



URBIS

MINARAH COLLEGE STAGING REPORT

SSDA - 30759158

Prepared for
MINARAH COLLEGE
9 May 2025 – Update Following Response to
Submissions

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	Alaine Roff
Associate Director	Erin Crane
Assistant Planner	Thomas Baird
Project Code	P0033387
Report Number	V07 RTS#2 TOA

Urbis acknowledges the important contribution that Aboriginal and Torres Strait Islander people make in creating a strong and vibrant Australian society.

We acknowledge, in each of our offices, the Traditional Owners on whose land we stand.

All information supplied to Urbis in order to conduct this research has been treated in the strictest confidence. It shall only be used in this context and shall not be made available to third parties without client authorisation. Confidential information has been stored securely and data provided by respondents, as well as their identity, has been treated in the strictest confidence and all assurance given to respondents have been and shall be fulfilled.

© Urbis Ltd
50 105 256 228

All Rights Reserved. No material may be reproduced without prior permission.

You must read the important disclaimer appearing within the body of this report.

urbis.com.au

CONTENTS

1.	Introduction	1
1.1.	Purpose of the Report.....	2
1.2.	Methodology	2
1.3.	The Site.....	3
2.	Overview of Staging.....	4
3.	Stage 1.....	6
3.1.	Description of works.....	6
3.1.1.	Demolition.....	6
3.1.2.	Earthworks, Excavation and Tree Removal	6
3.1.3.	Construction	7
3.1.4.	School Operations	9
3.2.	Environmental Impacts	9
3.2.1.	Environmental Amenity.....	9
3.2.1.1.	Cross Ventilation	9
3.2.1.2.	Daylight Access	9
3.2.2.	Traffic and Parking Management	9
3.2.3.	Landscaping/ Tree Replanting	10
3.2.4.	BCA/ Access.....	12
3.2.5.	Noise and Vibration Management.....	12
3.2.6.	Construction Management	14
3.2.6.1.	Construction Traffic	14
3.2.6.2.	Construction Noise and Vibration.....	18
3.2.6.3.	Construction Waste	19
3.2.7.	Stormwater and Drainage	20
3.2.8.	Wastewater Management	21
3.2.9.	Odour.....	22
3.2.10.	Operational Waste.....	22
3.2.11.	Cumulative Impacts.....	23
3.2.12.	Summary of Mitigation Measures.....	23
4.	Stage 2.....	24
4.1.	Description of Works.....	24
4.1.1.	Excavation and Bulk Earthworks	24
4.1.2.	Construction	24
4.1.3.	School Operations	26
4.2.	Environmental Impacts	27
4.2.1.	Environmental Amenity.....	27
4.2.1.1.	Cross Ventilation	27
4.2.1.2.	Solar Access.....	27
4.2.2.	Traffic and Parking Management	27
4.2.3.	Landscaping/ Tree Replanting	27
4.2.4.	BCA/ Access.....	29
4.2.5.	Noise and Vibration Management.....	29
4.2.6.	Construction Management	30
4.2.6.1.	Construction Traffic Management	30
4.2.6.2.	Construction Noise and Vibration.....	31
4.2.6.3.	Construction Waste	32
4.2.7.	Wastewater Management	33
4.2.8.	Operational Waste.....	34
4.2.9.	Cumulative Impacts.....	35
4.2.10.	Summary of Mitigation Measures.....	35
5.	Stages 3 & 4.....	36
5.1.	Description of Works – Stage 3	36
5.1.1.	Excavation and Bulk Earthworks.....	36

5.1.2.	Construction	36
5.1.2.1.	School Buildings	36
5.1.3.	School Operations	38
5.2.	Description of Works – Stage 4	Error! Bookmark not defined.
5.2.1.	Construction	Error! Bookmark not defined.
5.3.	Environmental Impacts	39
5.3.1.	Environmental Amenity.....	39
5.3.1.1.	Cross Ventilation	39
5.3.1.2.	Solar Access.....	39
5.3.2.	Traffic and Parking Management	39
5.3.3.	Landscaping/ Open Space	40
5.3.4.	BCA/ Access.....	42
5.3.5.	Noise and Vibration Management.....	42
5.3.6.	Construction Management	43
5.3.6.1.	Construction Traffic Management	43
5.3.6.2.	Construction Noise and Vibration.....	44
5.3.6.3.	Construction Waste	45
5.3.7.	Wastewater Management	46
5.3.8.	Operational Waste.....	47
5.3.9.	Cumulative Impacts	48
5.3.10.	Summary of Mitigation Measures.....	48
6.	Stage 4.....	49
6.1.	Description of Works.....	49
6.1.1.	Construction	49
6.1.2.	School Operations	49
6.2.	Environmental Impacts	50
6.2.1.	Environmental Amenity.....	50
6.2.1.1.	Cross Ventilation	50
6.2.1.2.	Solar Access.....	51
6.2.2.	Traffic and Parking Management	51
6.2.3.	BCA/ Access.....	51
6.2.4.	Noise and Vibration Management.....	51
6.2.5.	Construction Management	51
6.2.5.1.	Construction Traffic Management	51
6.2.5.2.	Construction Noise and Vibration Management.....	52
6.2.5.3.	Construction Waste	52
6.2.6.	Wastewater Management	53
6.2.7.	Operational Waste.....	54
6.2.8.	Cumulative Impacts	55
6.2.9.	Summary of Mitigation Measures.....	56
7.	Conclusion.....	57
	Disclaimer.....	61

Appendix A	Accommodation Schedule per stage
Appendix B	Accommodation Schedule Summary

FIGURES

Figure 1 Site Context Map	3
Figure 2 Staging Plan	4
Figure 3 Demolition Plan	6
Figure 4 Stage 1 Ground Floor Construction Plan	8
Figure 5 Stage 1 First Floor Plan.....	8

Figure 6 Stage 1 Landscaping Plan	11
Figure 7 Stage 1 Tree Replacement Table	12
Figure 8 Surrounding Residential Receivers	13
Figure 9 Northern site boundary sound barrier wall	14
Figure 10 Construction vehicle volumes at similar construction sites	15
Figure 11 Traffic Control Stage 1	17
Figure 12 Stage 1 Noise Emission Summary.....	18
Figure 13 Construction Waste Stage 1.....	20
Figure 14 Stage 1 Drainage Plan	21
Figure 15 Stage 1 Effluent Management Area	22
Figure 16 Proposed temporary waste storage area (Stage1)	23
Figure 17 Stage 2 Construction Plans.....	25
Figure 18 During Construction – Operational Management Plan	26
Figure 19 Stage 2 Landscaping Plan	28
Figure 20 Stage 2 Tree Replacement Table	29
Figure 21 Traffic Guidance Scheme Stage 2 Plan	31
Figure 22 Stage 2 Noise Emission Summary.....	32
Figure 23 Construction Waste Stage 2.....	33
Figure 24 Stage 2 Available Effluent Management Area	34
Figure 25 Proposed temporary waste storage area (Stage 2)	34
Figure 26 Stage 3 Construction Plans.....	37
Figure 27 Operational Construction Management Plan	38
Figure 28 Stage 3 Landscaping Plan	41
Figure 29 Stage 3 Tree Replacement Table	41
Figure 30 Traffic Control Stage 3	44
Figure 31 Stage 3 Noise Emission Summary.....	45
Figure 32 Construction Waste Stage 3.....	46
Figure 33 Stage 3 Available Effluent Management Area	47
Figure 34 Proposed temporary waste storage area (Stage 3)	47
Figure 35 Stage 4 Floor Plan.....	49
Figure 36 Operational Construction Management Plan	50
Figure 37 Traffic Control Stage 4	52
Figure 38 Stage 3 Noise Emission Summary.....	52
Figure 39 Construction Waste Stage 4.....	53
Figure 40 Stage 3 Available Effluent Management Area	54
Figure 41 Stage 4 Waste Storage Location	55

PICTURES

Picture 1 Stage 1A.....	17
Picture 2 Stage 1B.....	17
Picture 3 Stage 1C.....	18
Picture 4 R1-R6	18
Picture 5 R7-R11	18
Picture 6 Ground Floor Plan	25
Picture 7 First Floor Plan	25
Picture 8 R1-R6	32
Picture 9 R7-R11	32
Picture 10 Stage 3 Ground Floor Plan.....	37
Picture 11 Stage 3 First Floor Plan.....	37

Picture 12 Stage 3 Construction – Operational Management Plan (stage 2) 38

Picture 13 R1-R6 45

Picture 14 R7-R11 45

Picture 15 Stage 4 Construction – Operational Management Plan (stage 3) 50

Picture 16 R1-R6 52

Picture 17 R7-R11 52

TABLES

Table 1 Site Details..... 3

Table 2 Staging Summary Table 4

Table 3 Outdoor Play Space Area Guidelines..... 40

1. INTRODUCTION

This Staging Report has been prepared on behalf of Minarah College (**the Proponent**) in support of a State Significant Development Application (**SSDA**) for the construction of a new school, Minarah College (**the project**) at 268-278 Catherine Fields Road, Catherine Field (**the site**).

The SSDA seeks consent for the construction of a co-educational establishment (Minarah College) accommodating 980 students. The school will comprise of an Early Learning Centre (ELC) for 60 students, a School for Specific Purpose (SSP) for 30 students, a primary school accommodating 505 students and a high school for 385 students. The new school will be constructed in four stages, growing in line with the predicated growth in the local population. Specifically, consent is sought for:

- Demolition of the existing dwellings and ancillary structures on-site;
- Bulk earthworks across the site;
- The construction of the following:
 - One-storey early learning centre.
 - Two-storey administration building, with attached outside school hours care (OSHC), and wellbeing room.
 - Two-storey primary school building comprising of primary school classrooms,
 - School for Specific Purpose classrooms,
 - Primary school hall;
 - Two-storey high school building comprising high school classrooms;
 - Two-storey high school hall;
 - Shared one-storey canteen adjoining the high school building; and
 - Shared library located on the second storey above the ELC and food and textiles building below.
 - A full-sized sport field.;
- Site access from Catherine Fields Road at two points;
- Works within Catherine Fields Road to allow for a right-turn bay from Catherine Fields Road and bus bays on the eastern side of Catherine Fields Road;
- Removal of trees and replacement planting and landscaping;
- Associated site landscaping and public domain improvements;
- On-site car parking; and
- Construction of ancillary infrastructure and utilities as required.

The development is to be constructed in four stages but will be operating at full capacity from stage 3. A breakdown of the student and staff numbers across each stage is as follows:

- Stage 1: 2026, 318 students (18 ELC, 290 School, 10, SSP), 15 FTE staff
- Stage 2: 2031, 652 students (42 ELC, 600 School, 10 SSP), 33 FTE Staff
- Stage 3: 2035, 980 students (60 ELC, 890 School, 30 SSP), 51 FTE Staff
- Stage 4: 2037, 980 students (60 ELC, 890 School, 30 SPP), 51 FTE Staff

The total student population at stage 3 will be 980 students, the staff population will total 45 FTE and 6 SSP staff.

1.1. PURPOSE OF THE REPORT

This report details the proposed staging of the construction of the school and analyses the cumulative impacts of the construction and operational stages of the development. This report has been prepared in response to a request from the Department of Planning, Housing and Infrastructure (DPHI). The request for the preparation of the Staging Report was issued via email on the 17 May 2024 by DPHI. Specifically, it was requested that the following additional information be provided regarding the staged construction and operation of the proposed school:

- Plans and details of the proposed layout and facilities, including floor space and area calculations, during each operational stage of the development, including:
 - Proposed learning areas, classrooms, common rooms, staff rooms and amenities.
 - Areas and type/treatment of open play space area for students
 - Proposed pick-up and drop-off and staff and visitor parking arrangements (including construction workers' access and parking).
- Information to demonstrate that the arrangements for each operational stage would provide facilities of adequate capacity and amenity, including noise attenuation (construction and operational), odour and waste management, natural ventilation and access to daylight, to provide a safe and quality environment for students.
- Conceptual civil plans for each construction stage of the development.
- Plans detailing the proposed operation and construction of the school at the various operational and construction stages demonstrating how potential conflict between the operation of the school and construction will be managed to ensure the safety of students and staff.

This Staging Report has been structured to respond to all matters raised by DPHI in their email.

1.2. METHODOLOGY

The Staging Report relies on the following information which supports the Amended Environmental Impact Assessment:

- Architectural Plans prepared by Tonkin Zulaikha Greer
- Design Report prepared by Tonkin Zulaikha Greer
- Disability Access Report prepared by Inclusive Places
- Landscape Plans prepared by Taylor Brammer Landscape Architects
- Transport and Parking Impact Assessment prepared by Ason Group
- Services Infrastructure Report prepared by JHA Services
- Construction Noise and Vibration Management Plan prepared by Day Design Pty Ltd
- Environmental Noise Impact Assessment prepared by Day Design Pty Ltd
- Civil Plans prepared by Martens & Associates Pty Ltd
- Overland Flow Assessment prepared by Martens and Associates
- Odour Impact Assessment prepared by Todoroski Pty Ltd
- Wastewater Management Assessment prepared by Martens
- Waste Management Plan Waste Audit & Consultancy Service
- BCA Report prepared by Group DLA
- Construction – Operational Management Plan Diagrams prepared by Tonkin Zulaikha Greer

1.3. THE SITE

The site is located at 268-278 Catherine Fields Road, Catherine Field, Dharawal Country, NSW. The site is located within Camden local government area (LGA) and has a site area of approximately 4.50ha. The legal description of the site is outlined in Table 1 below.

Table 1 Site Details

Property Address	Title Description
268 Catherine Fields Road	Lot 11 in DP 833983
278 Catherine Fields Road	Lot 12 in DP 833784
Site Area	4.50ha

The site is in a typical large lot rural residential subdivision area. The site has a gentle fall from the east to west with a minor ridgeline along the east to west axis. Diagonal falls lead to the southwest and northwest areas of the site. The northern and eastern boundaries of the site are characterised by remnant regenerating bushland, whilst majority of the site is former pastureland with sparsely scattered trees.

Both lots contain rural residential dwellings with ancillary farm structures including numerous sheds, farm buildings and water tanks. Lot 11 contains two prominent dams.

Figure 1 Site Context Map

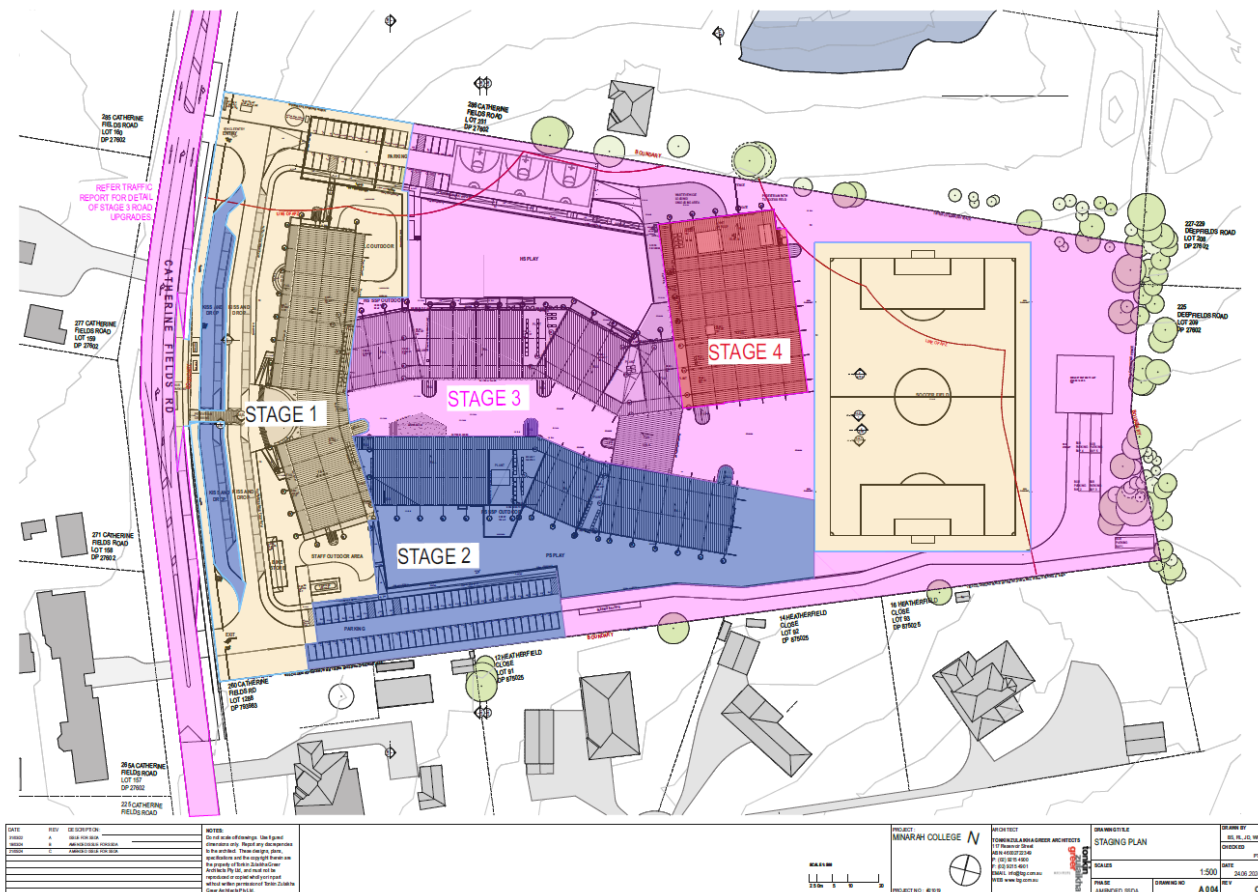


Source: Urbis, 2022

2. OVERVIEW OF STAGING

The development is proposed to be staged across four (4) stages, allowing the school to grow in line with the growth of the local population. The staging will enable the commencement and ongoing operation of the site while the school facilities are constructed and occupied. The staging has been carefully considered to mitigate impact on the operation of the school whilst construction is occurring during later stages to ensure the safety of students, staff and community users. The proposed staging plan is provided below. The proposed GFA breakdown of the development across all four stages is provided as Appendix A and Appendix B and has been included with the Architectural Plans prepared by Tonkin Zulaika Greer.

Figure 2 Staging Plan



Source: Architectural Plans, Tonkin Zulaika Greer

The below table summarises the proposed staging of works and the operational capacity of each stage.

Table 2 Staging Summary Table

Stage	Proposed Works	Stage Operation
Stage 1	<p>Demolition of existing structures.</p> <p>Excavation and bulk earthworks.</p> <p>Construction of the western wing for temporary use by primary and ELC students.</p> <p>Construction of the Sport Field.</p> <p>Construction of a portion of the northern carpark and the kiss and drop area.</p>	2026, 318 students (18 ELC, 290 School, 10, SSP), 15 FTE staff

Stage	Proposed Works	Stage Operation
	<p>Landscaping and the implementation of a temporary outdoor play area.</p> <p>Sound barrier wall around ELC outdoor play area</p> <p>Installation of the wastewater management system and stormwater management systems. This includes the sewerage treatment plant at the rear of the site and temporary access road. Note that Figure 2 above shows this area as part of stage three (in pink) as that is when the permanent access road will be delivered. Refer to detailed staging plans below for clarification.</p>	
Stage 2	<p>Excavation and bulk earthworks.</p> <p>Construction of the primary school.</p> <p>Landscaping and the extension of the temporary outdoor play area.</p> <p>Construction of the southern car park and the extension of the kiss and drop zone.</p>	2031, 652 students (42 ELC, 600 School, 10 SSP), 30 FTE Staff, 3 SSP Staff
Stage 3	<p>Excavation and bulk earthworks.</p> <p>Construction of the high school wing as well as the central spine.</p> <p>Installation of a covered outdoor learning area to connect the high school and primary school.</p> <p>Finalisation of the northern carpark.</p> <p>Delivery of the high school outdoor play area and playing courts.</p> <p>Stage 3 will also see the implementation of proposed road widening and upgrades to Catherine Fields Road including the introduction of a channelised right hand turning lane.</p> <p>Permanent access road to sewerage treatment plant at the rear of the site.</p>	2035, 980 students (60 ELC, 890 School, 30 SSP), 45 FTE Staff, 6 SSP Staff (full capacity)
Stage 4	<p>Excavation and bulk earthworks.</p> <p>Construction of the secondary school hall.</p>	2037 No change to student and staff numbers.

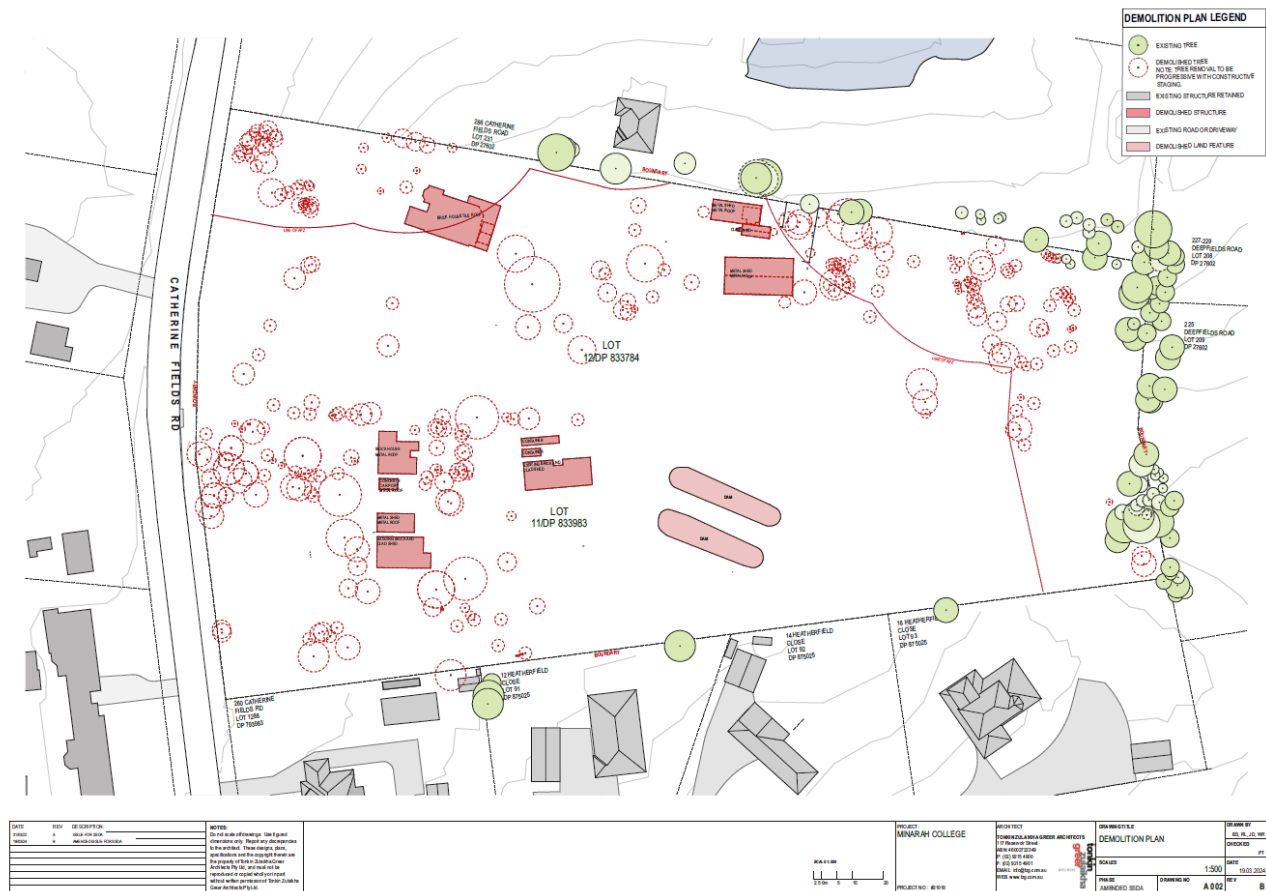
3. STAGE 1

3.1. DESCRIPTION OF WORKS

3.1.1. Demolition

Prior to the construction of the new school, demolition of existing structures is required as a part of the proposal. The northern lot is occupied by a dwelling and two sheds, whilst the southern lot is occupied by a dwelling and three sheds, all of which are to be demolished. The demolition of the existing buildings will take approximately 2 weeks. The proposed demolition plan is illustrated below.

