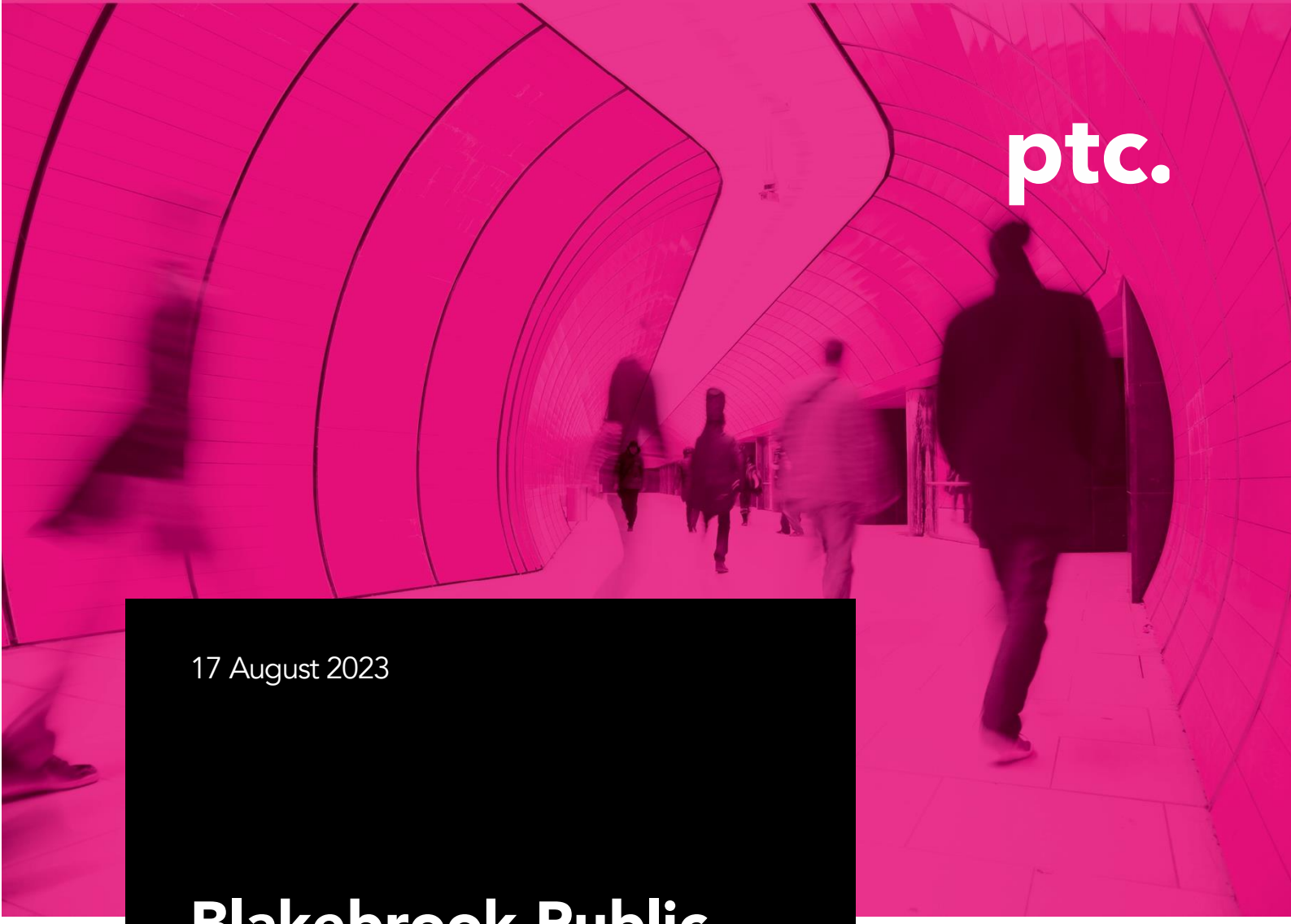

17 August 2023

Blakebrook Public School

ADCO

Transport and Traffic Assessment

For: **ADCO**

Site Address: **417 Rosehill Rd, Blakebrook NSW 2480**

Document reference number: **23-0608**

Issue:	Date	Issue details	Author	Reviewed
1	14/08/2023	Draft	SM	AM
2	17/08/2023	Final	SM	AM

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contents;

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1. Introduction

1.1. Background

The existing buildings at Blakebrook Public School (the School) were significantly inundated during the February 2022 / March 2022 floods and many of the structures are no longer habitable due to the damage caused by the flood waters. As a result, the NSW Department of Education is proposing to demolish most of the existing school buildings and construct a new elevated school building to replace it. The floor level of the new building will be located above the design flood level to increase flood resistance and create useable undercroft spaces.

