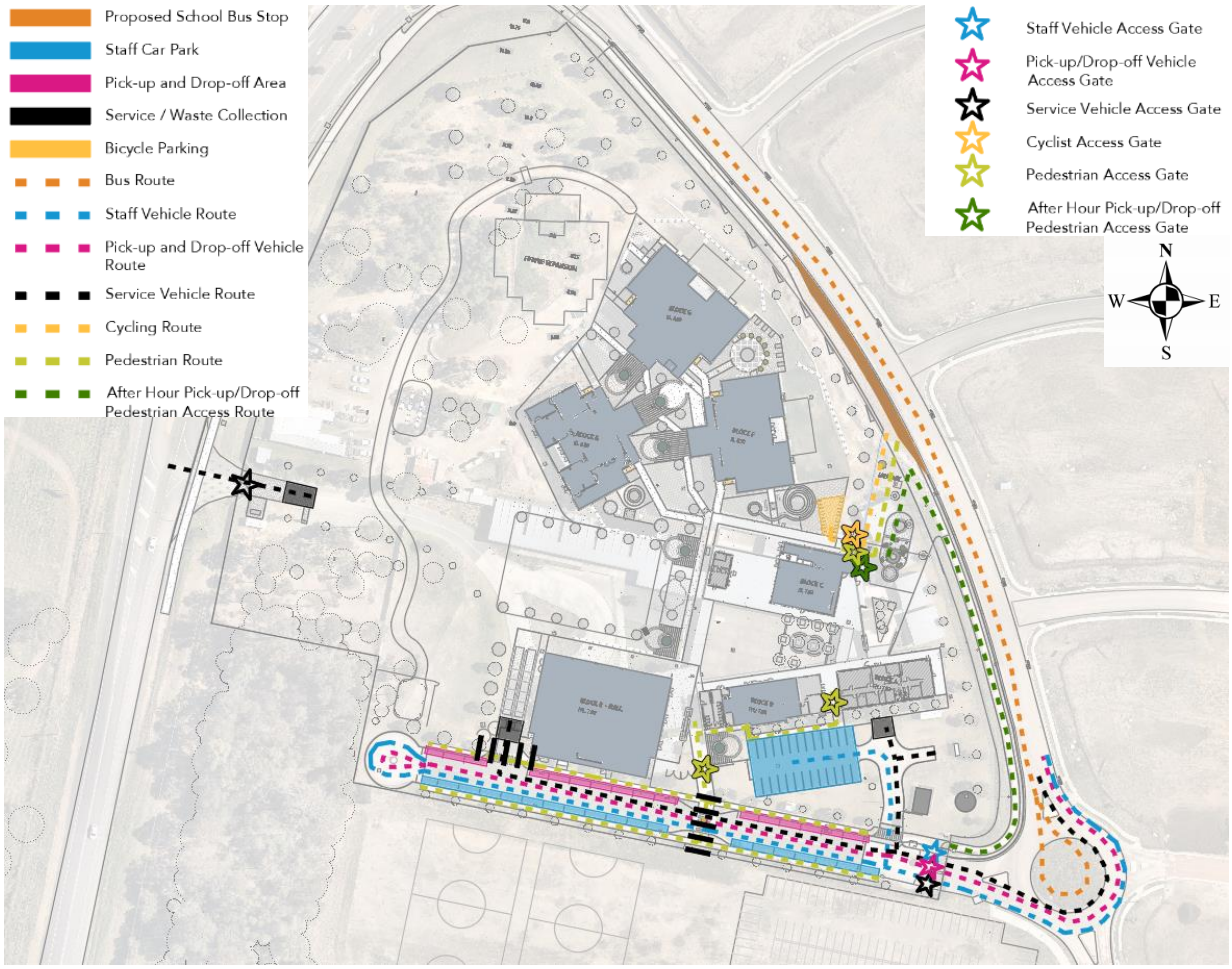



Figure 8: Operational Transport and Access Management Plan

## 3.1 Pedestrians

Walking is not a viable transport mode at the moment, as no residential areas are in walkable distance and the walking infrastructure is not appropriate for students.

With the residential developments to the east and north of the school, it will be necessary for Council to implement a zebra crossing across Wollum Drive and man it to support students.

## 3.2 Cyclists

Cycling is not expected to be a major transport mode at the moment, as only few residential areas are in cyclable distance and the cycle infrastructure is not appropriate for students.