Figure 3 Demolition Plan



Source: Tonkin Zulaikha Greer

3.1.2. Earthworks, Excavation and Tree Removal

Stage 1 will also encompass minor excavation and bulk earthworks across the site. This phase of stage 1 is expected to take 4 weeks and will involve processes such as the stripping and removal of vegetation and unsuitable material, removal of fill, the installation of batter slopes, temporary shoring and retaining walls where required and the reuse of materials where possible.

This phase will involve the use of excavators, rock hammers/ saws, pile bores and regular truck movements transporting waste materials from the site.

Tree removal will be undertaken during stage 1 to coincide with the the bulk earthworks that will be undertaken during Stage 1. 230 out of the 335 trees located on the site are proposed to be removed, whilst the other 105 trees are proposed for retention. As the site is biodiversity certified, there are no restrictions to the number of trees that can be removed.

The 230 trees proposed to be removed are directly impacted by the construction footprint which substantially encroaches into the Tree Protection Zone and the structural root zone (SRZ). Impacts to the SRZ of trees can lead to the destabilisation and/or decline of the tree. Therefore, the trees located within or directly

adjacent to the proposed construction footprint cannot be retained under the current proposal. Tree removal will be compensated through replacement planting at each stage.

Excavation over the entire (stage 4) Effluent Management Area will be undertaken in Stage 1. Construction of the EMA profile at this stage will reduce impacts to student's play space during future staged EMA installation. Excavation to a depth of 300-400mm (to be confirmed prior to construction) will be required for the installation of the EMA profile. This excavation will then be backfilled with site won material suitable for effluent disposal, largely comprising topsoil material from the Stage 1 construction area.

This excavation volume (approximately 2,180 m³ to 2,900 m³), is accounted for in the bulk earthworks cut and fill volumes as a neutral cut to fill calculation.

3.1.3. Construction

Stage 1 will involve the construction of the western "Administration" wing of the school and the sport field. The administration building fronts Catherine Fields Road and is a two-storey building which will comprise 3,716m² of GFA. This wing will support a reduced population of primary school students, SSP students and ELC students whilst stage 2 is under construction and will comprise of a number of areas that will be temporarily fit out to support the population of stage 1, as shown in the Figure below.

Stage 1 is expected to be completed in 2026 and will accommodate 318 students (18 ELC, 290 School, 10 SSP), 15 FTE staff.

The ground floor of the western wing will encompass the following uses, as is depicted in the figure below:

- The ELC will be delivered as part of stage 1 and is proposed to be permanently located in the northern portion of the ground floor of the Western wing. The ELC will provide dedicated indoor and outdoor play areas, including sound barrier wall.
- The rooms to the immediate south of the ELC, will be temporarily fit out to support the primary school and SSP population.
- In the southern portion of the western wing, a number of permanent administration uses will be provided, alongside spaces that will be temporarily fit out to support the stage 1 population.

Majority of the first floor of the western wing will be temporarily fit out to support the primary school students (please see figure below). The exception to this is the delivery of the central primary school library which will be permanently retained throughout the development.

Upon completion of the school, this wing will eventually house staff administration offices, the ELC, food and textiles and OOSH on the ground floor and Library, staff administration and wellbeing room on the second floor.

The sport field will also be delivered as stage 1 and will be accessible via the access driveway along the southern boundary of the school.

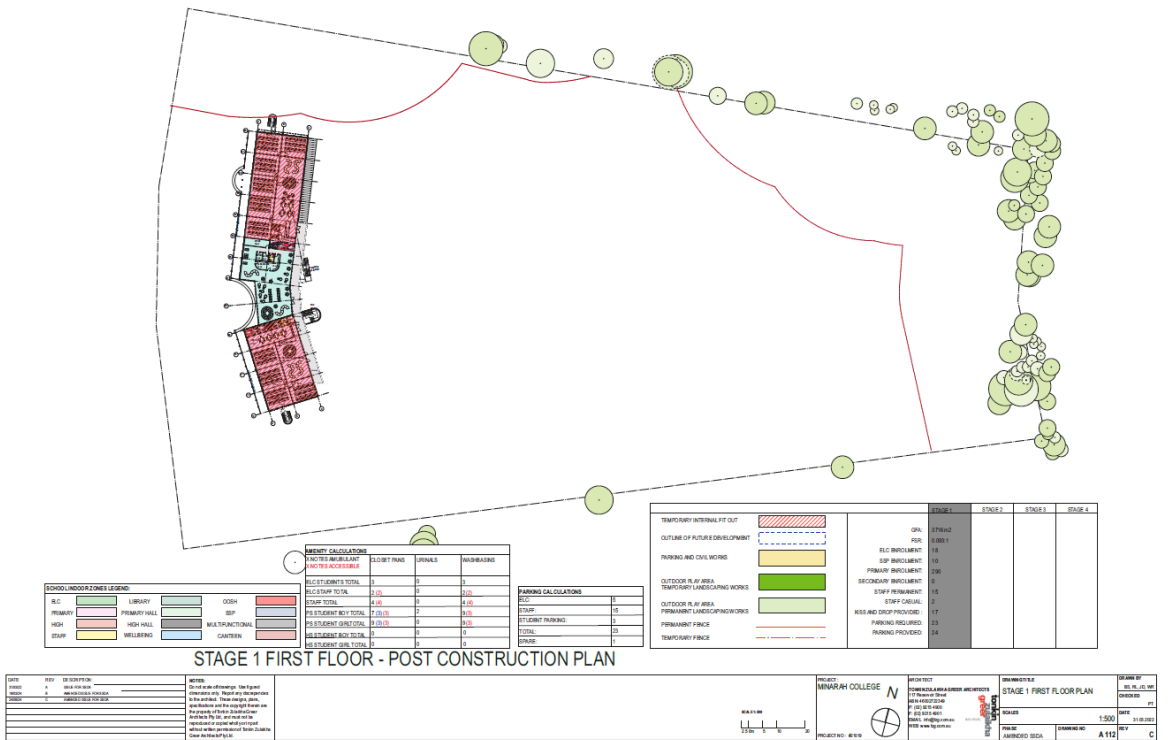
The primary entry and egress points along Catherine Fields Road, will be installed during stage 1 to provide access to the site from stage 1 and throughout the duration of the development.

Figure 4 Stage 1 Ground Floor Construction Plan



Source: Tonkin Zulaikha Greer

Figure 5 Stage 1 First Floor Plan



Source: Architectural Plans – prepared by Tonkin Zulaikha Greer

3.1.4. School Operations

From stage 1 the school will accommodate a reduced primary school (290 students), SSP (10 students) and ELC (18 students) population and will also provide opportunities for community use. The proposed operating hours for the College in stage 1 are:

- ELC: 7:00am to 6:00pm, Monday to Friday
- School Hours: 8:20am to 3:20pm, Monday to Friday
- Sports field (during the week): 8:20am to 9:00pm, Monday to Friday, 9:00am to 9:00pm, Saturday and Sunday

The students will be able to access all required facilities to ensure they received the highest standard of education, from stage 1 including a library space and art zone. A generous temporary outdoor play area and the sport field will also be delivered in stage 1, providing students with sufficient play and recreation areas.

The use of the school facilities (including the library and sport field) will be available for community use from stage 1, providing important spaces for the community to meet and fostering the creation of an inclusive community. The community use of the school will occur outside of typical school hours and does not represent a more intense use of the site. The community will be subject to the same measures to ensure their safety during construction and to mitigate any impacts to surrounding receivers.

To ensure the safety of the school community and external community during the operation of stage 1 and the construction of stage 2, short term access control and territorial reinforcement will be introduced, as is discussed in Sections 3.2.3 and 3.2.6.1.

3.2. ENVIRONMENTAL IMPACTS

The following environmental impacts have been identified during stage 1:

3.2.1. Environmental Amenity

3.2.1.1. Cross Ventilation

The proposed development has been designed to ensure that cross ventilation requirements can be achieved throughout all stages. The ample provisioning of operable windows along the facades of the building enables this cross ventilation.

3.2.1.2. Daylight Access

The school has been designed to ensure that access to natural daylight is maximised. This has been achieved through the positioning of rows of windows along the facades of the development. The low scale nature of the development ensures that solar access to outdoor open play spaces has also been maximised. There is unlikely to be any overshadowing impact to the temporary outdoor play space in stage 1.

3.2.2. Traffic and Parking Management

Access

The proposal involves modification of the existing access arrangement of Catherine Fields Road in stage 1 to provide two access driveways, which will replace the existing driveway crossovers for the existing residential dwellings. The northern access point will be for entry only, whilst the southern access will be for exit only. This will ensure efficient and safe circulation through the site.

The pedestrian access point has been separated from the vehicular access and is located in the centre of the Catherine Fields Road frontage.

Stage 1 includes the provision of a temporary access road to provide access to the sewerage treatment plant at the rear of the site.

Traffic

Student trip rates for the development were estimated based on travel survey results from the Green Valley Campus. A trip rate of 0.496 vehicles per student during the AM and PM school Peak was calculated using

this data. Based on this trip rate, stage 1 will generate a total of 643 vehicle trips during the morning and afternoon peaks:

- 325 vehicle trips during the morning peak (314 student inbound and outbound and 11 staff inbound)
- 318 vehicle trips during the afternoon peak (314 student inbound and outbound and 4 staff outbound)

Using this trip generation data, further modelling was undertaken to understand the impact of the increased traffic on the surrounding road network. The modelling determines that at stage 1 majority of the intersections will operate at Level of Service (LOS) A. The exception to this is the intersection at Camden Valley Way and Catherine's Fields Road which will operate at Level of Service D in the AM peak and Level of Service C in the PM peak. The operation of the road during the PM peak has slightly worsened in comparison to the base model results, however the rest of the intersections will continue to operate at the same level of service as were established in the base modelling at stage 1.

Therefore, only minor impacts to the intersection of Catherine Fields Road and Camden Valley Way are expected as a result of stage 1 of the development.

Car Parking

It is also proposed to deliver a portion of the northern car park and the kiss and drop zone during stage 1. Car Parking for 24 spaces is to be provided, along with 17/30 of the kiss and drop bays.

The Camden Council DCP, within Section 2.18.2 – Off Street Car parking rates/requirements for specific non-residential uses specifies minimum car parking rates for a range of uses. With respect to Educational establishments, in particular Schools, the following parking rates apply:

- 1 car parking space per full-time equivalent (FTE) staff member, plus
- 1 car parking space per 100 students, plus
- 1 car parking space per 5 students in Year 12 where appropriate.
- 1 car parking space per 4 children for ELC
- Adequate space is also required for delivery vehicles, a drop-off / pick-up area and buses as appropriate.

Based on these requirements and the capacity of the school at stage 1, 23 car parking spaces are required. 23 car parking spaces will be provided for stage 1 ensuring compliance with the DCP requirement at stage 1.

TABLE 30: PARKING REQUIREMENTS – STAGE 1

Parking	Headcount / Spaces	Parking Rate	Parking Requirement
School Full-Time Staff Members	15	1 space per FTE staff member	15
All Students (K-12)	300	1 space per 100 students	3
Year 12 Students	0	1 space per 5 Year 12 students	0
ELC	18	1 space per 4 children	5
Total			23 parking spaces
Accessible	23	1 space per 100 spaces	3 (one for K-12 students, early learning and staff each)

Source: Transport and Parking Impact Assessment

3.2.3. Landscaping/ Tree Replanting

Stage 1 will deliver a total of 22,850m² of landscaped zones, comprising of the following areas:

- ELC Outdoor Areas: 662m²
- Hardscape: 782m²

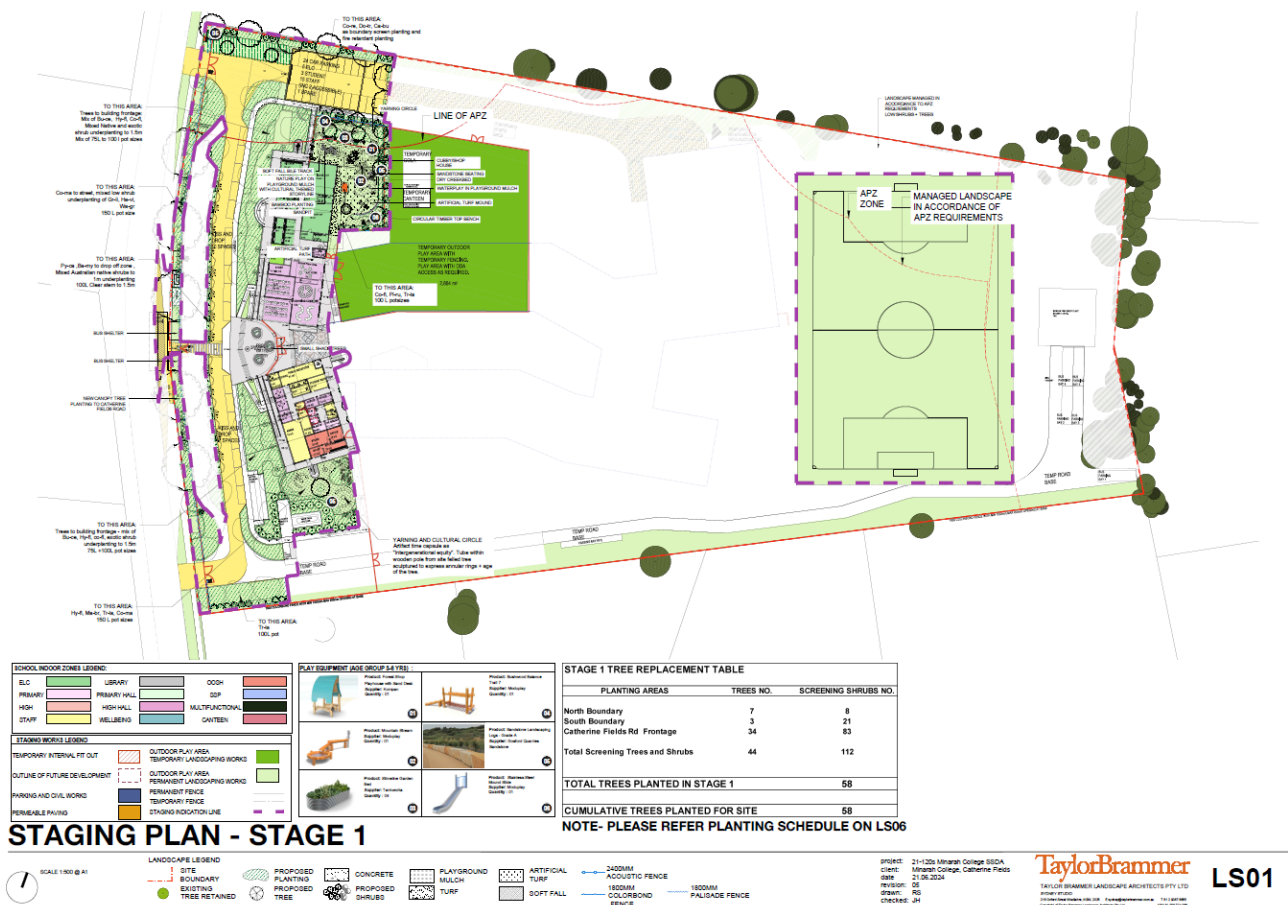
- Soft Landscaping: 9,238m²
- On site parking and road: 2,141m²
- Sports field: 6,992m²
- Temporary Outdoor Play (Stage 1 only): 3,028m²

Stage 1 will accommodate 318 students (18 ELC, 290 School, 10, SSP) as well as 15 FTE staff. The stage 1 built form will provide a single consolidated indoor playroom for ELC students, along with student and staff amenities. The ELC outdoor play area will also be delivered as part of stage 1. The childcare planning guideline requires the delivery of 7m²/ student of unencumbered outdoor space for the ELC. As the ELC is expected to accommodate 60 students upon completion, the allocation of indoor and outdoor space for the students in stage 1 will be an overprovision.

2,864m² of outdoor play area, will be provided for the primary and SSP students during stage 1. A temporary canteen and Covered Outdoor Learning Area (COLA) will also be provided. This arrangement of play space is temporary and will be extended for stage 2, to accommodate the increased student population. This area will be appropriately fenced and separated from construction activities to ensure the safety of students. The temporary outdoor play space provides an average of 10m² per primary school student which aligns with the guidelines for provision of open space.

The sports field will also be delivered in stage 1, providing an additional area for outdoor play and recreation for the school population as well as for community use. Vehicular and pedestrian access to the sports field will be provided via the access driveway at the southern boundary of the site.

Figure 6 Stage 1 Landscaping Plan



Source: Taylor Brammer Landscape Staging Plans

In stage 1, 58 trees will be replanted as shown in the table below.

Figure 7 Stage 1 Tree Replacement Table

STAGE 1 TREE REPLACEMENT TABLE		
PLANTING AREAS	TREES NO.	SCREENING SHRUBS NO.
North Boundary	7	8
South Boundary	3	21
Catherine Fields Rd Frontage	34	83
Total Screening Trees and Shrubs	44	112
TOTAL TREES PLANTED IN STAGE 1		58
CUMULATIVE TREES PLANTED FOR SITE		58

Source: Taylor Brammer Landscape Staging Plans

3.2.4. BCA/ Access

The Disability Access Report prepared by Inclusion Places confirms that stage 1 of the development is able to comply with the BCA2022 Part D4 – Access for People with a Disability, as well as Part F4D5.

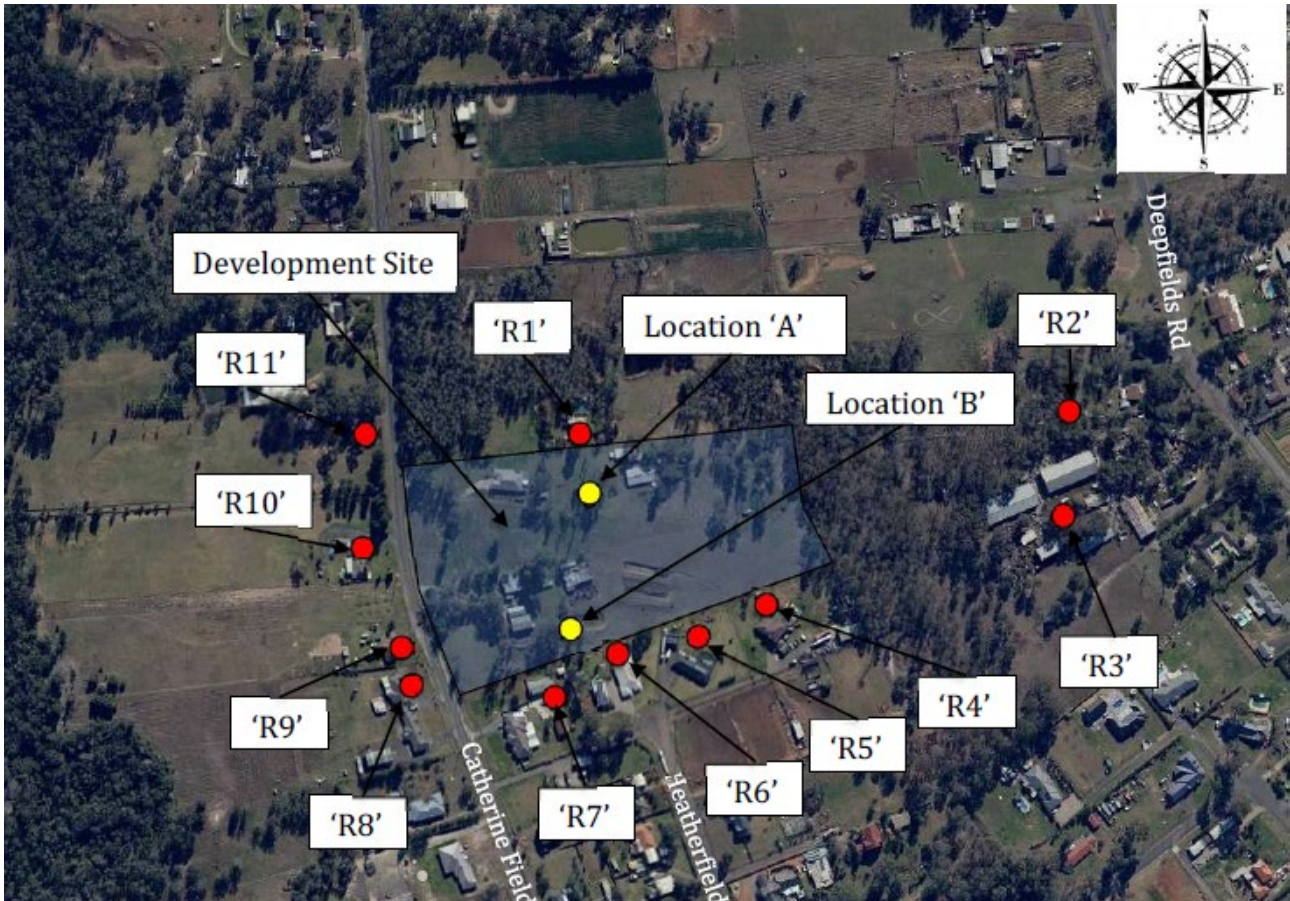
3.2.5. Noise and Vibration Management

The Environmental Noise Impact Assessment prepared by Day Design Pty Ltd has provided an assessment of the operational noise impacts of the development per stage. The main sources of noise from the College in stage 1, will be:

- ELC and PS students engaging in active play in the outdoor play areas.
- Students inside the GLAs (including ELC rooms).
- Public address system and school bell.
- Mechanical plant.
- Use of the primary school hall.
- Use of the sport field.
- Vehicle noise emissions.