As the proposed development includes the demolition of a local heritage item (Item I14 "Blakebrook Public School Grounds") listed under Schedule 5 of the Lismore Local Environmental Plan 2012 (the LEP), a Development Application (DA) is required to be submitted to Lismore City Council (Council).

ptc. has been engaged by ADCO to provide traffic & parking assistance through the planning and design process and prepare a traffic and transport assessment to accompany the application for the proposed development.

1.2. School Location

The School is located at 417 Rosehill Road, Blakebrook NSW 2480, in the Local Government Area (LGA) of Lismore City Council. Blakebrook is a locality in the Northern Rivers region of New South Wales that situates approximately 7km from the Lismore City, Blakebrook had a population of 132 people in 2021 census.

As shown in Figure 1, the School has Rosehill Road as the frontage Road to the south, and is bounded by rural properties to the east, north and west.

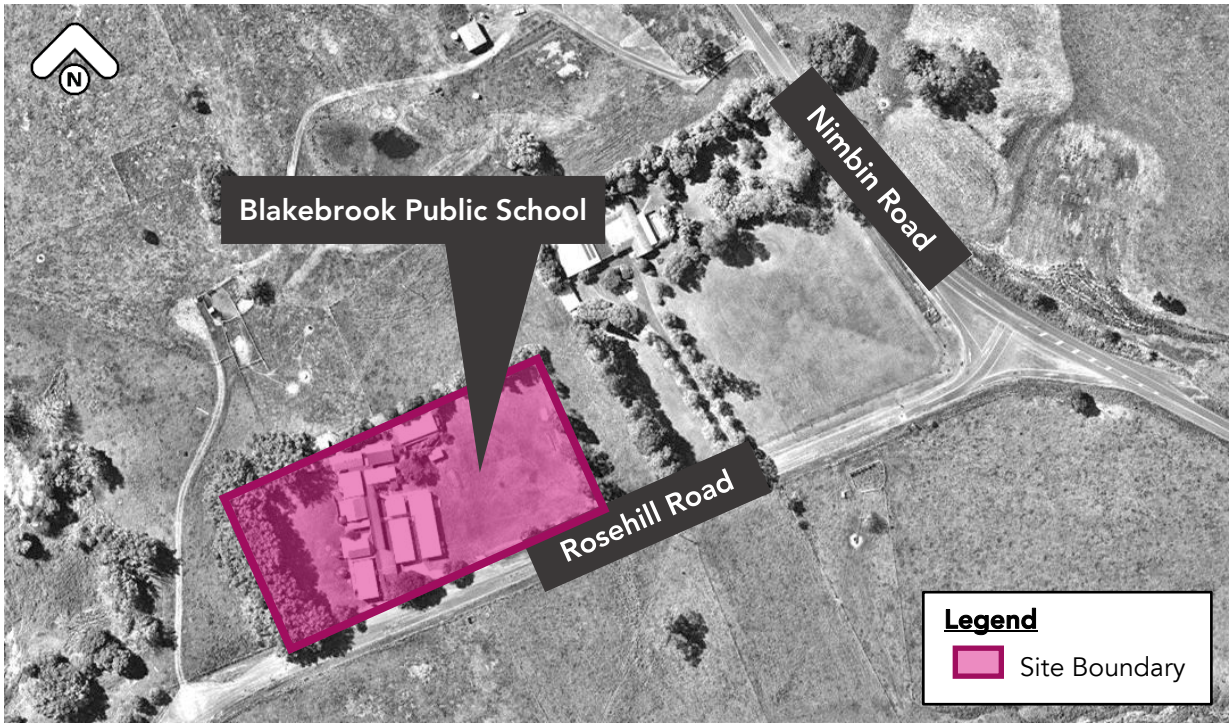

Figure 1: School location

1.3. Project Summary

The proposed development is to be undertaken in two (2) stages as follows:

- Stage 1: Demolition of the existing buildings and tree removal (Early Works DA); and
- Stage 2: Construction of a new elevated school building and landscaping and ancillary works and structures (Main works DA).

The Early Works development comprises:

- Site preparation including site establishment works, earthworks and relocation of heritage bell and memorial bench.
- Demolition of the existing school buildings.
- Tree removal.
- Make good of site following demolition.