With the residential developments to the east and north of the school, it will be necessary to implement a zebra crossing across Wollum Drive and man it to support students.

Additional bicycle racks on-site and End of Trip Facilities will be required in the future.

## 3.3 Public Transport Users

Students using public buses to travel to school will be dropped off at the bus stop along Wollum Drive. A staff member will be positioned at Gate 1 to oversee the process.

In the afternoon, two staff members will be positioned at Gate 1 to support students getting onto the right buses. Students should be grouped within school grounds according to the buses they need to take to enable a smoother process and shorten the time outside of the school gate.

## 3.4 Excursion Transportation

Buses of varying sizes may be used to transport students to and from excursions. The following management measures shall be implemented:

- Buses will arrive at the School 15min prior to student pick-up and depart 5min after the drop-off is completed. This is to eliminate potential conflicts between buses and students. The additional time needs to be considered upon booking of the bus.
- Small buses (up to 22 passengers) will park within the pick-up and drop-off area on the northern side of the internal road.
- Large buses (more than 22 passengers) will park at the bus stop along Wollum Drive. The public bus timetable needs to be considered to ensure that the bus stop is unobstructed throughout the pick-up / drop-off of students.
- At least two staff members will accompany the group of students to ensure that buses have arrived on time and that students board the buses in a good manner.

The transport procedure shall be explained to staff at the beginning of each year and documented in a controlled, easily accessible policy.

## 3.5 Student Pick-up and Drop-off

The following management measures shall be put in place:

- School caretaker will open the Gate 2 and Pedestrian Access 2 between 7:45-9:15am and 2:15-3:45pm for drop-off and pick-up respectively.
- 1-2 staff members will be present during drop-off and 2-3 staff members will be present during pick-up to assist students.
- In the afternoon, students are to be held back behind Pedestrian Access 2 until they are called out. This is to ensure a calm and a more managed process.
- Ideally, a stricter management of the pick-up process will be put in place, where parents / guardians have a name / number card in their vehicle and a staff member calls out the appropriate student. This would reduce the quantity of staff required as well as speed up the process and therefore reduce chances of queuing.
  The name / number tags need to be legible for staff. Ideally, the School would provide appropriate tags and educate parents / guardians of the correct positioning.
- Parents / guardians are not to exit their vehicles to pick up students in order to speed up the process.
- Vehicles are not to undertake U-turns across the internal road, but continue on and use the turning circle at the end. This is to increase safety and to reduce potential queuing.

Staff and parents / guardians should be informed at the beginning of each year and receive a mid-year reminder abut the correct pick-up and drop-off behaviour.

## 3.6 Staff Car Parking

The following management measures shall be put in place:

- Staff members shall be provided with a swipe card to enable access to the car park.
- Staff shall arrive and depart outside of the pick-up and drop-off peak times to reduce conflicts parents / guardians. Ideally, staff should not travel between 7:45-9:15am and 2:15-3:34pm.
- Staff shall not undertake U-turns along the internal road, but continue on and use the turning circle at the end.
- The car park should be filled before staff park on the southern side of the internal road in order to retain spaces for visitors and parents / guardians who wish to enter the school before / after the school bell.

Staff should be informed of these measures at the beginning of each year and shall be reminded throughout the year as required.

## 3.7 Community Use

Upon prior discussions and arrangements with the school Principal, the school car parking facilities may be used for other purposes such as after school performances or community use in the evenings or on the weekends.

Pedestrian access location and quantity may vary depending on the event. However, Gate 1 will be mostly the main pedestrian access point after hours.

The school caretaker or another person appointed by the Principal will be responsible to unlock and lock gates for events to allow vehicular and pedestrian access. Gate 2 and the previously chosen pedestrian access points will be opened 1 hour prior and locked 1 hour post the event.

Appropriate temporary / permanent signage shall be installed prior to any events to provide guidance for vehicles and pedestrians.

## 3.8 Waste and Deliveries

### 3.8.1 Location and Access

Waste collection/delivery areas are located at three different locations within the site, as shown in Figure 9. The access to these areas is provided via Gate 2 and Gate 3 off Wollum Drive and Ocean Drive respectively. Gate 2 leads to an internal road which provides access to areas 1 and 2. A summary of the access and usage of these areas is below.