The noise impacts of Stage 1 of the development have been assessed with regard to the surrounding receptors as well as the internal operation of the school. The surrounding residential receivers are shown in Figure 7. Assessment has been undertaken with regard to the noise impact generated from students participating in outdoor play, the cumulative impact of mechanical plant and classroom noise and the impacts of traffic within the school and along Catherine Fields Road.

Figure 8 Surrounding Residential Receivers

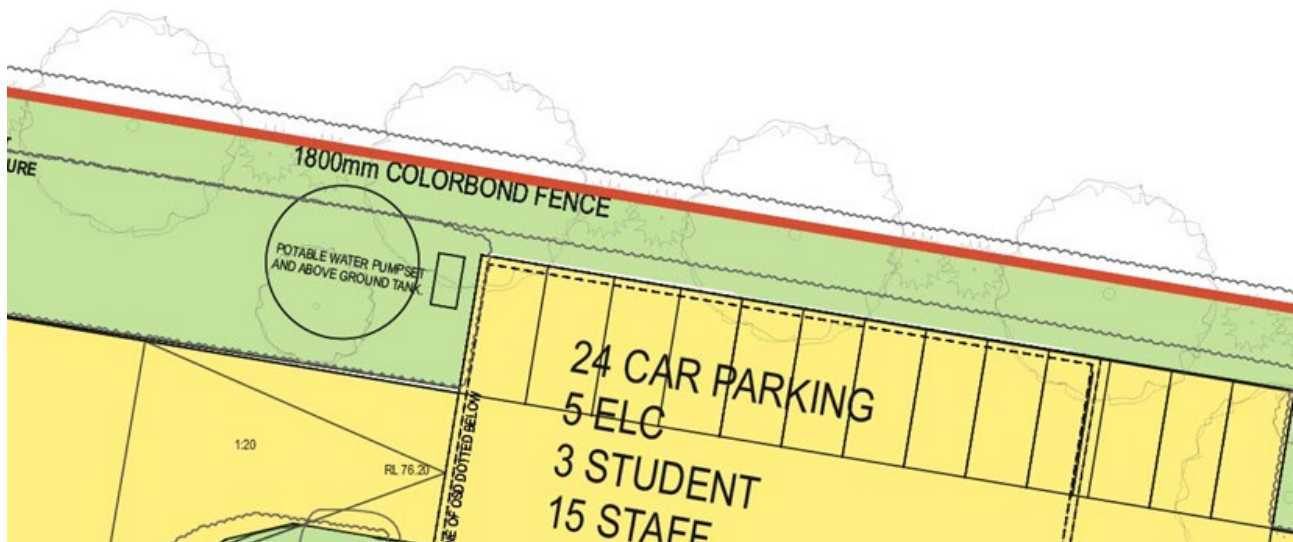


Source: Environmental Noise Impact Assessment

The Noise Assessment concludes that in stage 1, the predicted Noise Level resulting from the above activities remain compliant with the noise criterion, subject to the implementation of the following mitigation measures.

- From stage 1 a 1.8m high sound barrier wall will be constructed along the entire northern and southern boundary of the site (Figure 9). To ensure that overland flow is not obstructed, a gap of 100 to 200 mm may be left at the bottom of the sound barrier wall on the southern boundary.
- A 1.5m high sound barrier wall is also to be constructed around the boundary of the ELC's outdoor play area in stage 1 and be implemented indefinitely.
- A sound barrier wall will be constructed around the PS outdoor Area in stage 1. The wall should be 2.4 metre high along the northern boundary, 2.1 metre high along the eastern boundary and 1.8 metre high along the southern boundary of the PS outdoor area.
- The Public Address System and School Bell is to be located on the eastern façade of the stage 1 building, adjacent to the internal courtyard/ temporary outdoor play area. To meet the residential noise criteria, the maximum sound pressure level will be no greater than 77dBA Leq, 15 minutes at 3 metres from each speaker.

Figure 9 Northern site boundary sound barrier wall



Source: Architectural Plans – Tonkin Zulaika Greer

3.2.6. Construction Management

As previously mentioned, the development is proposed to be undertaken in four stages and will be fully operational from stage three. Stage 1 will involve demolition, excavation/ earthworks and the construction of the western wing of the school.

3.2.6.1. Construction Traffic

A Preliminary Construction Traffic Management Plan has been prepared by Ason Group. A detailed Construction Traffic Management Plan (CTMP) will be provided as part of the detailed construction management plan (which is expected to form a standard Condition of Consent) for each stage.

The PCTMP outlines the proposed construction traffic management measures to mitigate impacts at the site and surrounds. The measures proposed for stage 1 will differ from stages 2-4 given that the school will be operational in the latter stages. The principles of traffic management and the management strategies to be implemented during the construction of stage 1-4 include:

- Ensuring that all workers and subcontractors receive appropriate site inductions.
- Ensuring an authorised traffic controller is present throughout the demolition and construction phases.
- Providing a small number of on-site car parking for key contractors and staff throughout the construction works. It is the incumbent contractor's responsibility to prepare relevant plans and documentation to ensure contractor parking demand and associated management measures are documented, implemented, continually monitored and managed.
- Minimising the impact to pedestrian and cyclist safety and movement.
- Given that there are no existing footpaths along Catherine Fields Road, no pedestrians will be affected by the proposed Stage 1 construction activities.
- While there are no formal cycling routes along Catherine Fields Road, the cyclists will be warned of the presence of trucks entering and exiting the site via the provision of temporary truck signage along the road approaching the site access.
- Minimising the impact on public bus movements.
- Construction works associated with stage 1 will not impact the existing public transport services, as the works are to be contained on site.
- Minimising the impact on existing traffic on adjacent roads and intersections.
- The PCTMP advises of the expected construction traffic volumes.

- The maximum number of trucks to access the site at one time is subject to the development of a detailed construction staging plan upon the appointment of the contractor.
- It is proposed that construction vehicles enter and exit the site at the construction access gate(s) (left-in and left-out) only.
- Providing a turnaround facility within the site in the designated loading area north of the hall through the northern carpark.
- Maintaining access to/from adjacent properties.
- Restricting construction heavy vehicle movements to designated routes to/from the site.
- Additional approval is required from Council/ TfNSW for any oversize vehicles using local roads to access the site.
- Managing and controlling construction vehicle activity near the site.
- All vehicle entry and exit movements are to be in a forward direction only.
- Spoil is to be loaded within the site and under the careful supervision of a traffic controller.
- Ensuring construction activity is carried out in accordance with the SSDA's approved hours of work.
- Construction activity will be limited to the following standard construction work hours.
 - Monday to Friday: 7am to 6pm
 - Saturday: 8am to 1pm
 - Sundays and Public Holidays: No work

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. In the absence of a detailed construction programme, it is assumed that the average volume of construction vehicle traffic to and from the site would be consistent with other similar SINSW projects, some of which have been extracted in the figure below. Given that the student population will grow by approximately 300 students each stage (up to stage 3) it is not expected that more than 20 trucks would be accessing the site during peak periods, with an average of 6-8 trucks typically accessing the site during construction.

Figure 10 Construction vehicle volumes at similar construction sites

Reference Project ³	Student Population Growth (from project)	Peak Number of Trucks per Day	Typical Number of Trucks per Day
Pendle Hill High School	+ 240 students	20	6 – 8
John Palmer Public School	+ 644 students	6	6
Smalls Road Public School	+ 1,000 students	30	2 – 8
Melbonba Education Campus	+ 3,000 students	60	15 – 20

Source: Ason Group – Transport Impact Assessment

A high-level Traffic Guidance Scheme (TGS) have been prepared for each stage of the proposal and are included in Section 9.6 of the Preliminary Construction Traffic Management Plan attached as **Appendix L** to the EIS. Operational Construction Management Plans have also been prepared by Tonkin Zulaikha Greer, which outline how construction zones will be separated from school operations through territorial reinforcement (fencing) and where supervision/ traffic control will be required.

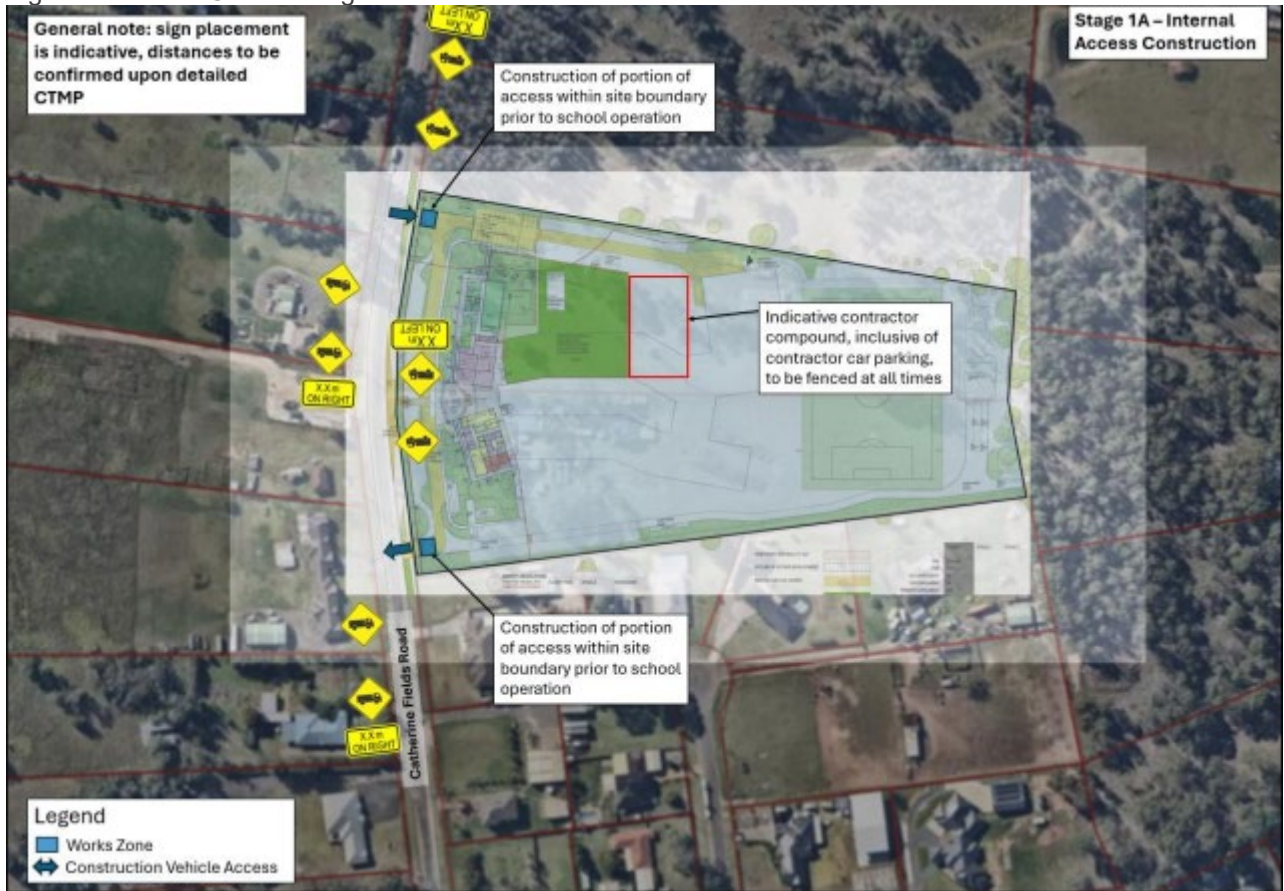
The TGS demonstrates how the work zones shall be separated from the school operations with fencing. The TZG's are indicative, with the locations of the proposed signage and the nature of the traffic control expected to change as further detailing of the construction programme is identified (and once a contractor has been appointed). Site-specific TGS's shall also be included in the detailed CTMP, as required.

It is anticipated that construction works in stage 1 will be separated into the following distinct stages and methodologies:

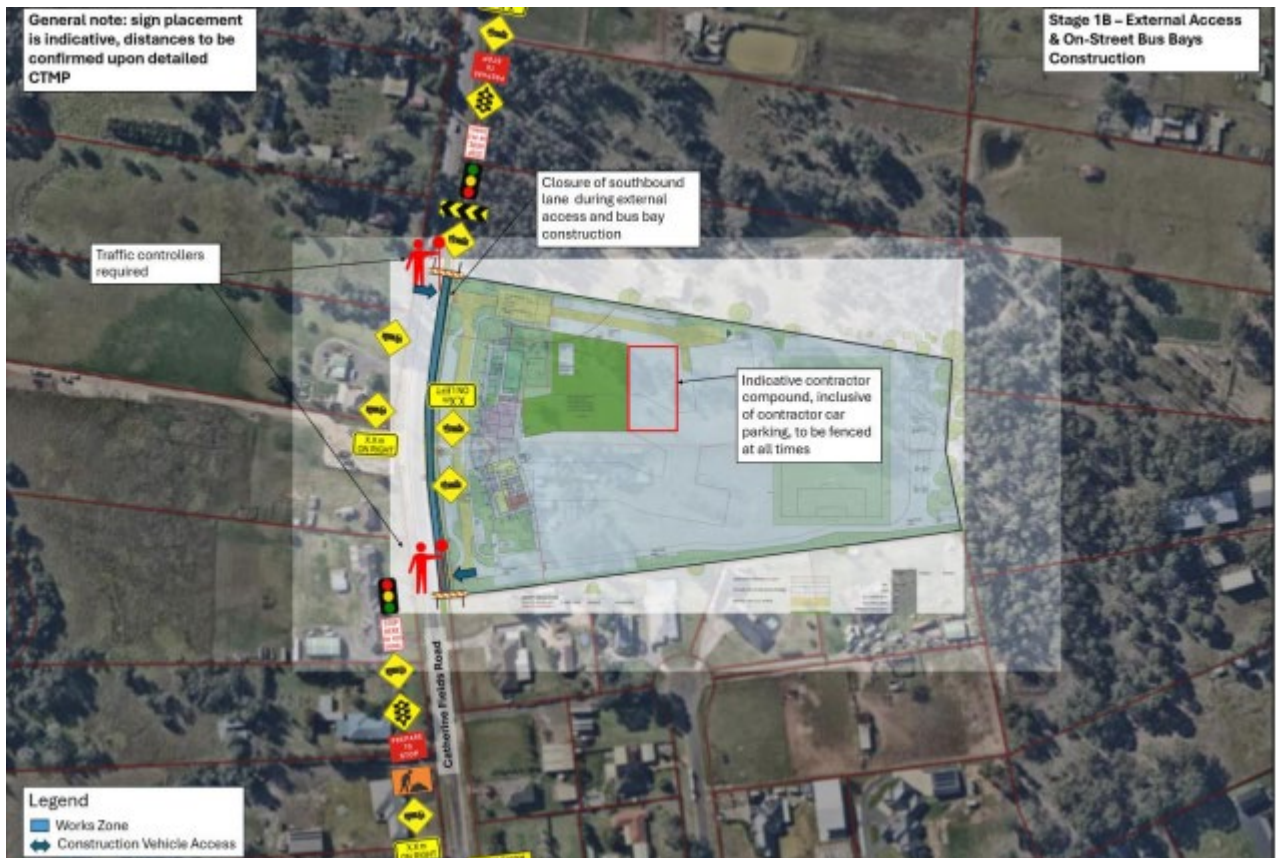
- Stage 1A: Stage 1A will involve the construction of the vehicular access within the site. All construction works are expected to be completed within the site, as such, traffic controllers along the public road will not be required at this stage. It is noted the school will not be operational at this stage.
- Stage 1B: Stage 1B will involve the construction of the external aspects of stage 1, inclusive of the vehicle driveway crossovers and on-street bus bays. This will result in the closure of the southbound lane along Catherine Fields Road. Traffic controllers will be required at each end of the road closure to facilitate the coordination of traffic alongside the traffic signals. It is noted the school will not be operational at this stage.
- Stage 1C: Stage 1C will involve the remainder of the stage 1 works, generally involving the construction of the northern car park, the kiss and drop circulation roadway, the western wing of the site and associated landscaping. All construction work is expected to be completed within the site boundary, as such, traffic controllers along the public road will not be required at this stage.

It should also be noted that the onsite wastewater management system will be installed from Stage 1 with the ability to accommodate the full operational capacity of the School. It is anticipated that the construction of this wastewater management system will be readily accommodated during Stage 1 construction, therefore, no additional construction traffic management plan for this work is required.

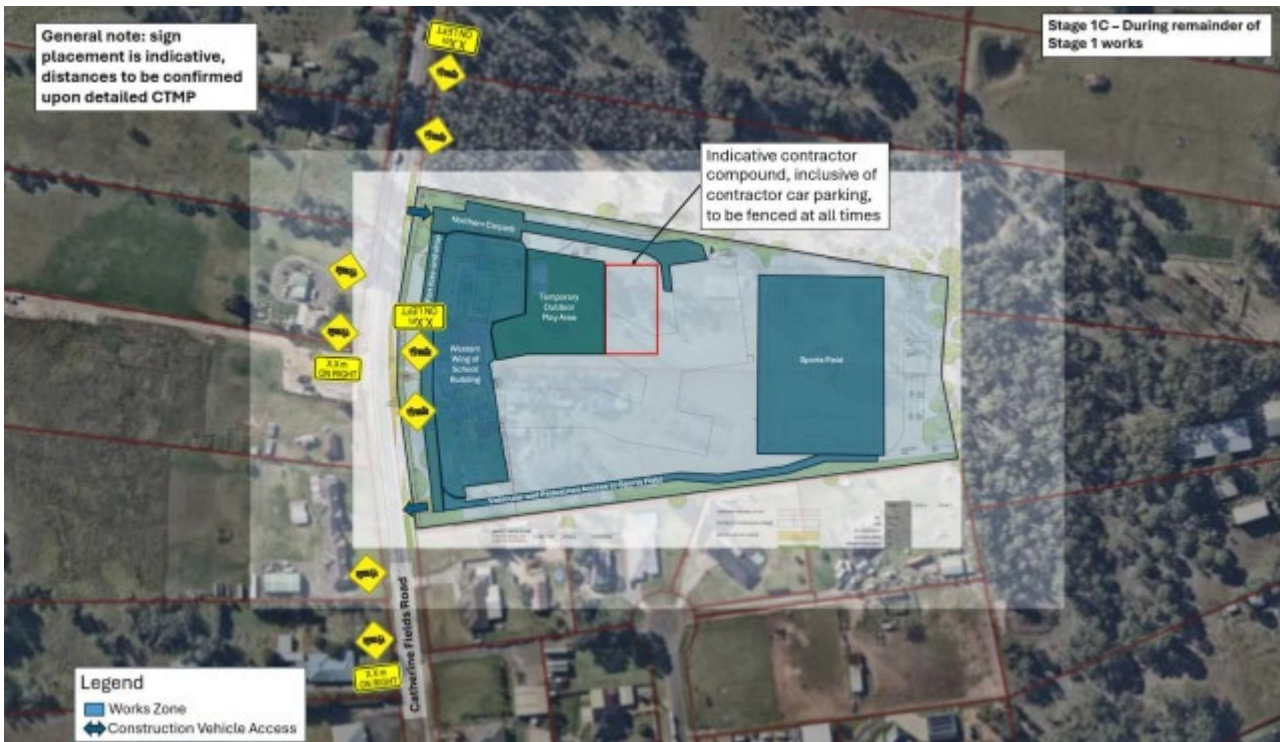
Figure 11 Traffic Control Stage 1



Picture 1 Stage 1A



Picture 2 Stage 1B



Picture 3 Stage 1C
 Source: Ason Preliminary Construction Traffic Management Plan

3.2.6.2. Construction Noise and Vibration

A Construction Noise and Vibration Management Plan has been prepared by Day Design for the proposal. The CNVMP outlines that during the demolition, excavation, and construction phases associated with stage 1; noise level exceedances will occur for all residential receivers except R3. This is demonstrated in the extract below.

Figure 12 Stage 1 Noise Emission Summary

Description	Calculated Noise Levels (dBA)					
	R1	R2	R3	R4	R5	R6
Phase 1 – Demolition Works						
Demolition Works	58 – 81	50 – 57	51 – 59	55 – 81	56 – 81	58 – 81
Rock Hammering	63 – 86	56 – 63	56 – 65	61 – 86	62 – 86	63 – 86
Noise Management Level	46	46	75	46	46	46
Exceedance	Up to 40 dB	Up to 17 dB	No	Up to 40 dB	Up to 40 dB	Up to 40 dB
Phase 2 – Excavation Works						
Excavation Works	56 – 79	49 – 56	49 – 57	54 – 79	55 – 79	56 – 79
Rock Hammering	63 – 86	56 – 63	56 – 65	61 – 86	62 – 86	63 – 86
Noise Management Level	46	46	75	46	46	46
Exceedance	Up to 40 dB	Up to 17 dB	No	Up to 40 dB	Up to 40 dB	Up to 40 dB
Phase 3 – Construction						
Construction Works	59 – 68	51 – 52	51 – 52	56 – 60	57 – 63	59 – 68
Noise Management Level	46	46	75	46	46	46
Exceedance	Up to 22 dB	Up to 6 dB	No	Up to 14 dB	Up to 17 dB	Up to 22 dB

Picture 4 R1-R6
 Source: CNVMP – Day Design

Description	Calculated Noise Levels (dBA)				
	R7	R8	R9	R10	R11
Phase 1 – Demolition Works					
Demolition Works	56 – 81	54 – 74	54 – 75	54 – 75	53 – 71
Rock Hammering	62 – 86	59 – 79	59 – 80	59 – 80	59 – 77
Noise Management Level	46	46	46	46	46
Exceedance	Up to 40 dB	Up to 33 dB	Up to 34 dB	Up to 34 dB	Up to 31 dB
Phase 2 – Excavation Works					
Excavation Works	55 – 79	52 – 72	52 – 73	52 – 73	52 – 70
Rock Hammering	62 – 86	59 – 79	59 – 80	59 – 80	59 – 77
Noise Management Level	46	46	46	46	46
Exceedance	Up to 40 dB	Up to 33 dB	Up to 34 dB	Up to 34 dB	Up to 31 dB
Phase 3 – Construction					
Construction Works	60 – 82	60 – 73	61 – 74	63 – 74	60 – 73
Noise Management Level	46	46	46	46	46
Exceedance	Up to 36 dB	Up to 27 dB	Up to 28 dB	Up to 28 dB	Up to 27 dB

Picture 5 R7-R11

To minimise the noise impact from these activities it is recommended that the following noise controls are implemented:

- Day Design Recommend location mechanical plant near the centre of the construction area to create as much distance as is practically possible between the school and the residences.
- Acoustical enclosures should be constructed around items of mobile plant such as generators, where they are expected to be used for long period of time.
- Consideration should be given to selecting machinery and plant with low noise options where practicable and available.
- Care should be taken to ensure that no more than one item of plant is operating simultaneously within close proximity of residences.
- Noise levels may also be reduced through the implementation of Noise Management Controls such as including periods of respite, appropriate work practices, fostering positive community relations and the appropriate management of noise complaints.
- Day Design also recommend that noise monitoring and vibration be undertaken throughout the construction period with the outcomes submitted to the relevant authority for review.