The Main works development comprises:

- Construction of a new elevated school building, with at-grade (undercroft) amenities and storage, including:
    - Ground Level:
        - Open undercroft space for covered outdoor learning and play.
        - Male and female amenities and accessible toilet / change room facility.
        - Cleaners' store.
        - Equipment store.
        - Sport equipment store.
    - Elevated Level:
        - New administration comprising interview room, clerical spaces, Principal's office, staff room, sick bay and male, female and accessible amenities.
        - School library with computer room, store, main communications room and library office.
        - Four (4) General Learning Spaces (GLS) with learning commons and multi-purpose space.
        - Canteen with open servery space.
        - Store.
        - Male, female and accessible amenities.
        - Mechanical plant.
- New and hard soft landscaping including replacement play equipment, vegetable garden, fernery and yarning circle.
- New hydrant pump house with fire tanks.
- Relocation and replacement of existing septic tanks and water tanks.

It is not proposed to increase staff or student numbers as a result of these works.

2. Site Context

2.1. School Characteristics

The School is a primary school that accommodates Kinder to Year 6 students and currently has an enrolment of 52 students. The School has the following school characteristics:

- Student enrolment capacity: 75
- Staff: 10
- Bell times: 9:15am - 3:30pm

The student enrolment catchment area involves a few the suburbs / villages such as Blakebrook, Jiggi, Goolmangar and Keerrongis, as shown in Figure 2.

The development proposal does not involve any changes to the existing enrolment catchment or school population capacity.

Figure 2: School enrolment catchment area (Source: NSW Public School Finder)

2.2. Land Use

With reference to the NSW Planning Portal Spatial Viewer, the School site sits on land lot2, Deposited Plan (DP) 859866, and is categorised as SP2 Infrastructure zone. The School is surrounded by a large piece of land zoned RU1 Primary Productions, as shown in Figure 3.

The land use zonings in the vicinity are relatively simple, this determines the existing local traffic generation has the following features:

- Generally associated with the School, surrounding rural residential properties and primary industries;
- Vehicular traffic (private transport) is expected to be the predominant mode share for the transport activities; and
- Low traffic volumes.

Figure 3: Land use map around the School (Source: NSW Planning Portal Spatial Viewer)

2.3. Development Controls

The School is within the Lismore City Council LGA, and the development proposal is subject to the controls stipulated by the Lismore Development Control Plan (DCP).

The DCP provides controls and guidelines for new development that will assist in achieving the aims and objectives of the Lismore Local Environmental Plan.

For the concern from a transport perspective, it also sets out requirements for car parking, accessible and service vehicle parking provision, which are referred to when assessing the development proposal.

3. Existing Transport Facilities

3.1. Road Hierarchy

The NSW administrative road hierarchy comprises the following road classifications, which align with the generic road hierarchy as follows:

- **State Roads** Freeways and Primary Arterials (TfNSW managed)
- **Regional Roads** Secondary or sub arterials (Council managed, part funded by State)
- **Local Roads** Collector and local access roads (Council managed)

With reference to the TfNSW Road Network Classification Map, the School's frontage road Rosehill Road is a Local Road, it further connects with Regional Road on either side, being Nimbin Road immediately to the north and Kyogle Road approximately 4km to the south (Figure 4).

The road classification in the vicinity suggests that low traffic volumes are expected around the School site, and are predominantly associated with local properties and primary industries.