**Area 1**

- Access: via Gate 2 off Wollum Drive, near the staff car park
- Purpose: general waste collection and small / medium deliveries in vans / small trucks

**Area 2**

- Access: via Gate 2 off Wollum Drive, near the hall
- Purpose: deliveries to the hall, in trucks

**Area 3**

- Access: vie Gate 3 off Ocean Drive, on the west of the property
- Purpose: emergency vehicle access

A turning bay is provided adjacent to service vehicle area 1 to enable vehicles to enter and exit the area in a forward direction. Vehicles delivering to area 2 need to undertake a U-turn within the internal road.

### 3.8.2 Timing

Waste collection and larger truck deliveries to areas 1 and 2 shall be provided outside of school and OOSH hours – before 7:00am and/or after 6pm during the week – in order to eliminate potential conflicts between pick-up / drop-off, staff and service vehicles.

**Waste collection**

Occurs every _____ between _____am and _____am. Any changes need to be discussed with the School and recorded in this document. Access to the waste storage area will be provided by the School caretaker.

**Large deliveries in trucks**

Before 7:00am and/or after 6pm during the week, upon prior arrangement with the School. Access via Gate 2 will be provided by the School caretaker.

**Small deliveries in vans**

Can occur throughout the day, upon prior arrangement with the School. Delivery vehicles can use parking space along the internal road.

A sign stating delivery hours and a phone number of the School caretaker shall be placed on Gate 2.