If the recommendations outlined in the Environmental Noise Impact Assessment and the Construction Noise and Vibration Management Plan prepared by Day Design Pty Ltd, are implemented throughout the course of development, the level of noise and vibration from construction works will be minimised as far as reasonably practical

3.2.6.3. Construction Waste

The Waste Management Plan prepared by Waste Audit, details the estimated waste volumes per construction stage and the management practices/ processing/ disposal outcomes for each waste stream.

Specific management strategies will also be implemented during each stage to ensure the separation of construction and operational waste. The estimated waste volumes and proposed management strategies for stage 1 are detailed in the figure below.

Figure 13 Construction Waste Stage 1

Materials on Site				Destination/Processing/Disposal		
Type of Material	Est. m ³	Recovery		Recovery	Offsite	Disposal
		%	m ³			
Excavation for Foundations	500	98%	490	Reuse in landscaping works	Take material to facility for processing for reuse at other sites	Dispose of residual materials to landfill
Pallet Wrapping (Soft Plastic)	7.2	96%	6.9	Reuse on site where possible	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Used Pallets	7.0	90%	6.3	Reuse on site for storage where possible	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Cardboard Recycling	5.6	100%	5.6	No reuse/recycling	Collect in designated bin and send for recycling	No disposal to landfill
Metal Offcuts, Sheeting, Wiring, etc.	4.9	98%	4.8	Collect for separation into different metal types for recycling	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
General Waste	4.7	0%	0.0	No reuse/recycling	Collect in separate designated bin	Disposal to landfill
Plasterboard Offcuts	4.4	90%	4.0	No reuse/recycling	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Floor Coverings	4.2	90%	3.8	No reuse/recycling	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Plastics Recycling	3.5	95%	3.3	No reuse/recycling	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Timber Offcuts	3.3	95%	3.1	Potential for onsite reuse	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Concrete (Excess)	2.8	100%	2.8	No reuse/recycling	Collect in designated bin and send for recycling	No disposal to landfill
Glass (Excess)	2.3	100%	2.3	No reuse/recycling	Collect in designated bin and send for recycling	No disposal to landfill
TOTAL MATERIALS	549.9	96.9%	533.0	Stage 1 construction will produce around 549.9 m³ of waste materials, of which 533.0 m³ or 96.9% can potentially be diverted from landfill by being reused on-site or recycled off-site.		

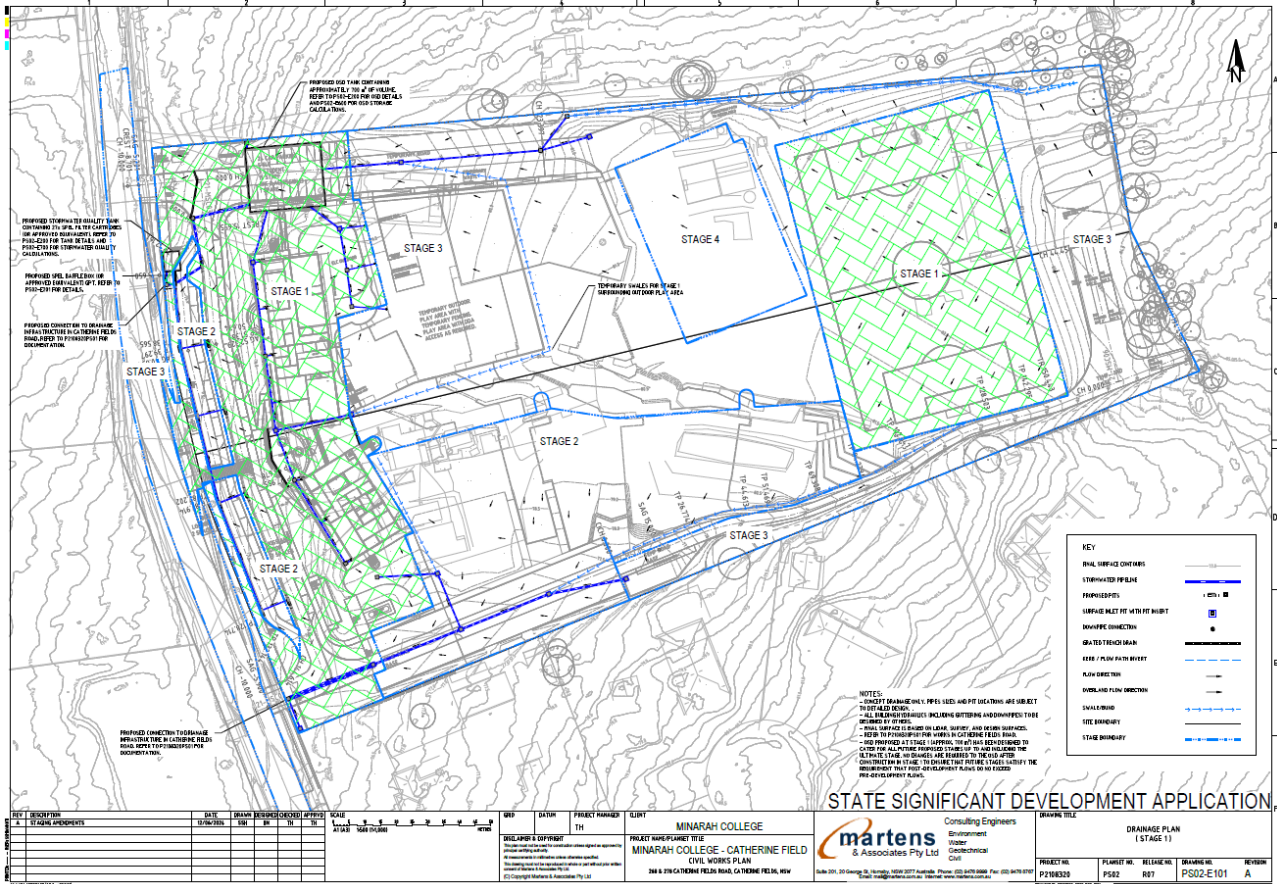
Source: Waste Management Plan – Waste Audit

3.2.7. Stormwater and Drainage

Essential stormwater and drainage infrastructure will be provided as part of stage 1. This includes the installation of the On-Site Detention (**OSD**) Tank. The OSD proposed at stage 1 has been designed to cater for all future proposed stages up to and including the ultimate stage. No changes are required to the OSD after construction in stage 1 to ensure that future stages satisfy the requirement that post-development flows do not exceed the pre-development flows.

It is also proposed to install the stormwater quality tank in stage 1 and connect to the drainage infrastructure on Catherine Fields Road.

Figure 14 Stage 1 Drainage Plan



Source: Stage Civil Plans, Martens

3.2.8. Wastewater Management

The onsite wastewater system will be installed from Stage 1 with the ability to accommodate the full operational capacity of the school.

The wastewater generation rates for the proposal have been based upon studies conducted for comparably sized schools, various guidelines, and Martens own experience to equate to an expected wastewater generation of 20L/ person/ day. The Design of the wastewater system assumes five days of regular site use and wastewater generation (with allowance for occasional community use) and seven days of effluent irrigation. The effluent storage tank is to be installed in stage 1 to balance irrigation over the seven-day week.

As discussed in Section 3.1.2, excavation to the entire Effluent Management Area will be undertaken in Stage 1, to set up the EMA soil profile. This will minimise disruption to students play areas during future EMA installation.

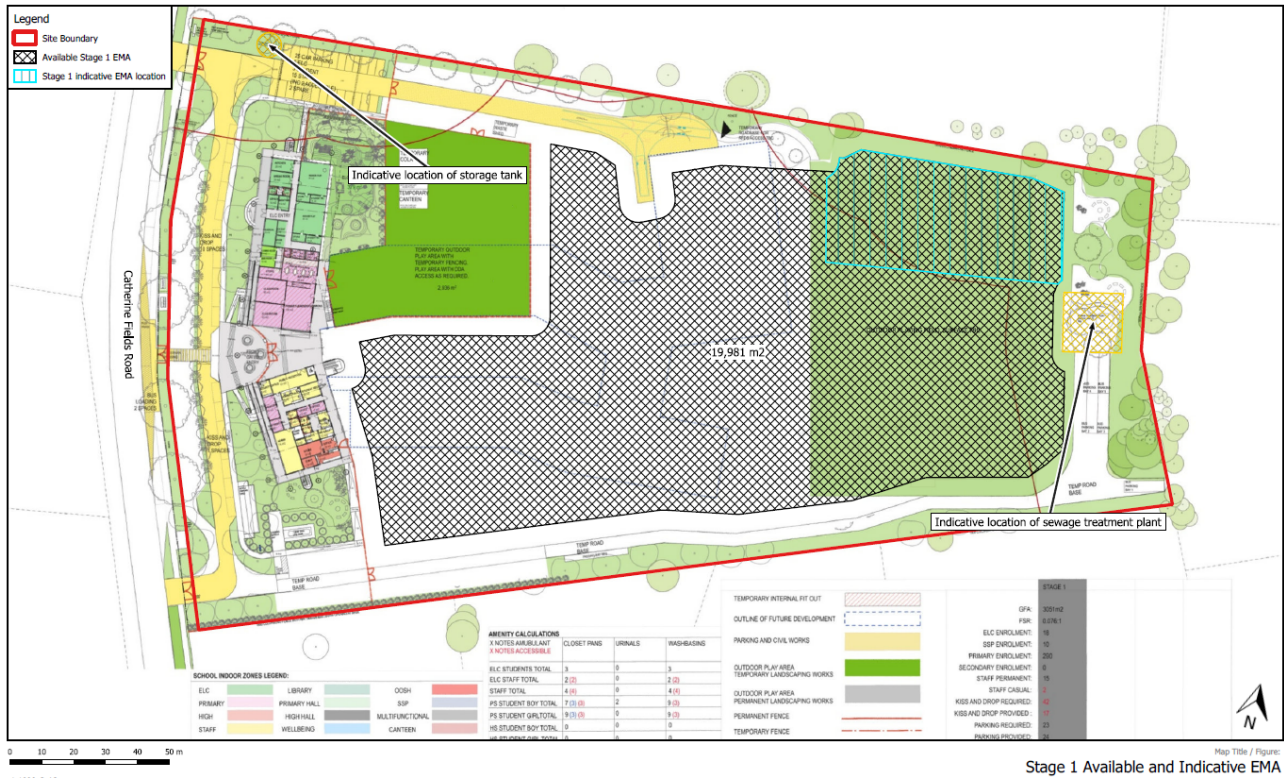
Stage 1 has an available Effluent Management Area (EMA) of 19,981m² as shown in the figure below. At stage 1, the site requires an EMA of 2,301m². Therefore, the provided EMA is well in excess of what is required. The Stage 1 EMA driplines and associated plumbing will be installed during the construction phase of stage 1. The EMA's will be constructed to a high standard and will meet the requirements outlined in Section 4.4.6 of the Wastewater Management Assessment Report. This will ensure that there is no risk to human health and will enable the efficient dispersion of treated wastewater for irrigation purposes.

The collection well has a storage capacity of 20.3 KI/ day to accommodate the stage 4 flow at stage 1, and the STP would be capable of treating approximately 22 kL/day of wastewater.

The wastewater is proposed to be treated in a secondary Sewage Treatment Plant (STP). The on-site collection and treatment system will process all wastewater produced at the site. This wastewater will then be recycled for irrigation purposes. Stage 1 includes the provision of a temporary access road to provide access to the STP at the rear of the site.

Therefore, the on-site wastewater management system will be operational from stage 1, with capacity to support the operation of the site across all four stages.

Figure 15 Stage 1 Effluent Management Area



Source: Martens Wastewater Management Assessment

3.2.9. Odour

The Sewage Treatment Plant and collection well will be the primary cause of odour at the site. For this reason, the collection well has been located in the north eastern corner and the STP has been positioned toward the western boundary of the site, away from the school buildings and majority of residential receivers. The collection well and STP will be equipped with appropriate ventilation stacks and odour scrubbers to mitigate odorous emissions. The STP will also be enclosed to further improve control on potential odour emissions.

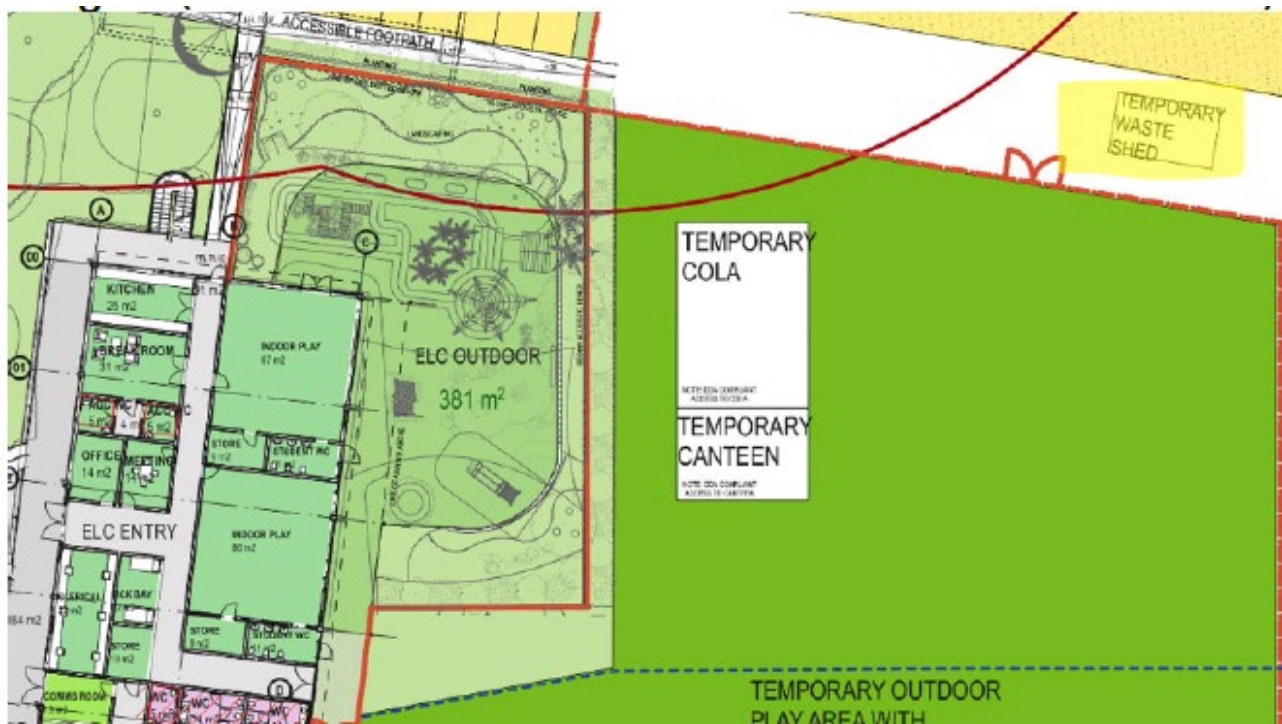
The odour impact assessment indicates odour emissions due to the project is below the applicable criterion at the receiver locations, and are at or below the applicable criterion on-site, and would therefore not lead to any unacceptable level of odour. As the STP and collection well will be installed during stage 1, the impacts will be managed from the start of the operation of the school through to the final stages.

3.2.10. Operational Waste

The Waste Management Plan provided with the SSDA package includes details for estimated waste generation, management and collection during Stage 1. Stages 1-3 are temporary storage; the permanent storage room will be constructed in Stage 4 and will contain an area for bulky waste storage and a bin wash facility. The Plan estimates waste generation during stage 1 will amount to 4,016 litres weekly (2,510L general waste, 502L comingled recycling, 1,004L paper recycling). Accordingly, the school will require a storage area of 9.74m².

The proposed area is sufficient for the projected numbers of bins required for each stage, and the location is easily accessible for waste contractor vehicles and their staff, who will be responsible for loading bin contents into collection vehicles.

Figure 16 Proposed temporary waste storage area (Stage1)



Source: Waste Management Plan

3.2.11. Cumulative Impacts

The cumulative impacts associated with the construction and operation of stage 1 of the development are considered to be negligible. Stage 1 has been thoughtfully designed to ensure the wellbeing of staff and students and to deliver the highest standard of education and amenity from day one. All classroom spaces have been designed to the appropriate educational and BCA standards and the delivery of the generous temporary outdoor play space and sport field in stage 1 will provide ample space for play and recreation. Car parking has been provided in accordance with the DCP requirements.

The construction traffic and noise impacts can be appropriately managed in accordance with the Preliminary Construction Traffic Management Plan and addressed through the implementation of mitigation measures identified in the Construction Noise and Vibration Management Plan and Transport and Parking Impact Assessment as well as through the conditions of consent.

The operational noise impacts of stage 1 have been assessed by Day Design, who have recommended a suite of noise control measures to limit the adverse impacts of the school to surrounding residential receivers.

The delivery of the essential wastewater management system in stage 1 will enable the operation of the school without requiring connection to Sydney Water and will alleviate the requirement for the school to be supported by public infrastructure.

3.2.12. Summary of Mitigation Measures

The layout, proposed teaching facilities and outdoor play areas proposed for the school in stage 1 are sufficient and will provide a high-quality learning environment for students. A high level of consideration has been given to protecting the safety of students, staff and the community during the later construction stages. All potential impacts have been considered and subject to the implementation of the recommended mitigation measures detailed in the Transport and Parking Impact Assessment, Preliminary Construction Traffic Management Plan, Construction and Vibration Management Plan and Environmental Noise Impact Assessment, no adverse impacts are expected to occur as a result of stage 1.

Any impacts from the construction of stage 2 to the operation of stage 1 will be short term and can be managed through the implementation of the mitigation measures referenced above as well the introduction of appropriate conditions of consent.

4. STAGE 2

4.1. DESCRIPTION OF WORKS

4.1.1. Excavation and Bulk Earthworks

Excavation and bulk earthworks are proposed for stage 2. This phase of development is expected to take 4 weeks.

4.1.2. Construction

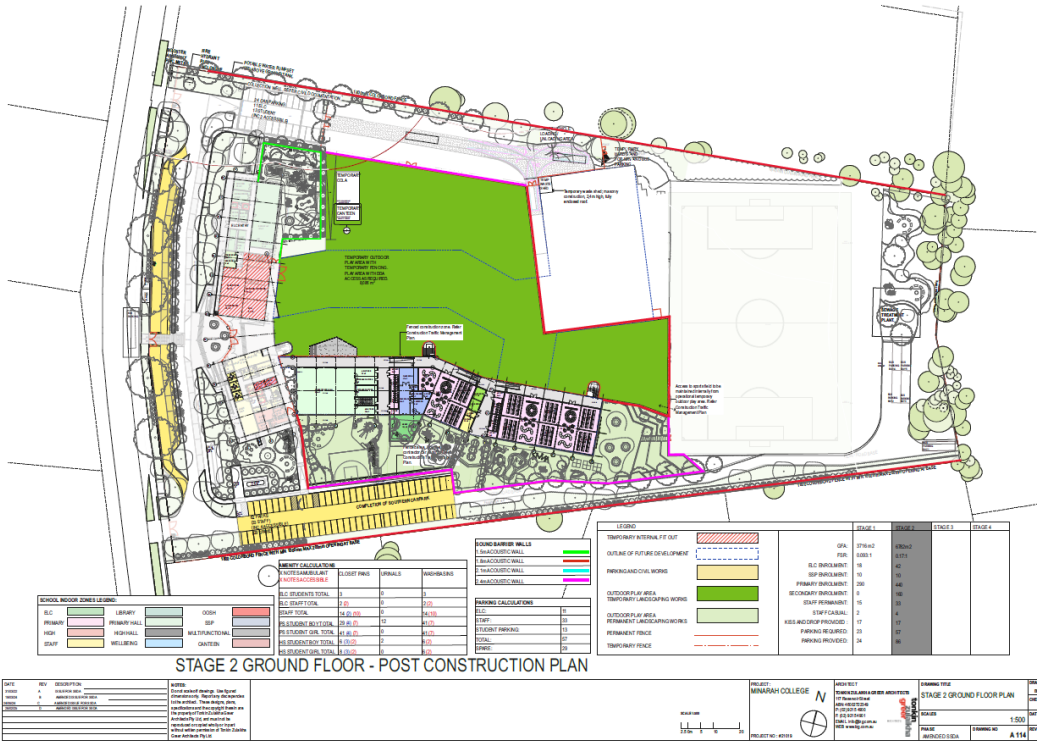
Stage 2 will involve the construction of the southern “primary” wing of the school. This building runs from east to west and is appropriately setback from neighbouring properties. This wing will support a reduced population of primary school students and high school students. stage 2 is expected to be completed in 2031 and will accommodate 652 students (42 ELC, 600 School, 10 SSP), 30 FTE Staff, 3 SSP Staff.

The ground floor of the southern wing comprises the primary school hall, 8 x primary school classrooms with 3 x flexible learning spaces. It will also house 2 SSP Classrooms and a separate outdoor space.