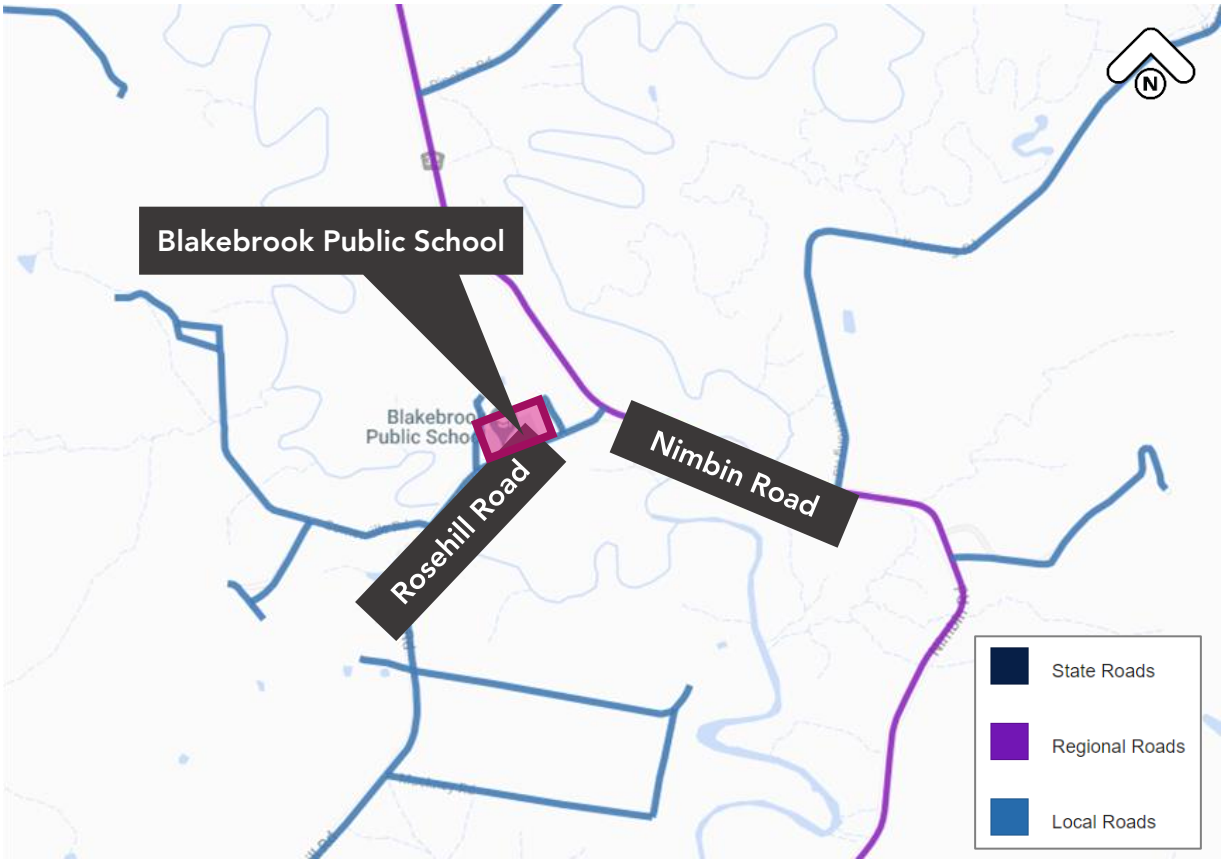

Figure 4: Road classification around the School (Source: TfNSW Road Network Classification Map)

The details of the existing immediate road network servicing the School are analysed and summarised overleaf.

Table 1: Road network characteristics - Rosehill Road

Rosehill Road	
Road Classification	Local Road
Alignment	East - west
Number of Lanes	1 lane in each direction
Carriageway Type	Undivided
Carriageway Width	7 metres
Speed Limit	80km/h
School Zone	Yes
Parking Controls	Bus zone at school frontage
Forms Site Frontage	Yes

Figure 5: Rosehill Road at School frontage (Source: Google Map)

Table 2: Road network characteristics - Nimbin Road

Nimbin Road	
Road Classification	Regional Road
Alignment	North - south
Number of Lanes	1 lane in each direction
Carriageway Type	Undivided
Carriageway Width	7.5 metres
Speed Limit	80km/h
School Zone	No
Parking Controls	Nil
Forms Site Frontage	No

Figure 6: Nimbin Road near Rosehill Road (Source: Google Map)

3.2. Public Transport

The NSW Planning Guidelines for Walking and Cycling (2004) suggests that an 800m (10 minutes' walk) catchment is an acceptable walkable distance for accessing public transport. Furthermore, the document also suggests a distance of 1500m is a suitable catchment for cycling to public transport facilities and local amenities.

A desktop analysis of the public transport options around the School shows one bus stop is available within 800m (10 minutes' walk) catchment, being the Blakebrook Public School Stop, the bus stop is currently serviced by two public bus routes and five school bus routes, as illustrated in Figure 7.