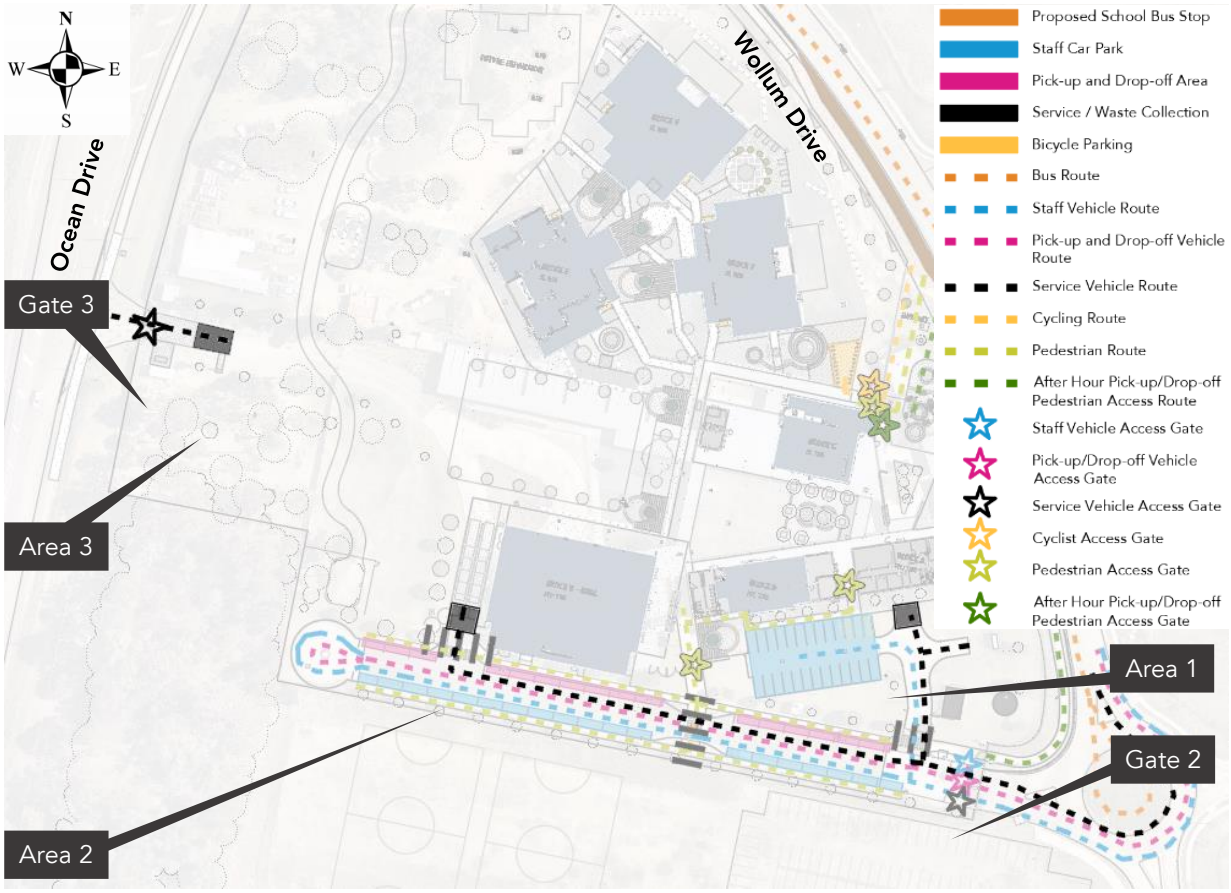



Figure 9: Waste and Deliveries Location and Access

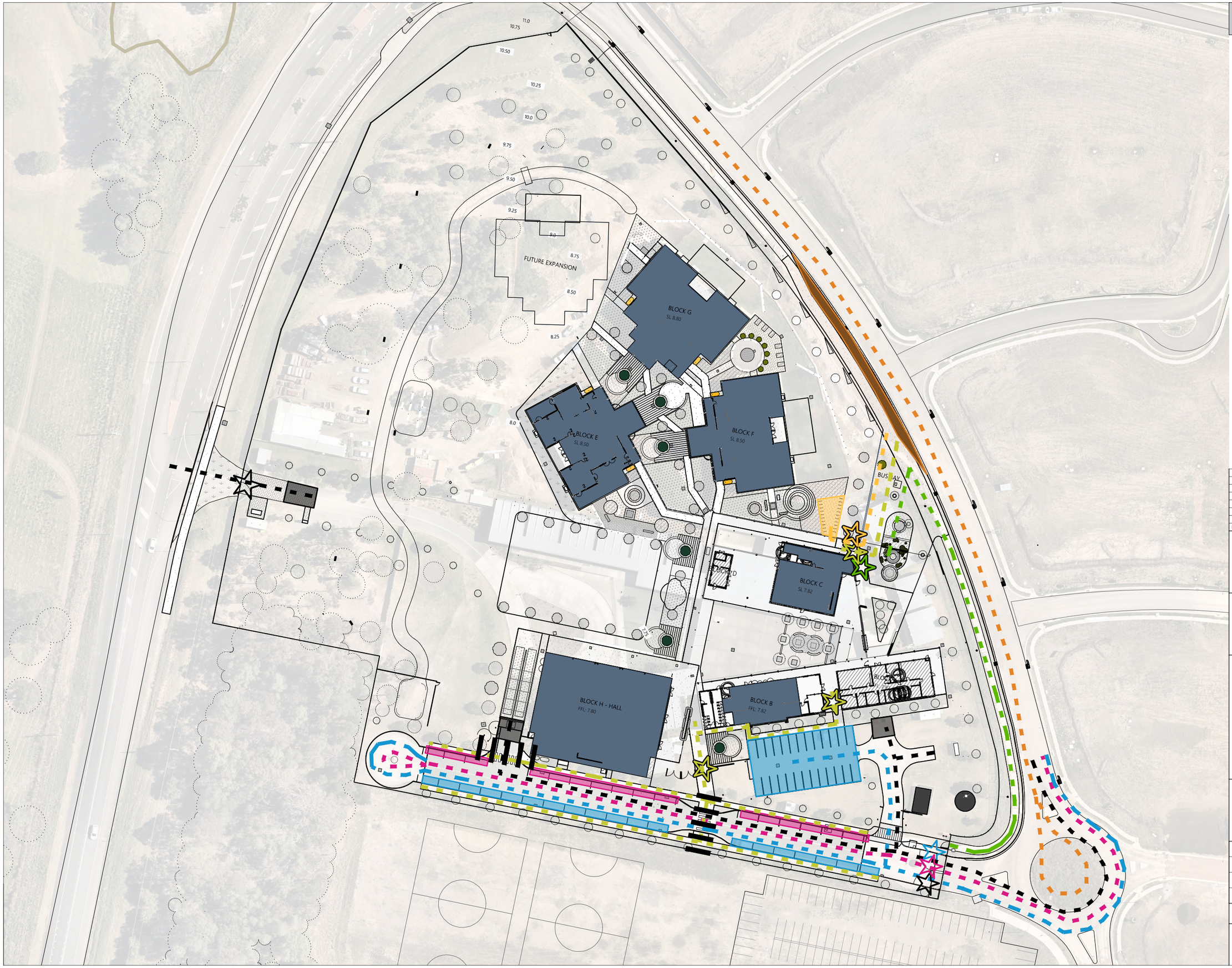
# 4 Monitoring and Review

This OTAMP shall be reviewed and updated upon commencement of each year by the Principal and the caretaker of the School. If any changes occur throughout the year, this report shall also be amended accordingly.