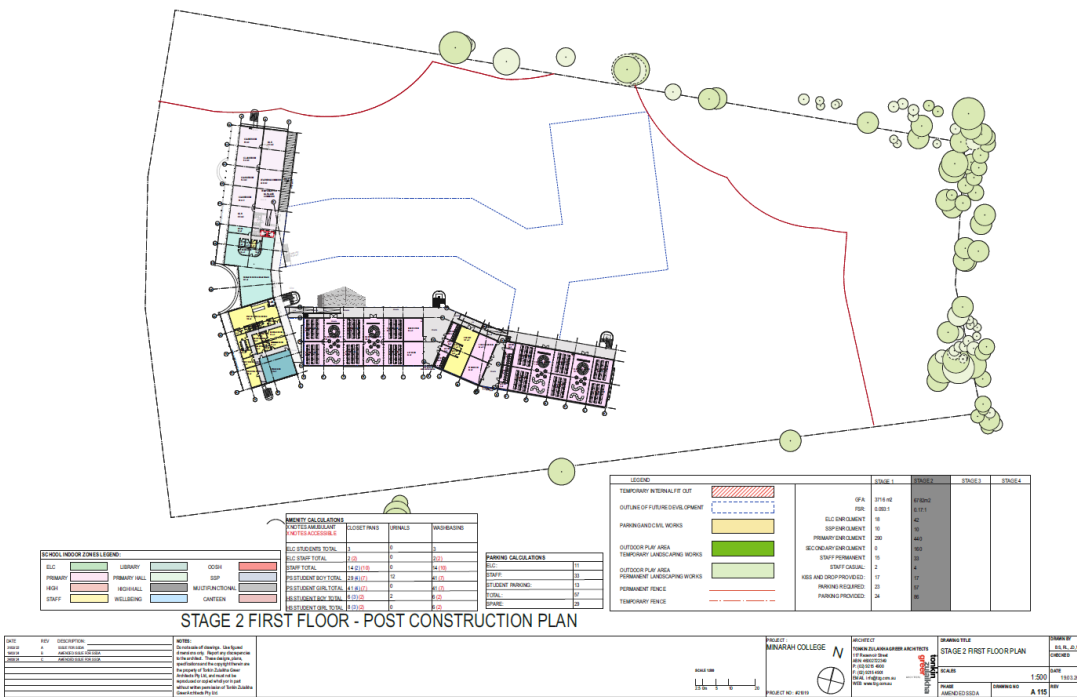
The first floor of the primary school wing will comprise 12x general learning spaces along with four specialist classrooms (music room, art room, food tech room and STEM room. 4x flexible learning spaces will be provided.

Stage 2 will also deliver the southern car park and will complete the kiss and drop zone. 86 car parking space will be provided at the completion of stage 2, with 62 spaces provided in the southern car park.

Figure 17 Stage 2 Construction Plans



Picture 6 Ground Floor Plan



Picture 7 Stage 2 First Floor Plan

Source: Architectural Plans Tonkin Zulaikha Greer

4.1.3. School Operations

Stage 2 of the development will support 42 ELC students, 440 primary students, 160 secondary students and 10 SSP students. The students will be housed across the existing western wing of the site and the proposed southern primary school wing. Stage 2 will also see the delivery of the new primary school hall and additional car parking spaces in accordance with the DCP.

During Stage 2 the ground floor of the northern sector of the administration building will support the ELC and additional temporary primary classrooms and common learning areas. The first floor will be temporarily used to house the high school population. The southern portion of the administration building will be utilised for primarily administrative purposes with the temporary use of two spaces for offices. The first floor will provide staff facilities and offices as well as the wellbeing room.

The hours of operation remain the same for stage 2 as are described in 3.1.4. The proposed hours of operation of the new primary school hall and OSHC are:

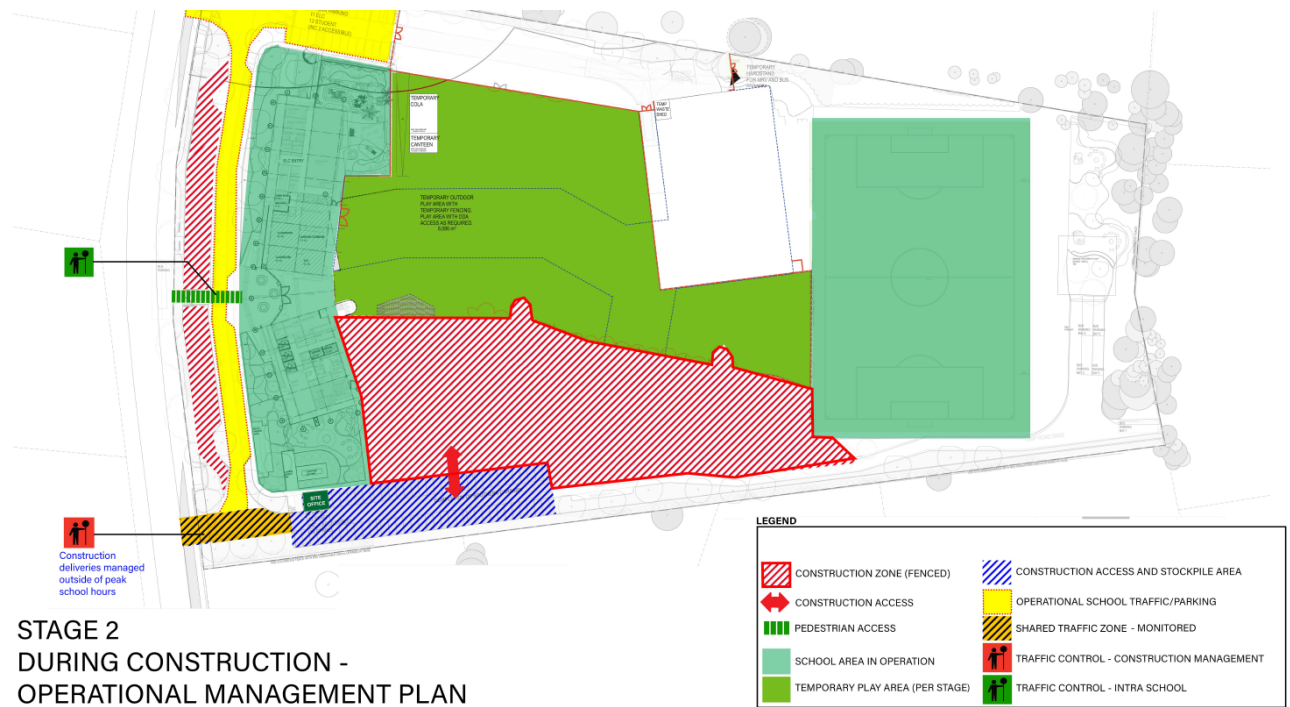
- Monday to Friday: 7:00am to 6.30pm Monday to Friday.

The use of the school facilities by the community (including the library and sport field) will continue during stage 2. The community use of the school will occur outside of typical school hours and does not represent a more intense use of the site, The community will be subject to the same measures to ensure their safety during construction and to mitigate any impacts to surrounding receivers.

To ensure the safety of the school community and external community during the operation of stage 2 and the construction of stage 3, short term access control and territorial reinforcement will be introduced, as discussed in Section 3.2.6.1 and identified in Figure 18 below.

The construction zones will be separated from the operational components of the school, as depicted in the figure below. Where crossovers are required, such as for deliveries, these will be timed to be outside of school start and finishing times and will be supported by appropriate traffic control.

Figure 18 During Construction – Operational Management Plan



Source: Tonkin Zulaika Greer – Architectural Plans

4.2. ENVIRONMENTAL IMPACTS

4.2.1. Environmental Amenity

4.2.1.1. Cross Ventilation

As per section 3.2.1.1.

4.2.1.2. Solar Access

As per section 3.2.1.2.

4.2.2. Traffic and Parking Management

At stage 2 the proposed development will generate a total of 1,313 students and staff trips, as follows:

- 664 vehicle trips during the morning peak (640 student inbound and outbound and 24 staff inbound)
- 649 vehicle trips during the afternoon peak (640 student inbound and outbound and 9 staff outbound)

Intersection modelling has determined that all intersections will continue to operate with the same Level of Service in 2031. By 2031 the intersection of Camden Valley Way and Catherine Fields Road will reduce to a Level of Service F during both the AM and PM peak. There is no change to the Level of Service of this intersection as a result of the proposal. Therefore, no adverse impact to the road network will occur as a result of the development.

Therefore, traffic impacts are not expected to result in adverse outcomes in the immediate or surrounding road network because of the operation of the stage 2 development.

Parking

55 car parking spaces are required for stage 2 of the development based on student and staff numbers. 86 car parking spaces have been provided for stage 2 which is in excess of the minimum DCP requirement. Contractor parking is to be provided in the contractor compound, ensuring that the school car park is for school and community use only.

TABLE 31: PARKING REQUIREMENTS – STAGE 2

Parking	Headcount / Spaces	Parking Rate	Parking Requirement
School Full-Time Staff Members	33	1 space per FTE staff member	33
All Students (K-12)	610	1 space per 100 students	6
Year 12 Students	25	1 space per 5 Year 12 students	5
ELC	42	1 space per 4 children	11
Total			55 parking spaces
Accessible	55	1 space per 100 spaces	3 (one for K-12 students, early learning and staff each)

Source: Transport and Parking Impact Assessment

4.2.3. Landscaping/ Tree Replanting

Stage 2 will deliver a total of 36,014m² of Landscaped zones, comprising of the following areas:

- ELC Outdoor Areas: 662m²
- Hardscape: 1,194m²
- Soft Landscaping: 10,006m²
- On site parking and road: 5,750m²
- Sports field: 6,992m²
- Temporary Outdoor Play (Stage 1 only): 8,066m²

In Stage 2 the temporary outdoor play area to the north of the primary school wing will be extended to 8,086m². This area will be fully fenced in order to separate the area from construction activities and will provide additional play space for students. Stage 2 will however, also deliver the landscaped area to the south of the primary school wing, providing additional permanent play space for students. Stage 2 will provide ample outdoor play space for the population of primary and senior school students. The extension of the temporary outdoor play space will provide approximately 13m² of outdoor play space/ student. Students will also be able to utilise the sports field in stage 2 providing additional recreational area which is directly accessible through the temporary play area without needing to cross over any construction zones.

Figure 19 Stage 2 Landscaping Plan



Source: Taylor Brammer Landscape Staging Plans

In stage 2, 85 trees will be replanted as part of the landscaping strategy. This will lead to a total of 143 trees on site at this stage. The tree replacement table has been extracted below.

Figure 20 Stage 2 Tree Replacement Table

STAGE 2 TREE REPLACEMENT TABLE		
PLANTING AREAS	TREES NO.	SCREENING SHRUBS NO.
South Boundary	16	41
Total Screening Trees and Shrubs	16	41
TOTAL TREES PLANTED IN STAGE 2		85
CUMULATIVE TREES PLANTED FOR SITE		143

Source: Taylor Brammer Landscape Staging Plans

4.2.4. BCA/ Access

Mandatory upgrades will be required in Stage 2 to ensure compliance with the BCA. These upgrades relate to ensuring that continuous paths of travel are provided between the existing western wing of the school and the new primary school wing.

An assessment of the Stage 2 works as well as the upgrade works against the BCA 2022, confirms that the development is able to comply with the BCA, or has the capacity to comply, with further detail to be provided at the Construction Certificate stage.

4.2.5. Noise and Vibration Management

In stage 2 the impacts of construction on the operation of the school must be considered, along with the operational noise impacts to surrounding receivers. The noise impacts remain the same as Stage 1, being:

- Students engaging in active play in the outdoor play areas.
- Students inside the GLAs (including ELC rooms).
- Public address system and school bell.
- Mechanical plant.
- Use of the PS Hall.
- Use of the Sports Fields.
- Vehicle noise emissions.

Outdoor play

In Stage 2 the students will be outside for a range of times including before school, recess, lunch, PE classes and after school, however the outdoor areas are only likely to be at capacity during recess and lunch. Day design have modelled the worst-case scenario for students engaging in outdoor play. The predicted level of noise from students engaged in active play in the outdoor areas complies with the guidance criteria for receptor locations R1 to R3 and R7 to R11. However, the predicted level of noise at receptor locations R4 and R6 is noncompliant and will require the implementation of the following noise controls.

- It is proposed to stagger outdoor play times from stage 2 to minimise noise impacts. Two outdoor play scenarios are proposed, including the option for high school Students and ELC students to be outdoors at the same time or Primary School and ELC students at the same time. If scenario 1 is followed, whereby HS and ELC students are staggered to have outdoor play time together, the proposal is capable of being compliant.
- It is also proposed that in addition to the site boundary noise walls, in stage 2 a 2.4m high sound barrier wall will be constructed along the entire northern boundary of the HS outdoor area, and a 1.8m sounds

barrier wall will be constructed along the eastern and southern boundary of the temporary outdoor area. This will mitigate noise impacts from the construction of stage 2 on the classroom operations of the primary school wing.

- A part 2.4m and part 1.5m sound barrier wall will also be installed around the PS outdoor area.

Mechanical Plant, Classroom Operation, Traffic

An assessment of the cumulative impact of the noise from mechanical plant and classroom operations and the traffic impacts from the use of the ELC, SPP Student and staff parking areas is confirmed to meet compliance with the noise criteria.

- 1.8m sound barrier walls will be constructed around rooftop mechanical plant.
- 2.4m high sound barrier walls will be constructed around mechanical plant on the PS Hall.
- Further acoustic assessment should be undertaken when specifications for mechanical plant have been determined.

Additionally, no unacceptable noise impacts to sleep will occur and on road traffic noise is compliance with the requirement noise levels.

Sports field

The predicted noise emissions associated with the use of the sports field complies with the relevant criteria.

Primary School Hall

The noise impacts of the primary school hall to surrounding residential receivers is largely compliant. Receiver R5-R7 will experience noise impacts above what is acceptable. To mitigate adverse impacts the following mitigation measures are recommended:

- The hall is to be appropriately constructed and glazed in accordance with the requirements of Sections 8.3.1 and 8.3.2 of the Environmental Noise Impact Assessment.

If the above noise controls are implemented the noise levels resulting from the primary school hall are capable of achieving compliance.

Public Address System

The Public Address System and School Bell is assumed to be located on the eastern, northern and southern façades in stage 2. To meet the residential noise criteria, the maximum sound pressure level is to be no greater than 77dBA Leq, 15 minutes at 3 metres from each speaker. The sounds pressure level of the speakers associated with the public address system is to be no greater than the following:

- Eastern Façade Stage1 77 dBA Leq, 15 minutes at 3 metres from each speaker.
- Northern Façade Stage 277 dBA Leq, 15 minutes at 3 metres from each speaker.
- Southern Façade Stage 262 dBA Leq, 15minutes at 3 metres from each speaker.

4.2.6. Construction Management

4.2.6.1. Construction Traffic Management

Construction Management for Stage 2 will follow the same principles and methodologies identified in Section 3.2.6 of this report. The key difference, however, is that the school will be operational whilst Stage 2 is constructed.

The following construction mitigation measures will be implemented from stage 2 to minimise impacts on school operations:

- All construction heavy vehicle movements (including deliveries) will be prohibited during school drop-off and pick-up hour. During school hours, students will be securely accommodated within the operational school area including open space.
- A Code of Conduct will be prepared to ensure construction staff and contractors are aware of and agree to restrictions and protocols, which includes giving way to school related movements at all times.

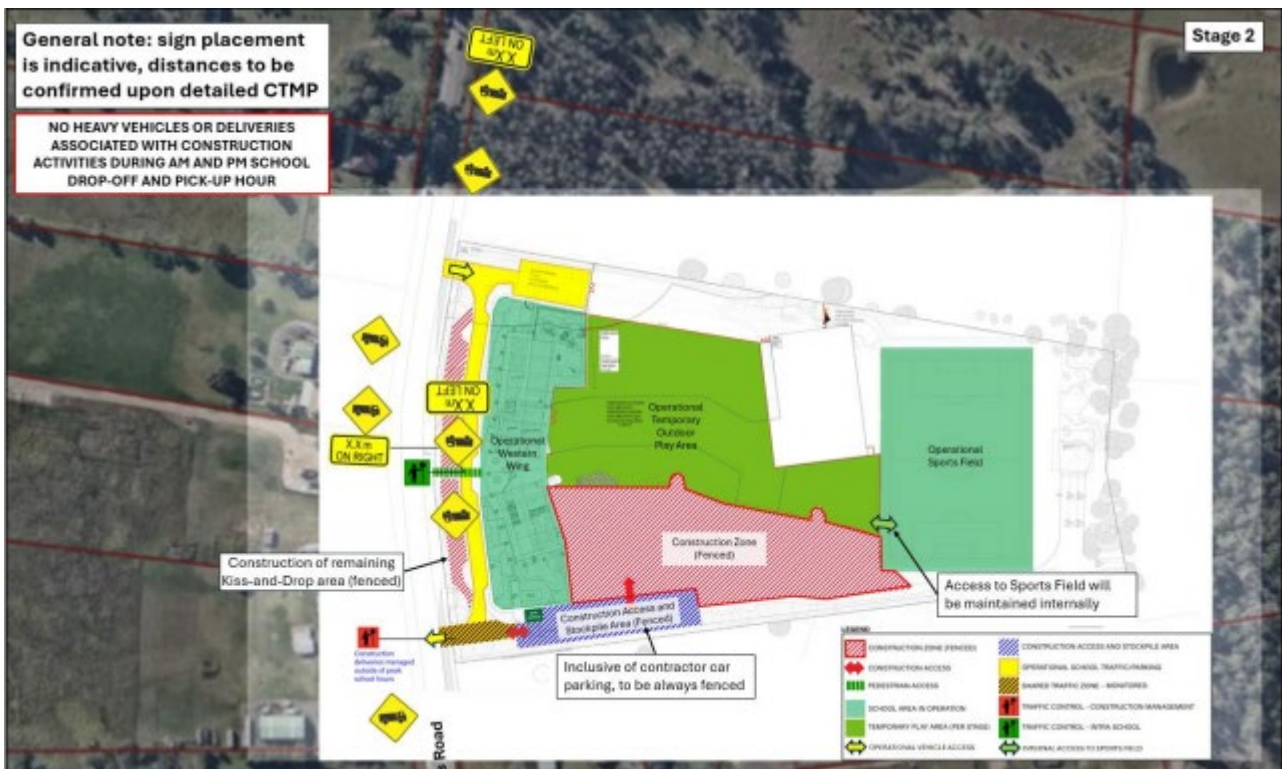
- The Work Area for the construction of the Kiss and Drop area shall remain fenced at all times from all publicly accessible areas. This includes hoarding requirements as applicable. The boundaries of Work Areas shall maintain adequate sight lines to pedestrian crossings where relevant.
- A pedestrian route shall be maintained on the alignment of the permanent pedestrian crossing between the school entrance and frontage road footpath. The plans below indicate supervision for crossings at the completed roadways within the site.

As demonstrated in the Traffic Guidance Scheme and the Operational Management Plan for stage 2 provided below, all construction works for stage 2 will be completed within the site boundary and will therefore not require traffic controllers along the public road. Considering that construction will occur during school operations, supervision of the shared traffic zone at the site exit will be required during the movement of any construction vehicles. Traffic controllers will be engaged to provide supervision at the required location, as indicated in the TGS below. Priority will be given to non-construction vehicles moving through the shared traffic zone.

A construction fence and suitably classed hoarding shall be provided along site boundaries/works area boundaries to provide safe pedestrian access. The fencing/hoardings will be maintained for the duration of the construction program associated with the stage of works being undertaken. Contractor car parking will be provided within the construction access/ stockpile zone along the southern boundary of the site and will be fully fenced. This will ensure that contractor parking is separate to operational parking and will not result in a loss of car parking at the site. Supervision of the School's main pedestrian access is required to ensure pedestrian safety during construction of the remaining kiss and drop area.

Access to and from the operational sports field located in the eastern portion of the site will be provided via the temporary outdoor play area during Stage 2 construction.

Figure 21 Traffic Guidance Scheme Stage 2 Plan



Source: Ason Preliminary Construction Traffic Management Plan

4.2.6.2. Construction Noise and Vibration

During stage 2 noise impacts are expected to occur from excavation and bulk earthworks and the construction of the primary school wing and ancillary development.

The excavation and bulk earthworks phase is expected to take 4 weeks and will involve the use of excavators, rock hammers/ saws, pile bores and regular truck movements transporting waste materials from the site.

The construction of the primary school wing is expected to take 40 weeks and will involve the use of heavy vehicles, power tools and portable mechanical plant such as generators and compressors. A summary of the noise impacts across these two phases are outlined below.

Figure 22 Stage 2 Noise Emission Summary

Description	Calculated Noise Levels (dBA)					
	R1	R2	R3	R4	R5	R6
Phase 2 – Excavation Works						
Excavation Works	57 – 61	48 – 52	49 – 53	54 – 68	55 – 75	57 – 79
Rock Hammering	64 – 68	55 – 59	56 – 61	61 – 75	63 – 82	64 – 86
Noise Management Level	46	46	75	46	46	46
Exceedance	Up to 22 dB	Up to 13 dB	No	Up to 29 dB	Up to 36 dB	Up to 40 dB
Phase 3 – Construction						
Construction Works	59 – 63	51 – 54	51 – 56	56 – 70	58 – 77	60 – 82
Noise Management Level	46	46	75	46	46	46
Exceedance	Up to 17 dB	Up to 8 dB	No	Up to 24 dB	Up to 31 dB	Up to 36 dB

Picture 8 R1-R6

Source: CNVMP – Day Design

To minimise the noise impacts from these activities it is recommended that the noise control mitigation measures outlined in Section 3.2.6.2 are implemented.

4.2.6.3. Construction Waste

The estimated waste volumes and proposed management strategies for stage 2 are detailed in the figure below.

Description	Calculated Noise Levels (dBA)					
	R7	R8	R9	R10	R11	RE
Phase 2 – Excavation Works						
Excavation Works	58 – 79	56 – 71	45 – 72	45 – 72	44 – 71	59 – 79
Rock Hammering	65 – 86	63 – 78	53 – 79	52 – 79	51 – 78	66 – 86
Noise Management Level	46	46	46	46	46	65
Exceedance	Up to 40 dB	Up to 32 dB	Up to 33 dB	Up to 33 dB	Up to 32 dB	Up to 21 dB
Phase 3 – Construction						
Construction Works	61 – 82	58 – 73	48 – 74	47 – 74	47 – 73	61 – 82
Noise Management Level	46	46	46	46	46	65
Exceedance	Up to 36 dB	Up to 27 dB	Up to 28 dB	Up to 28 dB	Up to 27 dB	Up to 17 dB

Picture 9 R7-R11

Figure 23 Construction Waste Stage 2

Materials on Site				Destination/Processing/Disposal		
Type of Material	Est. m ³	Recovery		Recovery	Offsite	Disposal
		%	m ³			
Pallet Wrapping (Soft Plastic)	14.8	96%	14.2	Reuse on site where possible	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Used Pallets	14.3	90%	12.9	Reuse on site for storage where possible	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Cardboard Recycling	11.5	100%	11.5	No reuse/recycling	Collect in designated bin and send for recycling	No disposal to landfill
Metal Offcuts, Sheeting, Wiring, etc.	10.0	98%	9.8	Collect for separation into different metal types for recycling	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
General Waste	9.6	0%	0.0	No reuse/recycling	Collect in separate designated bin	Disposal to landfill
Plasterboard Offcuts	9.1	90%	8.2	No reuse/recycling	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Floor Coverings	8.6	90%	7.7	No reuse/recycling	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Plastics Recycling	7.2	95%	6.8	No reuse/recycling	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Timber Offcuts	6.7	95%	6.4	Potential for onsite reuse	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Concrete (Excess)	5.7	100%	5.7	No reuse/recycling	Collect in designated bin and send for recycling	No disposal to landfill
Glass (Excess)	4.8	100%	4.8	No reuse/recycling	Collect in designated bin and send for recycling	No disposal to landfill
TOTAL MATERIALS	102.2	86.1%	88.0	Stage 2 construction will produce around 102.2 m ³ of waste materials, of which 88.0 m ³ or 86.1% can potentially be diverted from landfill by being reused on-site or recycled off-site.		