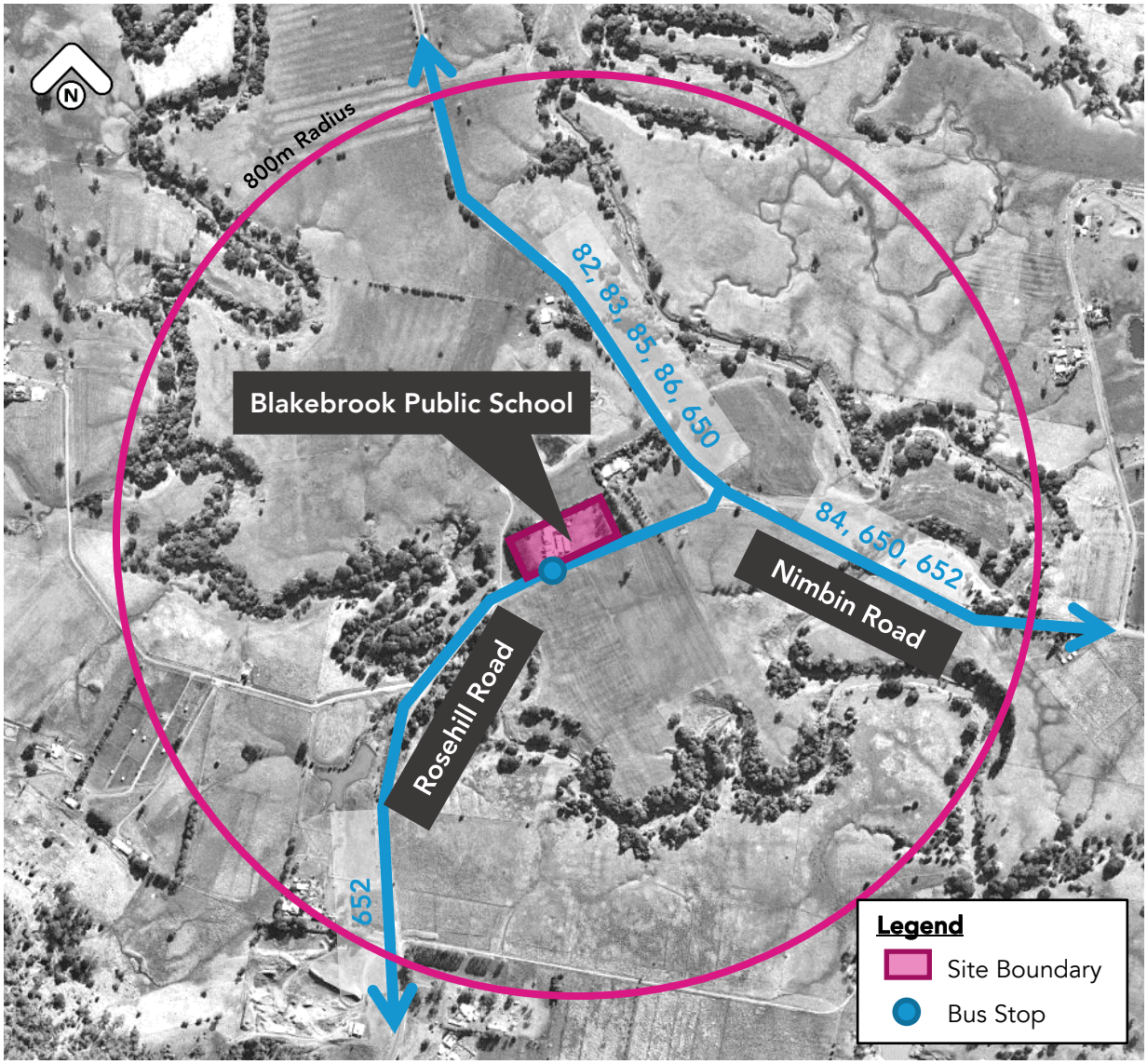

Figure 7: Public transport options around the School (Source: Northern Rivers Buslines and TfNSW)

The public bus routes service the bus stop at the School are routes 650 and 652, they operate under different timetable and stopping arrangements on school and non-school days, services are only available for the School on school-days. The school bus services available to the School are routes 82, 83, 84, 85 and 86.

The bus routes operate between 1-2 services per day at the bus stop, their operation timetable at the bus stop is summarised in Table 3.