Changes which trigger the requirement to update the OTAMP include, but are not limited to:

- Number of staff and students
- School operating hours, including OOSH programs
- Layout arrangement and the use of the individual components identified in this report (car park, pick-up and drop-off area, waste / delivery areas)
- Amendments / additions to bicycle and EOTF provisions
- Amendments / additions to pedestrian amenities in the direct surroundings of the school (zebra crossing, cycle paths, etc.)
- Changes in operational management, including the quantity / positioning of personnel at gates and other locations
- Gate operating hours for different users (students, staff, waste / deliveries)
- Waste collection timing

## Attachment 1 OTAMP




comments

A3

- Proposed School Bus Stop
- Staff Car Park
- Pick-up and Drop-off Area
- Service / Waste Collection
- Bicycle Parking
- Bus Route
- Staff Vehicle Route
- Pick-up and Drop-off Vehicle Route
- Service Vehicle Route
- Cycling Route
- Pedestrian Route
- After Hour Pick-up/Drop-off Pedestrian Access Route
- Staff Vehicle Access Gate
- Pick-up/Drop-off Vehicle Access Gate
- Service Vehicle Access Gate
- Cyclist Access Gate
- Pedestrian Access Gate
- After Hour Pick-up/Drop-off Pedestrian Access Gate

| REV | DATE | COMMENT / DESCRIPTION | DRAWN | REVIEWED |
|---|---|---|---|---|
| 1 | 20/01/21 | FOR INFORMATION | PS | KB |

PROJECT

Lake Cathie Public School

DRAWING TITLE

Operation Traffic and Access Management Plan

DRAWING KEY

ptc.

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North Sydney NSW 2060

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| | |
|---|---|
| CLIENT | SINSW |
| DRAWING # | PTC-001 |
| PROJECT # | 21-3005 |
| SCALE | 1 : 100 |

PRELIMINARY

REV 1

# Post Approval – Consultation

Consultation needs to be meaningful, done with courtesy and respect and be well documented. These are people/ organisations that we need to be building meaningful relationships with.

Conditions of all consent can require consultation with a range of stakeholders. Consultation in the post approval world needs to be well documented to satisfy the condition requirements.

Examples include Council, service providers (eg. Electricity gas etc.), consult with local bus provider and TfNSW.

Read each condition carefully, any reference to consult triggers consultation.

Typically on State Significant Development, there will be a specific consultation condition as to how this piece can be appropriately addressed.

Consultation is not:

- A token gesture
- Done at the end of the piece of work,
- An email to the relevant stakeholder with no response;
- A meeting with the stakeholder with no meeting minutes.

Consultation is:

- Meaningful
- Done prior to the requirement,
- Captures an outcome,
- Identifies matters resolved,
- Identifies matters unresolved,
- Any disagreements are disclosed; and
- How we are going to address unresolved matters?

How to capture all the relevant details on consultation requirements? Any consultation requirement in a condition is required to be accompanied with the following table:

Education
School Infrastructure

**Post Approval Consultation Record**

| | |
|---|---|
| Identified Party to Consult: | Port Macquarie-Hastings Council |
| Consultation type: | Email, phone calls |
| When is consultation required? | Prior to the commencement of operation |
| Why | To discuss any relevant input from Port Macquarie-Hastings Council as specified by Consolidated Conditions for SSD-9491-Lake Cathie Public School Redevelopment. |
| When was consultation scheduled/held | 22 January 2021<br>26 January 2021<br>5 February 2021<br>8 February 2021 |
| When was consultation held | 22 January 2021 (Email, phone)<br>26 January 2021 (Email, phone x 2)<br>5 February 2021 (Email)<br>8 February 2021 (Email) |
| Identify persons and positions who were involved | Dan Budai (dan.budai@ptcconsultants.co) – Senior Team Leader, ptc.<br><br>Grant Burge<br>Engineering Development Coordinator (acting)<br>Port Macquarie-Hastings Council |
| Provide the details of the consultation | **22 January 2021**<br>Council was invited review draft GTP and OTAMP map for the site and provide any advice or comments on issues that should be included or may affect their implementation.<br><br>**26 January 2021 (Email, phone x 2)**<br>Discussions on review time line and location, design and warrants for the crossing can be informed by survey data collected for the GTP and by liaison with the Council.<br><br>**5 February 2021 (Email)**<br>Follow up on review process and timeframe.<br><br>**12 March 2021 (Email, phone)**<br>• Discussions on the feedback to inform the initial adoption of each plan.<br>• Pedestrian crossing warrants on Wollum Drive when residential development occurs in the area. |
| What specific matters were discussed? | • Review timeline, feedback on both reports.<br>• Location, design and warrants for the crossing to be informed by survey data and by liaison with Council.<br>• Council generally deferring to DPIE, SINSW and TFNSW requirements.<br>• Reasons for Council delay in responding. |