Source: Waste Management Plan – Waste Audit

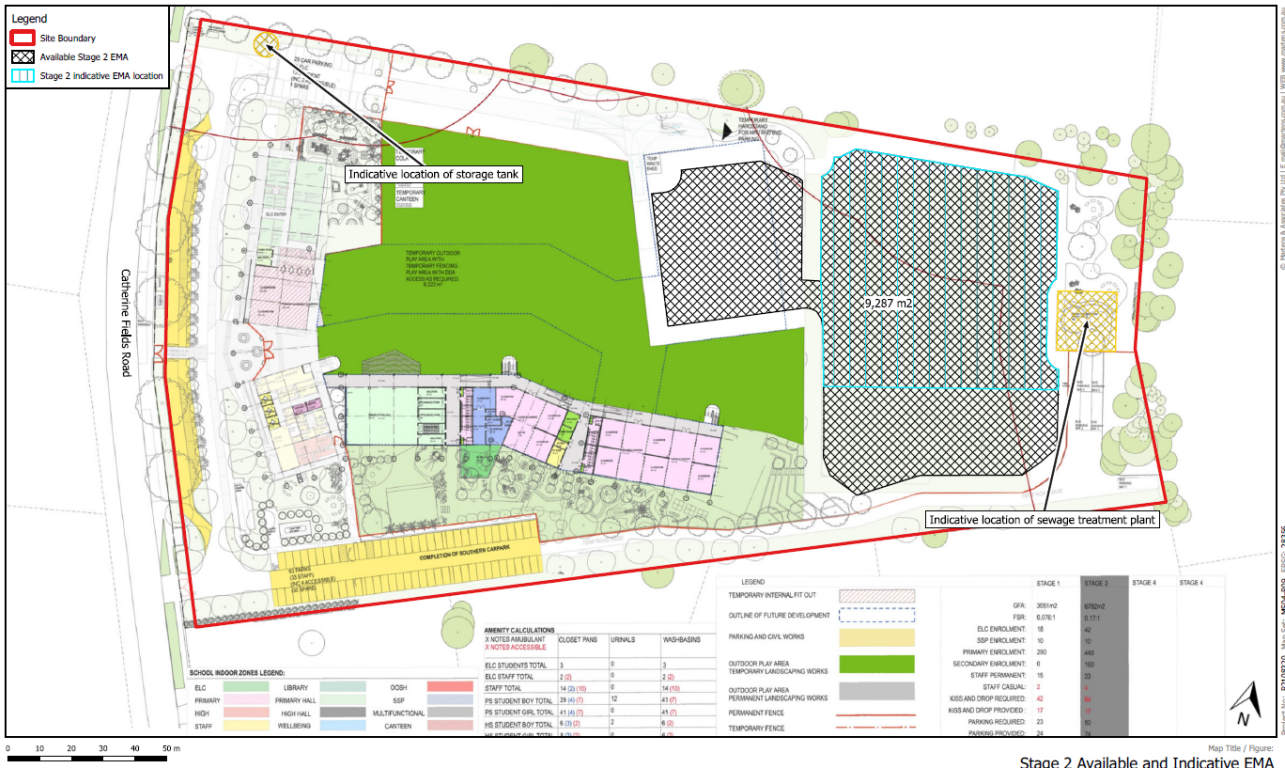
4.2.7. Wastewater Management

No change is proposed to the wastewater system in stage 2 of the development. The system will be established in stage 1 with the capacity to support the full operational capacity of the development.

The available EMA in stage 2 has been reduced to 9,287m², as a result of the construction of the primary school wing. The required EMA for stage 2 is 4,749m², therefore the development provides an EMA in excess of what is required.

The Stage 2 EMA driplines and plumbing are to be installed during holiday periods to limit the impacts resulting from the loss of operational play space.

Figure 24 Stage 2 Available Effluent Management Area



Source: Martens – Wastewater Management Report

The flow and site occupation data from stage 1 should be reviewed prior to the construction of stage 2 to determine whether a stage 2 effluent pump out system will be required.

4.2.8. Operational Waste

The Waste Management Plan provided with the SSSA package includes details for estimated waste generation, management and collection during Stage 2. Stages 1-3 are temporary storage; the permanent storage room will be constructed in Stage 4 and will contain an area for bulky waste storage and a bin wash facility. The Plan estimates waste generation during stage 2 will amount to 13,744 litres weekly (7,648.75L general waste, 2,031.75L comingled recycling, 4,063.50L paper recycling). Accordingly, the school will require a storage area of 16.88m².

The proposed area is sufficient for the projected numbers of bins required for each stage, and the location is easily accessible for waste contractor vehicles and their staff, who will be responsible for loading bin contents into collection vehicles.

Figure 25 Proposed temporary waste storage area (Stage 2)



Source: Waste Management Plan

4.2.9. Cumulative Impacts

The cumulative impacts associated with the construction of stage 2 and the operation of stage 1 are considered to be negligible.

The potential construction impacts resulting from the development have been thoughtfully considered and responded to with the implementation of mitigation measures.

Construction traffic will be managed in accordance with the Preliminary Construction Traffic Management Plan. During the construction of stage 2 there will be increased supervision of pick up and drop off areas and traffic controllers will be engaged where required to ensure the safe and efficient movement of people and vehicles through the site. A separate contractor car parking area will be provided ensuring there will be no impact to car parking operations at the site. This area will be fenced to ensure the safety of students and staff.

The noise impacts from both the construction and operational stages of the development have been considered and thoughtfully responded to. The inclusion of sound barrier walls surrounding each of the proposed play areas and the site boundary will serve a dual purpose. The walls around the play areas will both screen the construction noise to protect the operation of the school, whilst also blocking out sound from children engaging in outdoor play to surrounding residential receivers.

The temporary outdoor play area has been extended for stage 2 to ensure that the students have a generous play area. The sport field will also be operational during stage 2 providing additional opportunities for outdoor play and sport and for community use.

4.2.10. Summary of Mitigation Measures

The design, anticipated educational facilities, and outdoor play spaces planned for stage 2 of the school are adequate and will offer a superior learning atmosphere for students. A significant amount of thought has been put into ensuring the safety of students, staff, and the community during the subsequent construction phases. All potential impacts have been taken into account and, provided the recommended mitigation strategies outlined in the Transport and Parking Impact Assessment, Preliminary Construction Traffic Management Plan, Construction and Vibration Management Plan, and Environmental Noise Impact Assessment are implemented, no negative impacts are anticipated as a result of stage 2. Any impacts from the construction of subsequent stages on the operation of stage 2 will be temporary and can be managed through the implementation of the aforementioned mitigation measures as well as the introduction of suitable conditions of consent.

5. STAGE 3

5.1. DESCRIPTION OF WORKS – STAGE 3

5.1.1. Excavation and Bulk Earthworks

Excavation and bulk earthworks are proposed for stage 3. This phase of development is expected to take 4 weeks.

5.1.2. Construction

5.1.2.1. School Buildings

Stage 3 will involve the construction of the northern “high school” wing of the school. This building runs parallel to the southern primary school wing, and is appropriately set back from the property boundary. This wing will support high school students and SPP students. Stage 3 is expected to be completed in 2035 and will accommodate 980 students (60 ELC, 890 School, 30 SSP), 45 FTE Staff, 6 SSP Staff. The school will be at its operational capacity from stage 3.

The ground floor of the southern wing comprises the primary school hall, 6 x general learning spaces with 3 workshop spaces. It will also provide specialist learning area including a science lab and laser printing area. It will also provide a separate SSP which will comprise, 2 x SSP Classrooms, a practical space and a separate outdoor space. The first floor of the primary school wing will comprise 12 x general learning spaces along with 2 x learning commons areas.

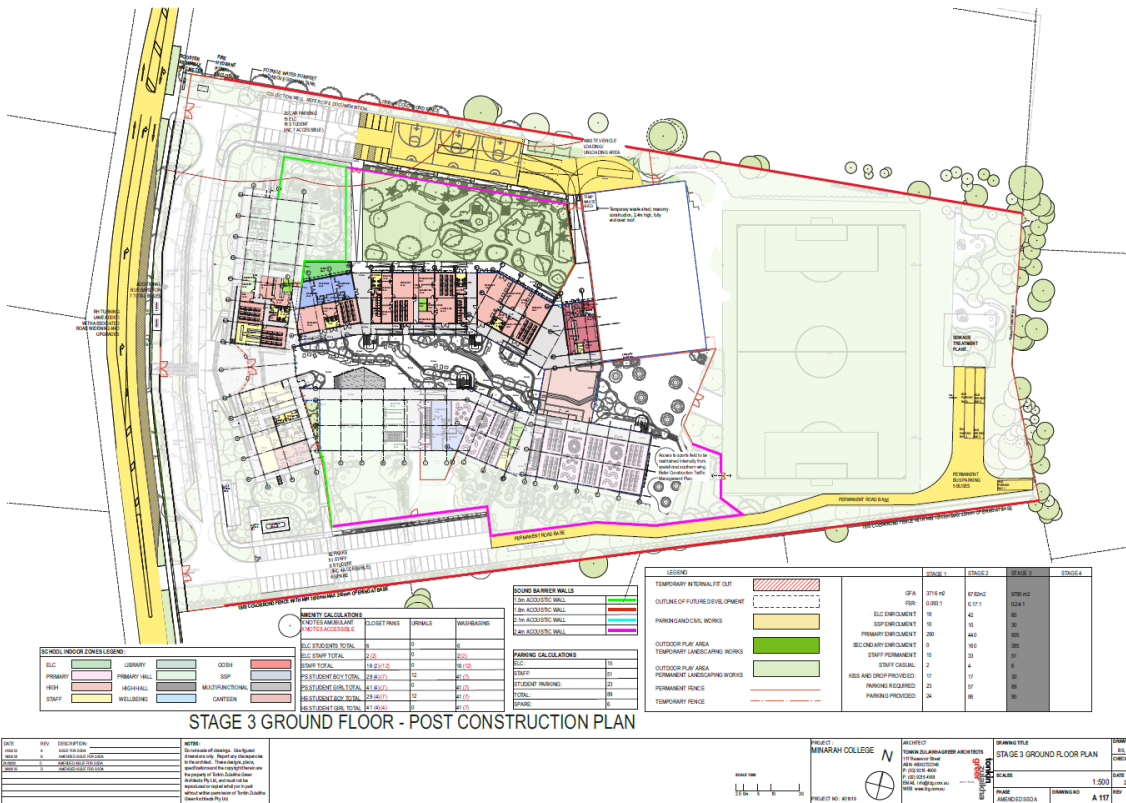
A COLA will also be constructed which will provide a connection between high school and primary school wings.

Stage 3 will also deliver the northern high school play area and three playing courts.

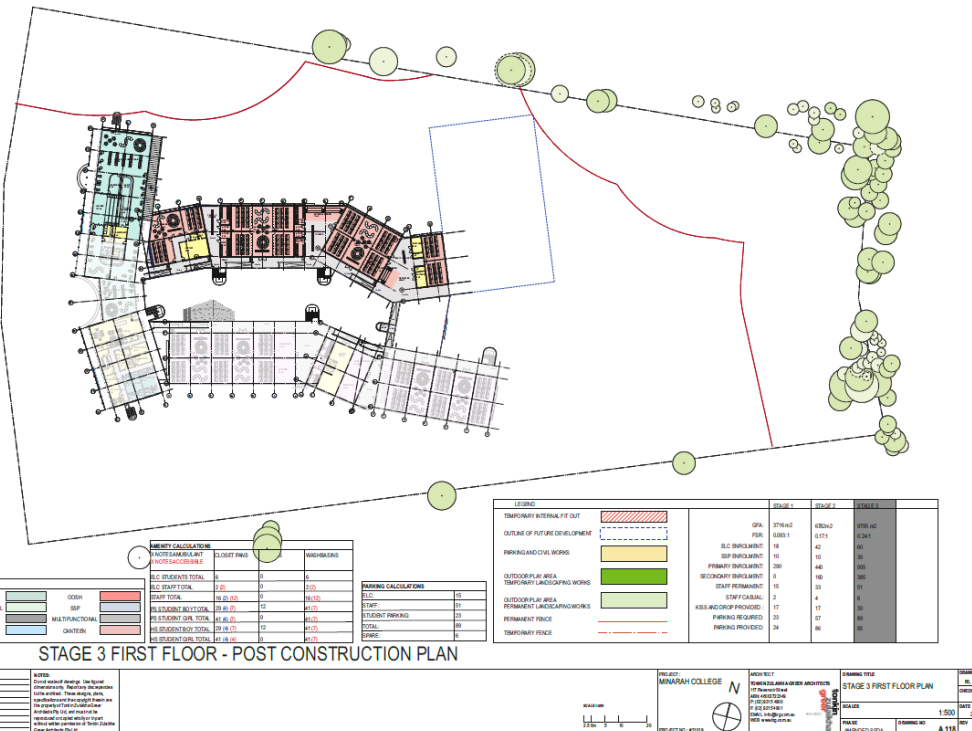
The rest of the northern car park will be constructed as part of stage 3, providing an additional 9 car parking spaces and bringing the total number of spaces provided to 95.

Stage 3 includes the delivery of the permanent access road which provides access to the STP at the rear of the site.

Figure 26 Stage 3 Construction Plans



Picture 10 Stage 3 Ground Floor Plan



Picture 11 Stage 3 First Floor Plan

Source: Architectural Plans, Tonkin Zulaika Greer

5.1.3. School Operations

Stage 3 will see the construction of the northern high school wing. Following the construction of this wing, all areas that have been temporarily fit out to support the prior school population will be permanently fit out. The ground floor of the northern portion of the administration wing, will be fit out to accommodate additional general learning spaces, with the first floor providing the high school library. The temporary outdoor area will also be removed and replaced with the permanent landscaped outdoor play areas.

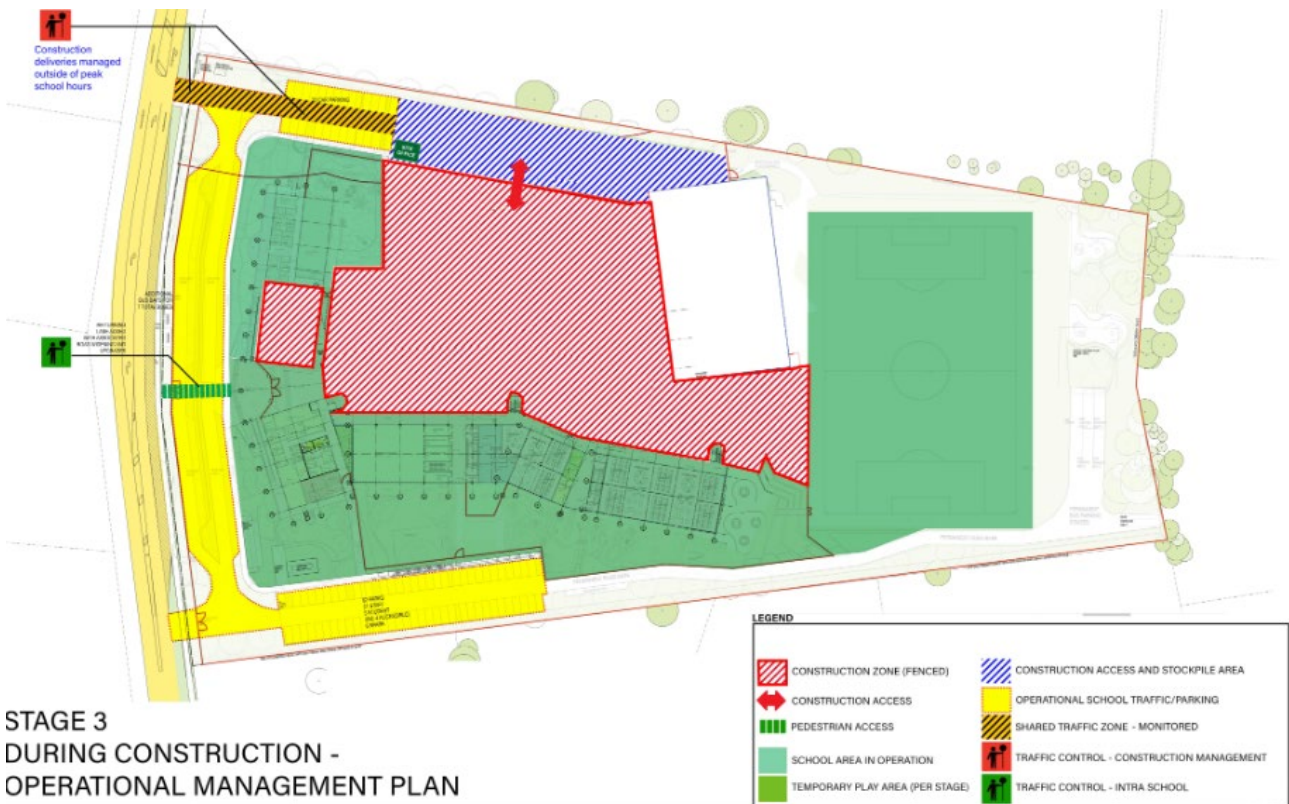
At stage 3 the school will be at its full operational capacity, accommodating a total of 980 students in the following breakdown: 60 ELC students, 30 SSP students, 505 primary students and 385 secondary students. The hours of operation for the school and school facilities remain the same for stage 3 as are described in 3.1.4 and 4.1.3. Additional car parking will be provided in the northern car park for stage 3. At stage 3 95 car parking spaces will be provided across the development which in excess of the required 86.

The use of the school facilities by the community (including the library and sport field) will continue during stage 3. Access to the sport field will be provided along the southern aspect of the primary school building.

As the community use of the school will occur outside of typical school hours and does not represent a more intense use of the site, The community will be subject to the same measures to ensure their safety during construction and to mitigate any impacts to surrounding receivers.

To ensure the safety of the school community and external community during the operation of stage 2 and the construction of stage 3, short term access control and territorial reinforcement will be introduced. The Figure below demonstrates the separation of construction work zones and school operations during the construction of stage 3. The construction zones are to be completely fenced off from the rest of the school. The construction area will be accessed via a dedicated access point in the north of the site, off the specified construction access area. During the construction of stage 3, the northern vehicular access point will be utilised by both construction vehicles and for school transport. This shared zone will be monitored, with construction deliveries to be outside of school start and finish times to minimise disruption.

Figure 27 Operational Construction Management Plan



Picture 12 Stage 3 Construction – Operational Management Plan (stage 2)

Source: Tonkin Zulaika Greer

5.2. ENVIRONMENTAL IMPACTS

5.2.1. Environmental Amenity

5.2.1.1. Cross Ventilation

As per section 3.2.1.1.

5.2.1.2. Solar Access

As per section 3.2.1.2.

5.2.2. Traffic and Parking Management

At stage 3 the proposed development will generate a total of 1,978 students and staff trips, as follows:

- 1,000 vehicle trips during the morning peak (964 student inbound and outbound and 36 staff inbound).
- 978 vehicle trips during the afternoon peak (964 student inbound and outbound and 14 staff outbound).

The intersection of Camden Valley Way/ Catherine Fields Road will continue to operate at LoS F with and without the school in 2035.

Therefore, traffic impacts are not expected to result in adverse outcomes in the immediate or surrounding road network as a result of the operation of the Stage 2 development.

Car Parking

The car parking requirement for Stages 3 is 86 spaces. The school proposes a total of 95 on-site car parking spaces which accommodates 51 spaces for staff members, 15 spaces for ELC, and 23 spaces for students thus fulfilling the DCP requirement for car parking provision.

TABLE 32: PARKING REQUIREMENTS – STAGE 3 AND STAGE 4			
Parking	Headcount / Spaces	Parking Rate	Parking Requirement
School Full-Time Staff Members	51	1 space per FTE staff member	51
All Students (K-12)	980	1 space per 100 students	10
Year 12 Students	50	1 space per 5 Year 12 students	10
ELC	60	1 space per 4 children	15
Total			86 parking spaces
Accessible	86	1 space per 100 spaces	3 (one for K-12 students, early learning and staff each)

Source: Transport and Parking Impact Assessment

Works to Catherine Fields Road

As a part of stage 3 it is proposed to undertake works to Catherine Fields Road to provide a right-turn bay from Catherine Fields Road into the school and to create new bus bays on the eastern side of Catherine Fields Road.

The channelised right-turn bay will be designed per Austroads Part 4A for 80km/hour speed zones and have storage of 55m. The indented bus bays and connecting footpath will be utilised for public buses during the School's AM and PM peak operating periods. After these hours, the bays will have no restrictions and can be utilised as regular on street parking.

A 1.8m wide footpath will be provided adjacent to the indented bus bays with a direct pedestrian crossing to/from the main front gate.

These works will reduce traffic impacts by providing a designated right hand turn lane from Catherine Fields Road, as well as improving the ability for buses to services the site.