Table 3: Bus services summary (Source: Northern Rivers Buslines and TfNSW)

Routes	Coverage	Operation summary
82	Between Lismore and Blakebrook Public School via Goolmangar School	2 services per day, being 1 service in the morning (8:20am) and 1 service in the afternoon (3:48pm).
83	Between East Lismore and Blakebrook Public School via Jiggi Public School	2 services per day, being 1 service in the morning (8:20am) and 1 service in the afternoon (3:55pm).
84	Between East Lismore and Blakebrook Public School	2 services per day, being 1 service in the morning (8:20am) and 1 service in the afternoon (3:48pm).
85	Between Jiggi and Blakebrook Public School	2 services per day, being 1 service in the morning (8:20am) and 1 service in the afternoon (3:50pm).
86	Between Nimbin and Blakebrook Public School via 7:45 Nimbin Central School	2 services per day, being 1 service in the morning (8:20am) and 1 service in the afternoon (3:50pm).
650	Between Lismore and Nimbin	Operate on school days only, 2 services in each direction per day, being 1 in the morning (8:20am) and 1 in the afternoon (3:50pm).
652	Between Lismore and Tuntable Creek	Operate on school days only, 1 service in each direction per day, being Lismore direction in the morning (8:20am) and Tuntable Creek direction in the afternoon (4:02pm).

The public transport options available in the locality is in single mode (bus), it is considered adequate based on the area characteristics and enrolled student numbers and age. With consideration to the coverage area and operation frequency, public transport is expected to be a proportion in the student and staff travel mode share.

3.3. Active Transport

A review of active transport infrastructure around the School shows the locality does not have dedicated footpath or share-path available, therefore the area is considered difficult for walking and cycling. Figure 8 shows that no footpath is available on the School frontage road.

Given the regional context of the School location and the general young age of students, it is expected that students and staff are unlikely to use active transport for travel, unless their residence is in close proximity to the School.

Figure 8: Rosehill Road near the School

4. Parking Demand and Design Assessment

The parking provision of the development has been assessed with reference to the requirements stipulated by the following documents or sources:

- Lismore Development Control Plan (DCP); and
- NSW Department of Education (DoE) Educational Facilities Standards and Guidelines (EFSG);

4.1. Bicycle Parking

The DCP does not stipulate any requirements for bicycle parking provisions, EFSG stipulates that the number of bicycle parking spaces can be site specifically variable.

The development proposal involves the restoration of any pre-existing bicycle parking spaces before the flooding events, the number of bicycle parking spaces are yet to be confirmed, however will likely be between 10-14 spaces and will be located within the site boundary.

Although the number of bicycle parking spaces are yet to be confirmed, given the area context and school population, the bicycle parking provision is anticipated to adequately service the cycling demand. The School ground also has sufficient area to provide additional bicycle parking spaces should the demand increase.

The proposed bicycle spaces shall be provided in line with AS2890.3 prior to occupation, which involves the following typical design requirements:

- Bicycle parking space envelope: 1.8m x 0.5m; and
- Aisle of 1.5m.

4.2. Car Parking

Section 7.7 of the DCP stipulates the minimum number of parking spaces required for developments outside and within the Lismore CBD. The School site is outside the Lismore CBD, the relevant car parking provision rates set by the DCP for educational establishment (primary) are the following:

- 1 per 2 employees; plus
- 1 per 12 students.

A summary of the above and the proposed parking provision by the development are presented in Table 4.

Table 4: Car parking provision

Components	Minimum provision rates	Minimum spaces required	Project provision
10 employees	1 per 2 employees	5	0
75 students	1 per 12 students	6	

The proposed development does not involve any provision or changes to the current arrangements for onsite car parking, which represents a shortfall with DCP requirements. However, given that no additional staff or student enrolment capacity is proposed, the context of the area and the size of the development, car parking demand is expected to be low and easily accommodated by unrestricted on-street unrestricted parking. On this basis, the on-street parking demand will not negatively impact the amenity of surrounding neighbours or road users.

4.3. Service vehicles

Section 7.6.1 of the DCP requires the adequate provision of loading bays and manoeuvring areas within the site boundaries in accordance with AS2890.2, the loading areas are to be separated from parking areas. The DCP does not stipulate any specific rates for loading spaces.

The development proposal does not involve any provision or changes to the current arrangements for service vehicle parking, given the context of the area and the size of the development, service vehicle parking demand is expected to be low and easily accommodated by unrestricted on-street parking.

5. Transport Impact Assessment

5.1. Traffic Generation Rates

In assessing the transport implications of the proposed development, reference is made to Transport for NSW TTR-002 Guide to Traffic Generating Developments (Guide).

The Guide does not provide traffic generation rates specifically for schools whilst the rates for childcare centres are provided, being:

- 0.8 vehicle trips / student in the morning; and
- 0.3 - 0.7 vehicle trips / student in the afternoon.