| | |
|---|---|
| What matters were resolved? | All of the above points were responded to in the updated versions of the OTAMP and GTP. |
| What matters are unresolved? | N/A |
| Any remaining points of disagreement? | N/A |
| How will SINSW address matters not resolved? | N/A |

# Post Approval – Consultation

Consultation needs to be meaningful, done with courtesy and respect and be well documented. These are people/ organisations that we need to be building meaningful relationships with.

Conditions of all consent can require consultation with a range of stakeholders. Consultation in the post approval world needs to be well documented to satisfy the condition requirements.

Examples include Council, service providers (eg. Electricity gas etc.), consult with local bus provider and TfNSW.

Read each condition carefully, any reference to consult triggers consultation.

Typically on State Significant Development, there will be a specific consultation condition as to how this piece can be appropriately addressed.

Consultation is not:

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- Meaningful
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- Any disagreements are disclosed; and
- How we are going to address unresolved matters?

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School Infrastructure

**Post Approval Consultation Record**

| | |
|---|---|
| Identified Party to Consult: | TfNSW |
| Consultation type: | Email, phone calls |
| When is consultation required? | Prior to the commencement of operation |
| Why | To discuss any relevant input from TfNSW as specified by Consolidated Conditions for SSD-9491- Lake Cathie Public School Redevelopment. |
| When was consultation scheduled/held | 22 January 2021<br>26 January 2021<br>5 February 2021<br>12 March 2021 |
| When was consultation held | 22 January 2021 (Email, phone)<br>26 January 2021 (Email, phone x 2)<br>5 February 2021 (Email)<br>12 March 2021 (Letter, email, phone) |
| Identify persons and positions who were involved | Dan Budai (dan.budai@ptcconsultants.co) – Senior Team Leader, ptc.<br><br>Leisa Sedger (development.northern@rms.nsw.gov.au)<br>Development Services Case Officer<br>Community and Place \| Region North<br>Regional & Outer Metropolitan Division<br>Transport for NSW<br><br>Jim Synott (Jim.Synott@transport.nsw.gov.au)<br>Network Optimisation Planning Manager<br>North Region<br>Transport for NSW |
| Provide the details of the consultation | **22 January 2021**<br>TfNSW was invited review draft GTP and OTAMP map for the site and provide any advice or comments on issues that should be included or may affect their implementation.<br><br>**26 January 2021 (Email, phone x 2)**<br>Discussions on relevant issues relating to the classified road network. Request consolidated comments.<br><br>**5 February 2021 (Email)**<br>Follow up on review process and timeframe.<br><br>**12 March 2021 (Email, phone)**<br>• Discussions on the TfNSW feedback (letter) to inform the initial adoption of each plan.<br>• Further detail of the steps proposed to achieve each identified strategy. |

| | |
|---|---|
| | • Setting higher mode share targets for active and public transport in the medium-long term.<br>• Expansion of the Traffic Access Guide, wayfinding. |
| What specific matters were discussed? | • Discussions on the TfNSW feedback (letter) to inform the initial adoption of each plan.<br>• Further detail of the steps proposed to achieve each identified strategy.<br>• Setting higher mode share targets for active and public transport in the medium-long term.<br>• Expansion of the Traffic Access Guide, wayfinding.<br>• TfNSW contacted the Local Bus Operator and was advised that the school student numbers and enrolments were growing from 322 (2020) to 365 (2021).<br>• Proposed that the development include 'removal of existing temporary access to site from Ocean Drive and subsequent relocation of school entrance to Collector Road' (being Wollum Drive).<br>• Proposed that SINSW can consult further with TfNSW to identify when a crossing will be warranted and the process for installation.<br>• Section 4 of the draft OTAMP should be updated to reflect that the annual review of the document be required to seek feedback from Port Macquarie Hastings Council and Transport for NSW. |
| What matters were resolved? | All of the above points were responded to in the updated versions of the OTAMP and GTP. |
| What matters are unresolved? | N/A |
| Any remaining points of disagreement? | N/A |
| How will SINSW address matters not resolved? | N/A |

## 5. Your consulting team

Our website (www.ptcconsultants.co) contains comprehensive information regarding the full range of services, consultants' experience and projects carried out.