5.2.3. Landscaping/ Open Space

Stage 3 will deliver a total of approximately 37,725m² of landscaped zones, comprising of the following areas:

- Outdoor courtyard: 3,232m²
- ELC Outdoor Areas: 662 m²
- Hardscape: 1,194 m²
- Soft Landscaping: 12,908 m²
- On site parking and road: 7,406 m²
- Primary School Outdoor Play: 2,943 m²
- High School Outdoor Play: 2,192 m²
- Sports field: 6,992 m²
- SSP HS outdoor area: 101 m²
- SSP PS outdoor area: 104 m²

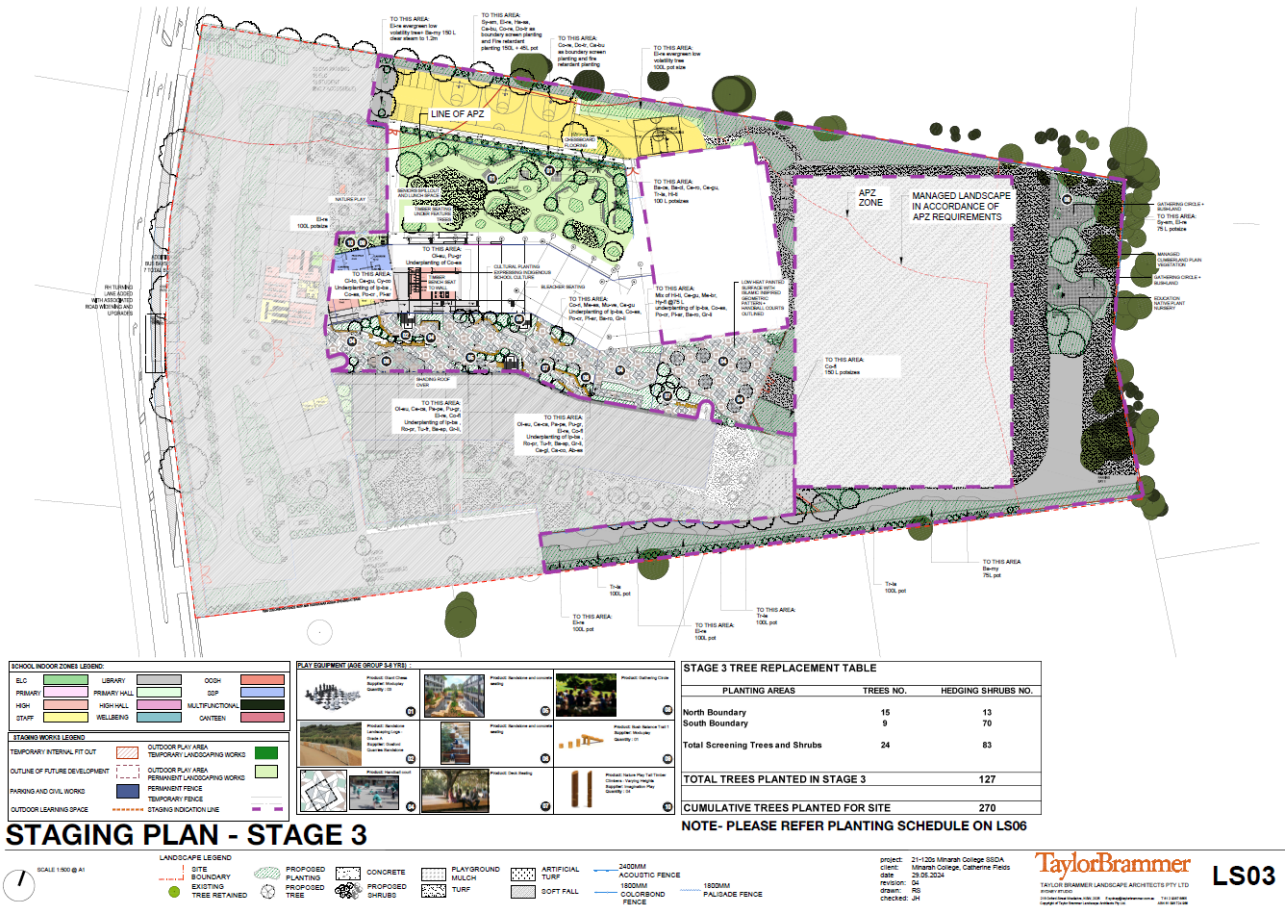
At stage three all the outdoor play space areas will be delivered. The high school outdoor area is to be fenced with sound barrier wall to both separate the students from construction activities as well as reduce the impacts of construction and operational noise. The proposal has been designed to comply with the outdoor play space area guidelines as shown in the table below.

Table 3 Outdoor Play Space Area Guidelines

Zone	No. of Students	Guideline area per m2	Guideline area m2	Provisioned area m2
Special Education School	30	10	30	30
Primary School	505	10	5050	2943 + sport field = 5050
High School	385	10	3850	2192 + sport field = 3850

Source: Design Report

Figure 28 Stage 3 Landscaping Plan



Source: Taylor Brammer Landscape Staging Plans

During the third stage, the landscaping strategy includes the replanting of 127 trees, which will increase the total number of trees on site to 270. This enhancement will not only add an extra 40 trees to the existing count but also contribute significantly to the site's aesthetic appeal. The landscaped area will offer students ample shade and a pleasant environment, while also serving as a natural screen, providing privacy for the school from public spaces. The tree replacement table for stage 3 has been extracted below.

Figure 29 Stage 3 Tree Replacement Table

STAGE 3 TREE REPLACEMENT TABLE		
PLANTING AREAS	TREES NO.	HEDGING SHRUBS NO.
North Boundary	15	13
South Boundary	9	70
Total Screening Trees and Shrubs	24	83
TOTAL TREES PLANTED IN STAGE 3		127
CUMULATIVE TREES PLANTED FOR SITE		270

Source: Taylor Brammer Landscape Staging Plans

5.2.4. BCA/ Access

Similarly to stage 2, mandatory upgrades to access requirements are required in stage 3/4 to ensure that continuous paths of travel are provided from the existing components of the school to the new high school wing and hall.

An assessment of the stage 3 works against the BCA 2022, confirms that the development is able to comply with the relevant provisions of the BCA, or has the capacity to comply, with further detail to be provided at the Construction Certificate stage.

5.2.5. Noise and Vibration Management

In stage 3 the impacts of construction on the operation of the school must be considered, along with the operational noise impacts to surrounding receivers. The noise impacts remain the same as stage 1, being:

- Students engaging in active play in the outdoor play areas.
- Students inside the GLAs (including ELC rooms).
- Public address system and school bell.
- Mechanical plant.
- Use of the PS Hall and Multi-Purpose Hall.
- Use of the Sport Field.
- Vehicle noise emissions.

Outdoor play

Like in stage 2, in stage 3 the students will be outside for a range of times including before school, recess, lunch, PE classes and after school, however the outdoor areas are only likely to be at capacity during recess and lunch.

Day design have modelled the worst-case scenario for students engaging in outdoor play. The predicted level of noise from students engaged in active play in the outdoor areas complies with the guidance criteria for receptor locations R2 to R3 and R7 to R11. However, the predicted level of noise at receptor locations R1, R4 and R6 are noncompliant and will require the implementation of the following noise controls.

- It is proposed to stagger outdoor play times from stage 2 to minimise noise impacts. Two outdoor play scenarios are proposed, including the option for high school students and ELC students to be outdoors at the same time or primary school and ELC students at the same time. If scenario 1 is followed, whereby HS and ELC students are staggered to have outdoor play time together, the proposal is capable of being compliant.
- It is also recommended that in addition to the site boundary noise walls, in stages 3/4 a 2.4m high sound barrier wall should be constructed along the entire northern boundary of the HS outdoor area, and a 1.8m sound barrier wall should be constructed along the eastern and southern boundary of the outdoor area. A part 2.4m and part 1.5m sound barrier wall should also be installed around the primary school outdoor area.

Even with the implementation of the above mitigation measures, the predicted noise levels from the students engaging in active play in the outdoor areas in stage 3 will still have the potential to exceed the noise criteria at R1 and R4 to R6. Day Design consider that given the limited duration of outdoor area use by the college and the high likelihood of growth of the local area (and the consequential increase in ambient noise levels) by the time stage 3 is constructed, that the impact will be moderation and the acoustic amenity of the neighbourhood can be maintained.

Mechanical Plant, Classroom Operation, Traffic

An assessment of the cumulative impact of the noise from mechanical plant and classroom operations and the traffic impacts from the use of the ELC, SSP Student and staff parking areas is confirmed to meet compliance with the noise criteria.

- It is recommended that minimum 1.8m sound barrier walls are constructed around rooftop mechanical plant. 2.4m high sound barrier walls should be constructed around mechanical plant on the PS Hall.

- Further acoustic assessment should be undertaken when specifications for mechanical plant have been determined.

Additionally, no unacceptable noise impacts to sleep will occur and on road traffic noise is compliance with the requirement noise levels.

College Buses

College buses will be used from stage 3. The noise levels from the college buses will not exceed the noise criterion.

Sports field

The predicted noise emissions associated with the use of the sports field complies with the relevant criteria.

Primary School Hall

The noise impacts of the primary school hall are capable of meeting compliance subject to the implementation of mitigation measures as is discussed in Section 4.2.5.

Public Address System

The Public Address System and School Bell is assumed to be located on the eastern, northern and southern façades in stage 2. To meet the residential noise criteria, the maximum sound pressure level should be no greater than 77dBA Leq, 15 minutes at 3 metres from each speaker. The sounds pressure level of the speakers associated with the public address system for stages 3 and 4 should be no greater than the following:

- Northern & Southern Façades 62 dBA Leq, 15 minutes at 3 metres from each speaker.
- Internal Courtyard 79 dBA Leq, 15 minutes at 3 metres from each speaker.

5.2.6. Construction Management

5.2.6.1. Construction Traffic Management

Construction Traffic Management for Stage 3 will follow the same principles and methodologies identified in Section 3.2.6 and 4.2.6.1 of this report.

Stage 3 is generally expected to be completed in accordance with the Traffic Guidance Scheme presented in Figure 30 below. Considering that road works will need to be carried out on both lanes of Catherine Fields Road, this stage is planned to be executed in sections. Each section will involve partial road closures to ensure that through movements can continue to move along the road. Separate site-specific TGS plans (which comply with AS1742 series and Traffic Control at Worksites Technical Manual version 6.1) for the on-road works shall be included in the detailed CTMP, as required.

As stage 3 works will occur during school operations, supervision of the pickup and drop off areas and the northern car park will be required to ensure the safety of pedestrians and to allow for efficient traffic movement through the site.

A separate contractor compound will be located to the north of the high school wing within the construction access and stockpile area and will include areas for contractor parking. The compound will be fully fenced.

Figure 31 Stage 3 Noise Emission Summary

Description	Calculated Noise Levels (dBA)					
	R1	R2	R3	R4	R5	R6
Phase 2 – Excavation Works						
Excavation Works	56 – 77	49 – 55	50 – 57	45 – 77	47 – 77	46 – 77
Rock Hammering	63 – 84	56 – 63	57 – 64	52 – 84	54 – 84	53 – 84
Noise Management Level	46	46	75	46	46	46
Exceedance	Up to 38 dB	Up to 17 dB	No	Up to 38 dB	Up to 38 dB	Up to 38 dB
Phase 3 – Construction						
Construction Works	58 – 79	52 – 58	52 – 59	48 – 79	49 – 79	48 – 79
Noise Management Level	46	46	75	46	46	46
Exceedance	Up to 33 dB	Up to 12 dB	No	Up to 33 dB	Up to 33 dB	Up to 33 dB

Picture 13 R1-R6

Source: CNVMP – Day Design

To minimise the noise impacts from these activities it is recommended that the noise control mitigation measures outlined in Section 3.2.6.2 are implemented.

5.2.6.3. Construction Waste

The estimated waste volumes and proposed management strategies for stage 3 are detailed in the figure below.

Description	Calculated Noise Levels (dBA)					
	R7	R8	R9	R10	R11	RE
Phase 2 – Excavation Works						
Excavation Works	43 – 64	42 – 62	42 – 64	42 – 59	41 – 63	59 – 83
Rock Hammering	50 – 71	49 – 70	49 – 71	49 – 66	49 – 70	66 – 90
Noise Management Level	46	46	46	46	46	65
Exceedance	Up to 25 dB	Up to 24 dB	Up to 25 dB	Up to 20 dB	Up to 24 dB	Up to 25 dB
Phase 3 – Construction						
Construction Works	46 – 67	45 – 65	44 – 66	44 – 61	44 – 66	62 – 85
Noise Management Level	46	46	46	46	46	65
Exceedance	Up to 21 dB	Up to 19 dB	Up to 20 dB	Up to 15 dB	Up to 20 dB	Up to 20 dB

Picture 14 R7-R11

Figure 32 Construction Waste Stage 3

Materials on Site				Destination/Processing/Disposal		
Type of Material	Est. m ³	Recovery		Recovery	Offsite	Disposal
		%	m ³			
Pallet Wrapping (Soft Plastic)	14.1	96%	13.5	Reuse on site where possible	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Used Pallets	13.6	90%	12.3	Reuse on site for storage where possible	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Cardboard Recycling	10.9	100%	10.9	No reuse/recycling	Collect in designated bin and send for recycling	No disposal to landfill
Metal Offcuts, Sheeting, Wiring, etc.	9.5	98%	9.3	Collect for separation into different metal types for recycling	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
General Waste	9.1	0%	0.0	No reuse/recycling	Collect in separate designated bin	Disposal to landfill
Plasterboard Offcuts	8.6	90%	7.8	No reuse/recycling	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Floor Coverings	8.2	90%	7.4	No reuse/recycling	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Plastics Recycling	6.8	95%	6.5	No reuse/recycling	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Timber Offcuts	6.4	95%	6.0	Potential for onsite reuse	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Concrete (Excess)	5.4	100%	5.4	No reuse/recycling	Collect in designated bin and send for recycling	No disposal to landfill
Glass (Excess)	4.5	100%	4.5	No reuse/recycling	Collect in designated bin and send for recycling	No disposal to landfill
TOTAL MATERIALS	97.2	86.1%	83.6	Stage 3 construction will produce around 97.2 m ³ of waste materials, of which 83.6 m ³ or 96.9% can potentially be diverted from landfill by being reused on-site or recycled off-site.		

Source: Waste Management Plan – Waste Audit

5.2.7. Wastewater Management

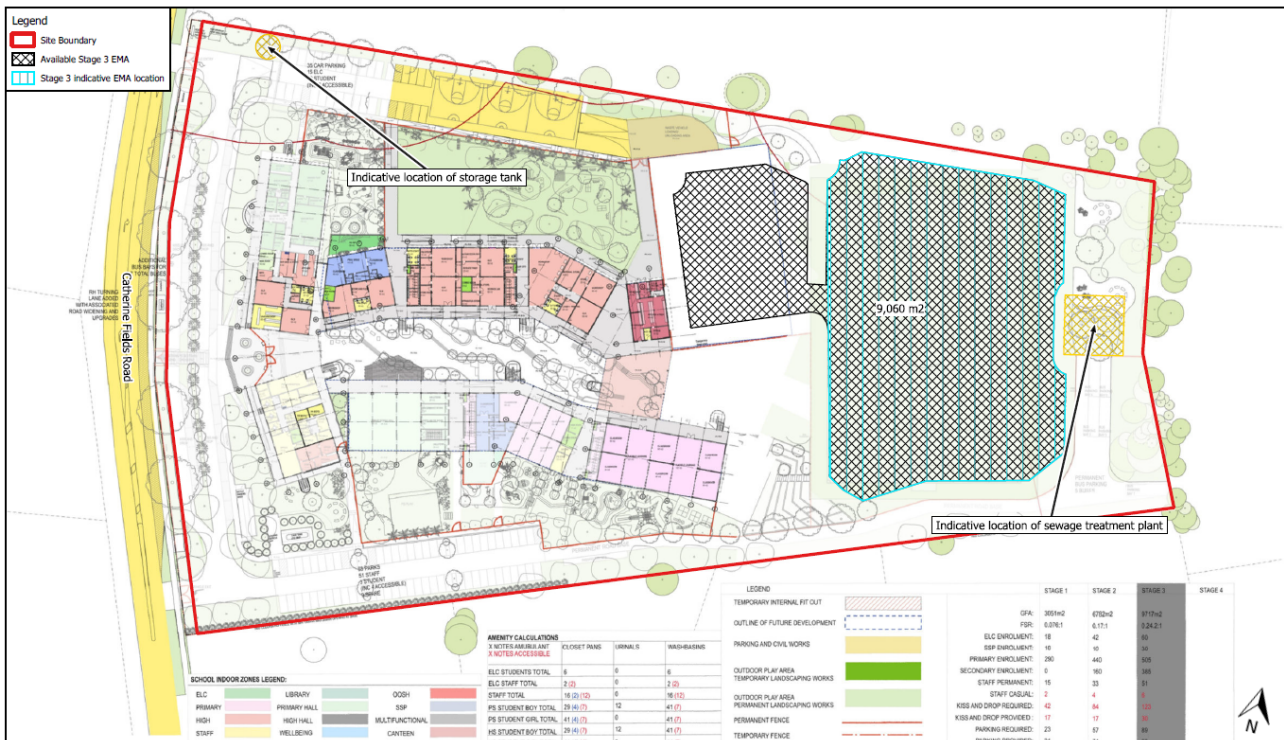
No change is proposed to the wastewater system in stage 3 of the development. The system will be established in stage 1 with the capacity to support the full operational capacity of the development. The school will be fully operational from Stage 3, with the school generating 99.8kL of wastewater per week. The Sewage Treatment Plant will be capable of treating 110% of the peak wastewater flow, to minimise adverse risk.

The available EMA in stage 3 is 9,080m² because of the reduction of the available area resulting from the construction of the primary school and high school wings. The required EMA for stage 3 is 6,619m², therefore the development provides an EMA in excess of what is required. The Stage 3 EMA driplines and associated plumbing will be installed during school holiday periods. This will ensure that there are minimal impacts to students, as a result of a temporary loss of play space.

Stage 3 will include the formalisation of the access road which provides access to the STP at the rear of the site.

Stage 4 will result in the

Figure 33 Stage 3 Available Effluent Management Area



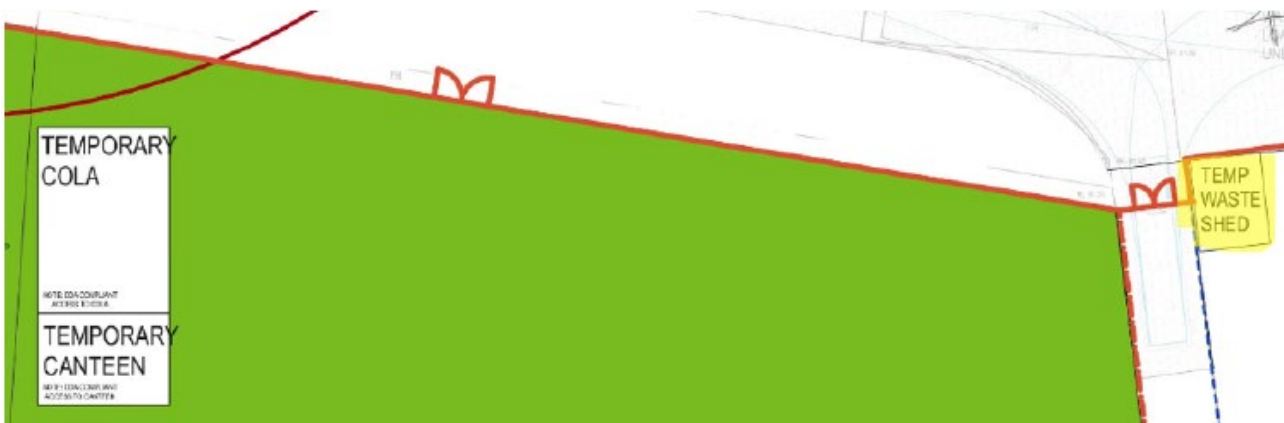
Source: Martens – Wastewater Management Report

5.2.8. Operational Waste

The Waste Management Plan provided with the SSDA package includes details for estimated waste generation, management and collection during Stage 3. Stages 1-3 are temporary storage; the permanent storage room will be constructed in Stage 4 and will contain an area for bulky waste storage and a bin wash facility. The Plan estimates waste generation during stage 3 will amount to 22,086 litres weekly (12,972.5L general waste, 3,052.50 L comingled recycling, 6,017 L paper recycling). Accordingly, the school will require a storage area of 22.56m².

The proposed area is sufficient for the projected numbers of bins required for each stage, and the location is easily accessible for waste contractor vehicles and their staff, who will be responsible for loading bin contents into collection vehicles.

Figure 34 Proposed temporary waste storage area (Stage 3)



Source: Waste Management Plan

5.2.9. Cumulative Impacts

The cumulative impacts resulting from the delivery of stage 3 have been carefully considered and responded to. At stage 3, the school will operate at full capacity. The operational capacity of the school has been significantly reduced from what was originally proposed in order to ensure that impacts from the school to public infrastructure, the surrounding community and the environment are minimal and acceptable.

The rise in student numbers during stage 3 will lead to an increase in vehicle trips. However, traffic analysis has confirmed that the effects of this development on the nearby road network will not exceed the impacts that would have naturally occurred by the time stage 3 was underway, if the development had not been constructed.

To mitigate the effects of queuing on Catherine Fields Road, upgrades are planned for stage 3, which include the addition of a right-turn only lane. This will improve traffic management at the school and reduce impacts to the surrounding road network. Car parking during stage 3 will exceed the requirements set by the Development Control Plan (DCP), guaranteeing sufficient on-site parking for staff, students, and community members.

Construction traffic will be managed in accordance with the Preliminary Construction Traffic Management Plan. During construction the construction of stage 3 there will be increased supervision of pick up and drop off areas and traffic controllers will be engaged where required to ensure the safe and efficient movement of people and vehicles through the site. A separate contractor car parking area will be provided ensuring there will be no impact to car parking operations at the site. This area will be fenced to ensure the safety of students and staff.

The noise impacts from both the construction and operational stages of the development have been considered and thoughtfully responded to. Sound barrier walls are to be installed along the boundaries of the proposed high school play area. The walls around the play areas will both screen the construction noise to protect the operation of the school and block out sound from children engaging in outdoor play to surrounding residential receivers.

The high school outdoor play area will be delivered in stage 3, providing a dedicated outdoor area for high school students and removing the need for temporary outdoor play spaces.

5.2.10. Summary of Mitigation Measures

Just like the previous stages, stage 3 has been planned to offer educational facilities and outdoor areas that contribute to a superior learning atmosphere. The school's spatial arrangement and design will foster student growth from the Early Learning Centre (ELC) age through to their senior school years.

The staging of the development will also allow for the school to operate at a capacity and scale that is commensurate with the expected growth of the surrounding community. Any impacts from the construction of subsequent stages on the operation of stage 3 will be temporary and can be managed through the implementation of the aforementioned mitigation measures as well as the introduction of suitable conditions of consent.

Stage 3 will deliver appropriate upgrades to Catherine Fields Road to mitigate impacts resulting from increased student and staff trips. The proposed new right hand turn lane will ensure the efficient movement of vehicles through the site. The delivery of these upgrades will be supported by increased traffic control measures, as is discussed in Section 5.2.6.1. Similarly, the mitigation measures identified in Section 5.2.2, 5.2.5 and 5.2.6 provide appropriate solutions that will assist with limiting adverse impacts resulting from construction and operational traffic and noise.