Given the regional context and the limited availability of alternative transport options, the traffic generation rate of 0.8 vehicle trips / student is adopted for both the morning and afternoon peak hour for the assessment (Figure 9).

Table 3.6
Traffic generation rates

Centre Type	Peak Vehicle Trips / Child		
	7.00-9.00am	2.30-4.00pm	4.00-6.00pm
Pre-school	1.4	0.8	-
Long-day care	0.8	0.3	0.7
Before/after care	0.5	0.2	0.7

Figure 9: Childcare centre traffic generation rates (Source: Guide to Traffic Generating Developments)

5.2. Net Traffic Generation and Impact

The School currently has the enrolment capacity of 75 students, the proposed development does not involve any changes to the school population capacity. Therefore, the traffic generation of the proposed development is the same as the pre-development conditions, resulting in zero (0) net traffic generation as shown in Table 5.

Table 5: Net traffic generation

Scenarios	Students	Trip generation rate	Trips
Existing	75	0.8 vehicle trips / student	60
Proposed development	75		60
		Net generation:	**0**

Based on the above, the proposed development is not expected to generate additional traffic onto the existing road network or have an adverse impact on the current transport network operations.

6. Conclusion

The School is a primary school that has the enrolment capacity of 75 students and staff capacity of 10 employees, the proposed development does not involve any changes to the existing enrolment catchment area or school population capacity.

The land use and road hierarchy in the locality determine that the traffic activity is low and largely associated with the local rural residential properties, primary industries and the School.

Public transport options in the locality are adequate and will form a proportion in the school travel mode share. Active transport infrastructure is limited around the School, therefore unlikely be chosen for travel.

The bicycle parking provision is yet to be finalised by the development, however is expected to adequately service the cycling demand and be provided in line with AS2890.3 prior to occupation.

The proposed development does not involve the provision of parking or any changes to the current arrangements for onsite car parking or service vehicle parking. With consideration to no additional staff or students are proposed, the context of the area and the size of the development, the proposed arrangement is adequate, and the parking demand is expected to be easily accommodated by unrestricted on-street parking around the School.

As the proposed development does not involve any changes to the school population capacity, the net traffic generation of the proposed development is zero, which is not expected to generate additional traffic onto the existing road network or have an adverse impact on the current transport network operations.

Appendix 1. Architectural Drawings

LEGEND

- General Learning Space
- Admin and Staff
- Library
- Amennities
- Canteen
- Services
- Storage
- Covered Walkway
- Playspace
- Refurbish and Flood Proof Existing
- Temporary School
- Existing Demolished

STORE

AMENITIES & SERVICES

WATER TANK REMOVED AND REPLACED

EXISTING SEPTIC TANK

EXISTING GREEN HOUSE

EXISTING SHED

REPLACEMENT VEGETABLE GARDEN

CANTEEN

SERVERY

AMENITIES AND SERVICES

GLS

GLS

LEARNING COMMONS

GLS

GLS

LIBRARY

LIFT

ADMIN AND STAFF

TEMPORARY SCHOOL

EXISTING E

EXISTING F

EXISTING BUILDINGS TO BE DEMOLISHED

PROPOSED YARNING CIRCLE LOCATION TBC

HERITAGE BUS SHELTER RETAIN INSITU TBC

G

MEMORIAL BENCH

HERITAGE BELL RELOCATED

MAIN ENTRY

ROSEHILL ROAD

EXISTING PLAY EQUIPMENT TO BE REPLACED AND RELOCATED

EXISTING BUILDINGS MARKED FOR DEMOLITION B00A, B00E AND B00F AND SCHOOL GROUNDS ARE LISTED ON THE DOE S170 REGISTER AS ITEM #5064538

BLAKEBROOK PUBLIC SCHOOL GROUNDS IS LISTED ON SCHEDULE 5 'ENVIRONMENTAL HERITAGE' OF THE LEP (LISMORE LEP 2012 I4). DEMO DA REQUIRED.

SIGNIFIGANT CAMPOR LAUREL TREES RETAINED

WESTERN PORTION OF THE SITE IDENTIFIED AS SUSCEPTIBLE TO FLOODWATER BREAKOUT FROM GOOLMANGAR CREEK.