Outlined below is a brief CV of our principal consultants relevant to this proposal:

**Andrew Morse** — **Partner/Senior Traffic Engineer**

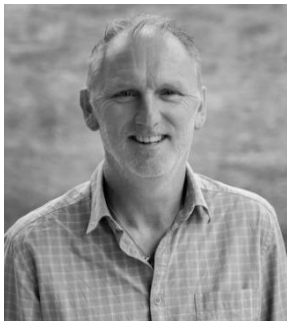
Civil Eng Higher National Certificate, Bristol (UK), AITPM

Andrew is a qualified Traffic Engineer with over 25 years' experience in the industry, is a member of the Australian Institute of Traffic Planning & Management (AITPM) and is a co-author of the AS2890 suite of Australian Standards.

Originally trained as a Civil Engineering Technician with Ove Arup & Partners in Bristol, England, Andrew specialised in Traffic Engineering when he joined Pinnacle Transportation in 1998. In 1999 Andrew relocated to Sydney and since 2000 he has worked as a Senior Traffic Engineer.

During this time Andrew has overseen many projects in all sectors including retail, commercial, residential, entertainment and transport (airports etc.). Andrew regularly provides Expert Witness services to the Land & Environment Court NSW and has provided his options and expertise in a number of forums including CPD training for Architects and local radio.

**Steve Wellman** — **Senior Civil/Traffic Engineer**



Civil Eng Higher National Certificate, Southampton Solent University (UK), MIED

Steve is a qualified Civil Engineer, and has been a member of the **ptc.** team since February 2014.

Steve has over 20 years' experience as a Civil Engineer for both local authority & private enterprises in the UK & Australia, providing design advice on a wide range of projects during all stages of the design process.

In 2009 Steve relocated to Sydney and during this time he has been a Senior Engineer / Design Manager on a number of intersection & road improvement schemes, for both the Roads & Maritime Services (NSW) & private developers.

Steve is also a Registered Road Safety Auditor and has undertaken a number of Safety Audits of all stages of road design and construction.

## Kasia Balsam — Traffic Engineer

M.Sc. Civil Engineering, Technical University Darmstadt (Germany)

Kasia is a qualified Civil Engineer with a focus on traffic and transport matters.

Whilst working in Germany, Kasia gained practical experience in traffic, road surface condition and dilapidation surveys, including planning, staffing, execution, data analysis and traffic prognosis. These projects were commissioned by both government organisations and private sector groups.

Most recently, Kasia has been involved in preparing traffic impact assessments, traffic management plans as well as transport and accessibility assessments for clients such as NSW Health Infrastructure, local Councils and private developers.

Kasia is dedicated to her tasks and together with her German determination and precision she is focused on finding solutions which satisfy both the relevant requirements and the client's wishes.

In addition to being fluent in English she also speaks German and Polish, further increasing **ptc.**'s international capabilities.

## Henry Li — Traffic Engineer

BE Civil (Hons. 1) University of New South Wales, AITPM

Henry is a graduate civil engineer with a keen interest in the realm of traffic and parking. During his time as an intern and subsequent transition to a graduate engineer at **ptc.**, Henry has gained valuable experience in car park design, signage and wayfinding, and traffic modelling.

Most recently, Henry has been involved in the preparation of car park design and compliance reviews, car park management plans, parking studies and development applications for Jockey Plaza (Lima, Peru), Waratah Private Hospital, Sydney Olympic Park, the Burwood mixed-use precinct, as well as various residential and commercial developments.

## Pragya Sharma — Traffic Engineer

BE (Civil), Purwanchal University (Nepal)

Pragya is a qualified Civil Engineer who is pursuing her Masters' degree at University of Technology with major focus on traffic and transportation. She has experience working in private and government projects in Nepal and Australia.

Pragya has been involved in the preparation of traffic impact assessments, car park compliance reviews and construction traffic management plans for various types of developments including childcare centres, boarding houses, industrial developments, schools and mixed-use developments.