DRAINAGE ISSUES TO BE INVESTIGATED

PRELIMINARY

AMENDMENTS

REV	BY	DATE	DESCRIPTION
A	AC	16/03/2023	RE-ISSUE TO ADCO AND SINSW
B	SG	24/03/2023	RE-ISSUE WITH MINOR UPDATES
C	AC	31/03/2023	ISSUE FOR STAKEHOLDER REVIEW
D	SG	11/04/2023	RE-ISSUE WITH MINOR UPDATES
E	AC	03/05/2023	RE-ISSUE IN RESPONSE TO PRINCIPAL'S COMMENTS
F	AC	17/07/2023	PRG PREFERRED OPTION

CLIENT DETAILS

PEDAVOLI ARCHITECTS PTY LTD
LEVEL 2,
458-468 WATTLE STREET
ULTIMO NSW 2007 AUSTRALIA
T: +61 2 9291 0000
W: www.pedavoli.com.au
NOMINATED ARCHITECT:
VINCE PEDAVOLI
NSW ARB No. 5045

PEDAVOLI ARCHITECTS

DRAWING NAME

MASTERPLAN

CONFIDENTIAL

PROJECT

BLAKEBROOK PUBLIC SCHOOL

417 ROSEHILL ROAD BLAKEBROOK NSW 2480

NORTH

0 2000 4000 6000 8000 10000 20000

SCALE As indicated @ A1

17/07/2023

PROJECT	PHASE	SERIES NUMBER	REVISION
BLA	- MA -	105	F

LEGEND

- EXISTING BUILDING
- PROPOSED BUILDING
- PROPOSED PAVING
- EXISTING TREES TO BE RETAINED REFER TO LANDSCAPE ARCHITECT'S DRAWINGS
- PROPOSED NEW TREES SHOWN IN BLUE OUTLINE REFER TO LANDSCAPE ARCHITECT'S DRAWINGS
- EXISTING NEIGHBOURING TREES INDICATIVE ONLY

1.a	RAIN WATER TANK	LOCATION T.B.C
1.b	RAIN WATER REUSE FILTRATION AND PUMPING SYSTEM	LOCATION T.B.C
2	FIRE TANKS	LOCATION T.B.C
3	HYDRANT PUMP HOUSE	LOCATION T.B.C
4	DUAL FIRE HYDRANT	LOCATION T.B.C
5	PROPOSED HYDRANT BOOSTER ASSEMBLY AND EXTERNAL FIRE HYDRANT	LOCATION T.B.C
6	PROPOSED YARNING CIRCLE, REFER TO LANDSCAPE ARCHITECT'S DRAWINGS	
7	PROPOSED GROWING GARDENS, REFER TO LANDSCAPE ARCHITECT'S DRAWINGS	
8	REPLACEMENT SANDED AREA AND PLAY EQUIPMENT	
9	HERITAGE SCHOOL BELL, REFER TO LANDSCAPE ARCHITECT'S DRAWINGS	
10	PROPOSED OUTDOOR SEATING	
11	PROPOSED GA SHED	

GFA CALCULATION

Name	Area
ABLUTIONS	64.40 m²
1	64.40 m²
ADMIN BLOCK GFA	135.00 m²
GLS BLOCK GFA	606.75 m²
2	741.75 m²
Grand total: 3	806.15 m²

AMENDMENTS

REV	BY	DATE	DESCRIPTION
	SG	27/07/2023	ITEMS UNDER COORDINATION
A	SG	04/08/2023	PRELIMINARY ISSUE FOR COORDINATION

DRAFT

LAYOUT AND BUILDING SETBACKS ARE PRELIMINARY ONLY.
TO BE COORDINATED WITH PRG COMMENTS AND ALL DESIGN DISCIPLINES

ADCO

MODULAR DESIGN & CONSTRUCTION Modscape 0393 166 020	PLANNING EPM 0294 528 300
STRUCTURAL & CIVIL H&H Engineers 0423 222 338	ACCESSIBILITY AND BCA MBC Group 0450 704 964
SERVICES JHA Consulting 0404 552 673	LANDSCAPE ARCHITECT Taylor Brammer 0418 264 111
FIRE ENGINEERING AND ESD E-Lab 0447 343 458	BUSHFIRE Blackash Bushfire Consulting 0419 203 853

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PEDAVOLI ARCHITECTS

BLAKEBROOK PUBLIC SCHOOL

417 ROSEHILL ROAD BLAKEBROOK NSW 2480

DRAWING NAME

PROPOSED SITE PLAN

NORTH

SCALE As indicated @ A1

DATE

DRAWING NUMBER

PROJECT	DISCIPLINE	PHASE	TYPE	SERIES NUMBER
BLA	ARC	PP	DWG	010

REVISION A