If the mitigation measures identified in Section 5.2 of this report are implemented, then no impacts beyond what have been identified are expected to occur.

6. STAGE 4

6.1. DESCRIPTION OF WORKS

6.1.1. Construction

Stage 4 involves the construction of the two-storey high school hall. The hall is to be located at the western end of the high school wing. The hall includes the main hall area, stage, kitchen, movement studio, gym room, amenities/change rooms and associated storage and services rooms. The hall will provide additional facilities and amenity for the school, but stage 4 will not result in any increase in student or staff numbers as the school will be at its operational capacity from stage 3.

At the completion of stage 4, the total GFA of the school will be 11,746m².

Figure 35 Stage 4 Floor Plan



Source: Architectural Plans Tonkin Zulaikha Greer

6.1.2. School Operations

In stage 4 there are no changes proposed to the capacity of the school, nor are any physical changes proposed to the western, northern and southern wings of the development.

Stage 4 will see the construction of the high school hall, which will provide a multipurpose space that can house assemblies, sport games and functions. The proposed operating hours of the multi purpose hall are:

- Monday to Friday:
 - 8:20am to 9:00pm.
- Saturday to Sunday:
 - 9am to 9.30pm.

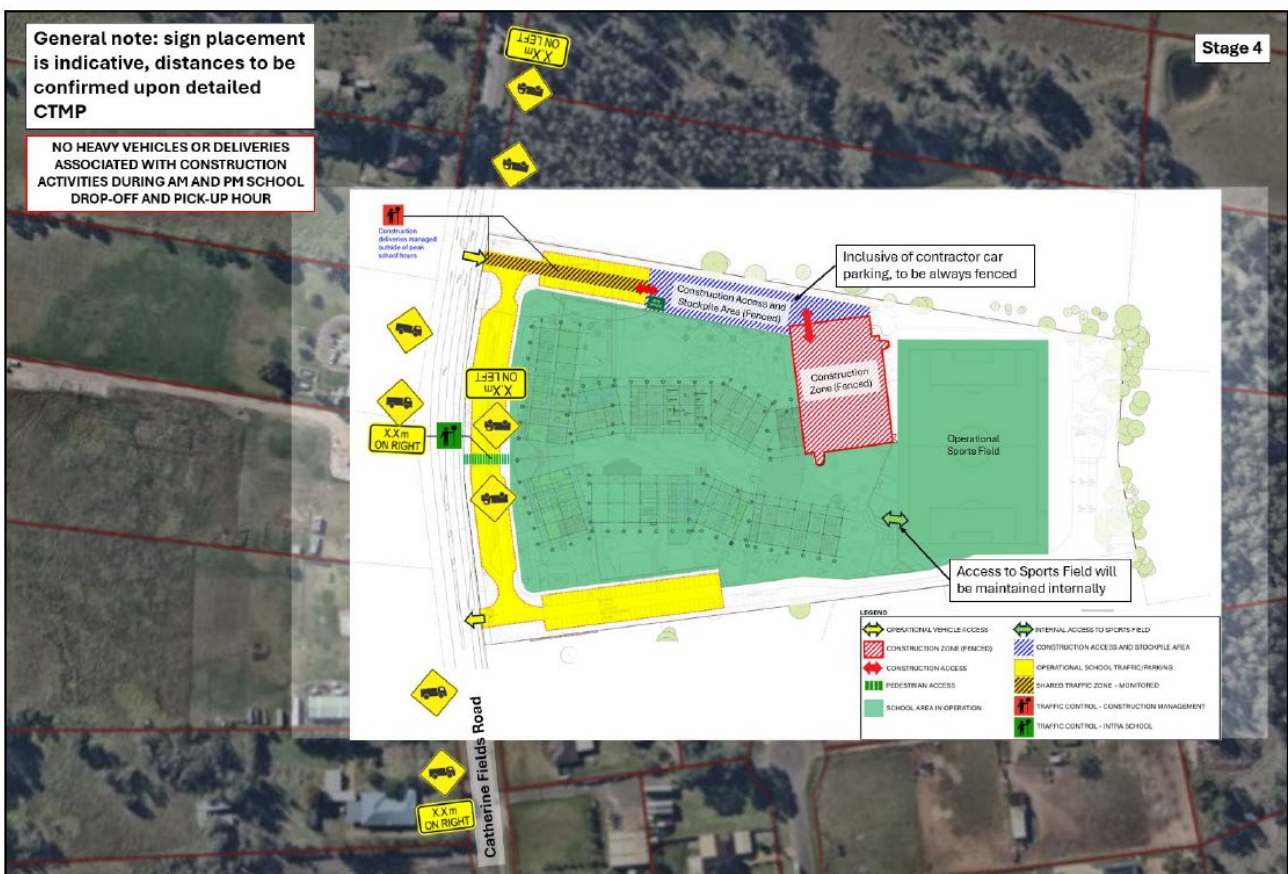
The community will also be able to utilise the high school hall after school hours, extending the positive benefits the school with provide to the community. As the community use of the school will occur outside of typical school hours and does not represent a more intense use of the site, The community will be subject to the same measures as staff and students to ensure their safety during construction and to mitigate any impacts to surrounding receivers.

To ensure the safety of the school community and external community during the operation of stage 3 and the construction of stage 4, short term access control and territorial reinforcement will be introduced, as depicted in the figure below.

The area surrounding the proposed high school hall will be completely fenced off from the rest of the school during the stage 4 construction period. Access to the construction area will be via a dedicated construction access route along the northern boundary of the site.

During the construction of stage 4, the northern vehicular access point off Catherine Fields Road will be shared by operational traffic and construction vehicles. To ensure the safety of vehicles accessing the site, dedicated traffic controllers will be required to manage traffic. Additionally, construction deliveries will be managed to occur outside of school peak hours. This is discussed further in Sections 5.2.3 and 5.2.6.1.

Figure 36 Operational Construction Management Plan



Picture 15 Stage 4 Construction – Operational Management Plan (stage 3)

Source: Tonkin Zulaika Greer

6.2. ENVIRONMENTAL IMPACTS

6.2.1. Environmental Amenity

6.2.1.1. Cross Ventilation

As per section 3.2.1.1.

6.2.1.2. Solar Access

As per section 3.2.1.2.

6.2.2. Traffic and Parking Management

No change is proposed to the traffic and parking arrangements that are provided in stage 3.

6.2.3. BCA/ Access

An assessment of the stage 4 works against the BCA 2022, confirms that the development can comply with the relevant provisions of the BCA, or has the capacity to comply, with further detail to be provided at the Construction Certificate stage.

Stage 4 will involve the construction of the new high school hall and associated amenities. Mandatory upgrades to access requirements will be required to ensure that a continuous accessible path of travel is provided from the existing school buildings to the new hall.

6.2.4. Noise and Vibration Management

The noise impacts in stage 4 are largely the same as when the school becomes operational in stage 3. The exception to this is there will be additional noise impacts resulting from the use of the high school hall.

To mitigate noise impacts extruding from the Main Hall it is recommended that the construction and glazing requirements outlined in Section 8.3 of the Environmental Noise Management Plan are implemented.

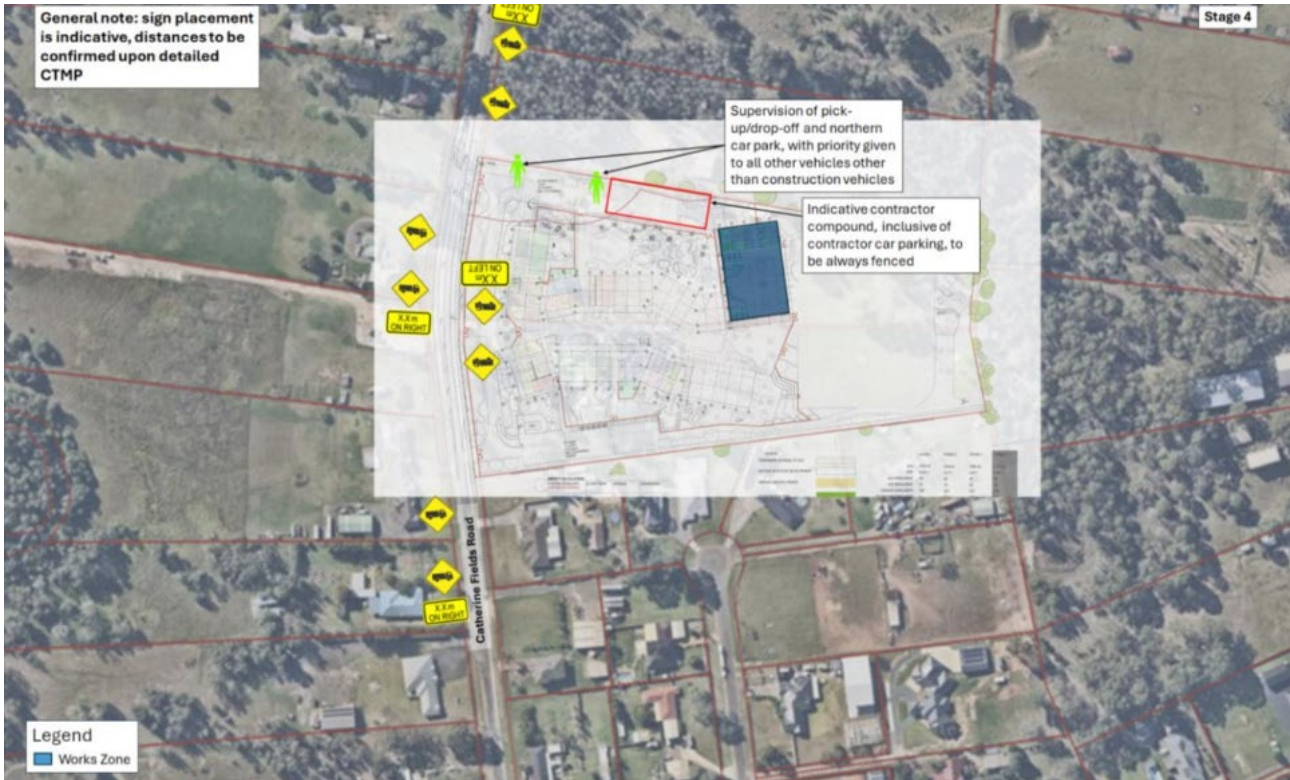
6.2.5. Construction Management

6.2.5.1. Construction Traffic Management

Construction Management for Stage 4 will follow the same principles and methodologies identified in Section 3.2.6 of this report.

Stage 4 will involve the construction of the school hall. All construction work is expected to occur within the site boundary, as such, traffic controllers along Catherine Fields Road will not be required. To minimise any adverse impacts to school operations, supervision of the northern car park will be required during the movement of any construction vehicles. The contractor compound will be situated in the same location as Stage 3 and will be completely fenced.

Figure 37 Traffic Control Stage 4



Source: Ason Preliminary Construction Traffic Management Plan

6.2.5.2. Construction Noise and Vibration Management

In stage 4 the High School Hall will be constructed. The construction will follow the same methodology as the construction of the high school wing, with bulk earthworks and excavation taking approximately 4 weeks and the construction of the hall taking approximately 40 weeks.

A summary of the noise impacts across these two phases are outlined below.

Figure 38 Stage 3 Noise Emission Summary

Description	Calculated Noise Levels (dBA)					
	R1	R2	R3	R4	R5	R6
Phase 2 – Excavation Works						
Excavation Works	62 – 72	51 – 52	52 – 53	48 – 63	55 – 65	48 – 54
Rock Hammering	70 – 79	58 – 59	59 – 60	55 – 70	62 – 72	56 – 61
Noise Management Level	46	46	75	46	46	46
Exceedance	Up to 33 dB	Up to 13 dB	No	Up to 24 dB	Up to 26 dB	Up to 15 dB
Phase 3 – Construction						
Construction Works	65 – 74	54 – 55	54 – 56	51 – 65	57 – 67	61 – 56
Noise Management Level	46	46	75	46	46	46
Exceedance	Up to 28 dB	Up to 9 dB	No	Up to 19 dB	Up to 21 dB	Up to 10 dB

Picture 16 R1-R6

Source: CNVMP – Day Design

To minimise the noise impacts from these activities it is recommended that the noise control mitigation measures outlined in Section 3.2.6.2 are implemented.

6.2.5.3. Construction Waste

The estimated waste volumes and proposed management strategies for stage 4 are detailed in the figure below.

Description	Calculated Noise Levels (dBA)					
	R7	R8	R9	R10	R11	RE
Phase 2 – Excavation Works						
Excavation Works	46 – 49	45 – 47	45 – 47	45 – 47	50 – 58	67 – 83
Rock Hammering	53 – 46	52 – 54	52 – 54	53 – 54	57 – 65	74 – 90
Noise Management Level	46	46	46	46	46	65
Exceedance	Up to 10 dB	Up to 8 dB	Up to 8 dB	Up to 8 dB	Up to 19 dB	Up to 25 dB
Phase 3 – Construction						
Construction Works	48 – 52	47 – 49	48 – 49	48 – 50	53 – 60	70 – 85
Noise Management Level	46	46	46	46	46	65
Exceedance	Up to 6 dB	Up to 3 dB	Up to 3 dB	Up to 4 dB	Up to 14 dB	Up to 20 dB

Picture 17 R7-R11

Figure 39 Construction Waste Stage 4

Materials on Site				Destination/Processing/Disposal		
Type of Material	Est. m ³	Recovery		Recovery	Offsite	Disposal
		%	m ³			
Pallet Wrapping (Soft Plastic)	6.4	96%	6.2	Reuse on site where possible	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Used Pallets	6.2	90%	5.6	Reuse on site for storage where possible	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Cardboard Recycling	5.0	100%	5.0	No reuse/recycling	Collect in designated bin and send for recycling	No disposal to landfill
Metal Offcuts, Sheeting, Wiring, etc.	4.4	98%	4.3	Collect for separation into different metal types for recycling	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
General Waste	4.2	0%	0.0	No reuse/recycling	Collect in separate designated bin	Disposal to landfill
Plasterboard Offcuts	3.9	90%	3.6	No reuse/recycling	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Floor Coverings	3.7	90%	3.4	No reuse/recycling	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Plastics Recycling	3.1	95%	3.0	No reuse/recycling	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Timber Offcuts	2.9	95%	2.8	Potential for onsite reuse	Collect in designated bin and send for recycling	Dispose of residual materials to landfill
Concrete (Excess)	2.5	100%	2.5	No reuse/recycling	Collect in designated bin and send for recycling	No disposal to landfill
Glass (Excess)	2.1	100%	2.1	No reuse/recycling	Collect in designated bin and send for recycling	No disposal to landfill
TOTAL MATERIALS	44.5	86.1%	38.3	Stage 4 construction will produce around 44.5 m ³ of waste materials, of which 38.3 m ³ or 86.1% can potentially be diverted from landfill by being reused on-site or recycled off-site.		

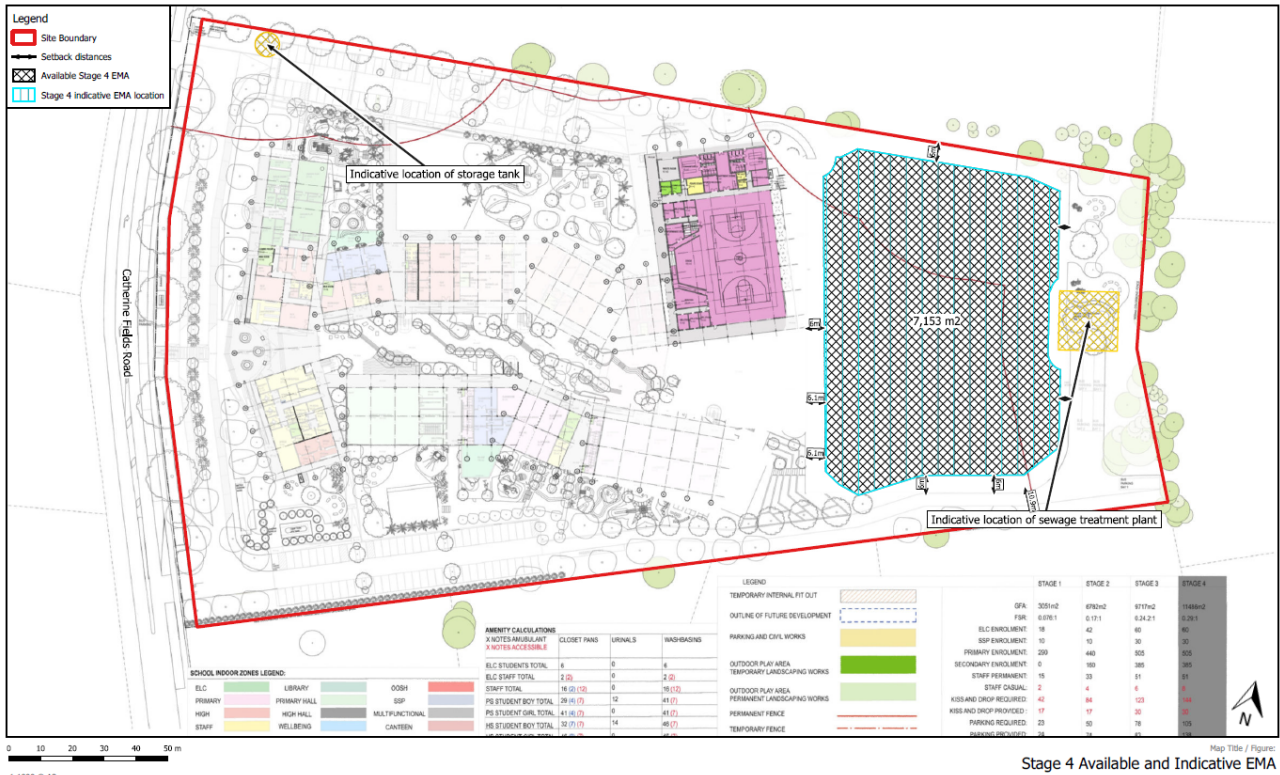
Source: Waste Management Plan – Waste Audit

6.2.6. Wastewater Management

No change is proposed to the wastewater system in stage 4 of the development. The system will be established in stage 1 with the capacity to support the full operational capacity of the development. The school will be fully operational from Stage 3, with the school generating 99.8kL of wastewater per week. The Sewage Treatment Plant will be capable of treating 110% of the peak wastewater flow, to minimise adverse risk.

The available EMA in stage 4 is 7,153m² because of the reduction of the available area resulting from the construction of the primary school and high school wings. The required EMA for stage 4 is 6,619m², therefore the development provides an EMA in excess of what is required. Similarly to stages 2 and 3, the stage 4 driplines and plumbing associated with the extension of the EMA will occur during school holiday periods to minimise impacts to students.

Figure 40 Stage 3 Available Effluent Management Area



Source: Martens – Wastewater Management Report

6.2.7. Operational Waste

The Waste Management Plan provided with the SSDA package includes details for estimated waste generation, management and collection during Stage 4. The permanent storage room will be constructed in Stage 4 and will contain an area for bulky waste storage and a bin wash facility. The Plan estimates waste generation during stage 4 will amount to 25,661.5 litres weekly (15,207.50 L general waste, 3,499.50 L comingled recycling, 6,911 L paper recycling and 44 L Food waste Recycling). Accordingly, the school will require a storage area of 33.72m². A waste storage area of 42m² has been provided which is in excess of the minimum required area.

Figure 41 Stage 4 Waste Storage Location



Source: Waste Management Plan

6.2.8. Cumulative Impacts

Stage 4 will see the completion of the development with the construction of the high school hall. During the construction of the hall, the mitigation measures identified in the preliminary construction traffic management plan are to be implemented to protect the operation of the school and to ensure the safety of the students and community using the school.

The use of the school by the community will provide positive benefits and will maximise the usability of the site. As the community use of the facilities will occur outside of normal school hours and construction hours, no additional impacts are expected to occur as a result of the shared use.

The cumulative impacts of the construction of the hall and the operation of stage 3 will be negligible subject to the implementation of the mitigation measures identified in Section 6.2 of this report.

It is also important to note the wide range of public benefits that will be achieved as a result of the development, with many of these being provided from stage 1. These are as follows:

- The delivery of Minarah College will provide a new Educational Establishment in Western Sydney that meets the highest standards of education. The proposed new school would offer the latest, Science, Technology, Engineering, Art and Math (STEAM) and Vocational, Educational and Training (VET) opportunities, to prepare students for a diverse range of university and vocational careers.
- The proposal will cater for growth in the Macarthur region of Sydney's South West Growth Centre which is undergoing significant transformation with numerous residential subdivisions and developments. The selected site for the proposed new school aims to cater for the projected growth of the area over next 20-year period and beyond, providing necessary educational opportunities for a diverse range of students catering from early learning to year 12, as well as providing special purpose facilities.
- The design also caters to the specific cultural and communal requirements of the students and local users through sensitive, engaging and considered design.
- The school will provide a new educational building in a fast growing and expanding area. A large school hall and playing field will be integrated in this staged construction which will become accessible and utilised by the wider community and as such will become an extension of the public realm. It will be a space of equal access and a shared domain for social engagements, events and interaction and recreation. This can become a significant public asset and promote further urban growth. The two-storey built form along Catherine Fields road will create a new civic address and become a landmark community building.

- The community will also be able to utilise the playing field from stage 1 and the high school hall following completion of Stage 4. Some examples of the types of community uses to be provided is listed below, however this list is not exhaustive and can be altered to cater to the communities' specific needs:
 - U3A (university of the 3rd age) workshops - led by Minarah's IT team or run by external operators.
 - After school sports e.g., Martial Arts, Netball (use of primary hall and theatre/ drama classrooms).
 - Community Languages classes after hours or during the weekend (e.g. HSC subjects).
 - Basketball coaching with Minarah's partnership with NBL - after stage 2 (primary hall and half court).
 - Literature workshops in the library - lead by our Head of English or external operators.
- The proposal will have minimal environmental impacts upon nearby residential receivers. Construction works will be managed to ensure that these impacts are as minor as reasonably possible. Subject to the various mitigation measures recommended by the specialist consultants, the proposal does not have any unreasonable impacts on adjoining properties or the public domain in terms of views, traffic, acoustic impacts during construction and ongoing operation.

6.2.9. Summary of Mitigation Measures

Extensive research and investigation has been undertaken to determine that the site can support a capacity of 980 students. As is outlined in detail in the Amendment Report, and in this report, the proposed staging of the development will allow for the school to grow in line the local population, providing a high quality educational facility to meet the demand of one of NSW, fastest growing regions.

This staging report has addressed the key impacts of each stage and the cumulative impact of the construction, and operational stages of the development and the key mitigation measures have been extracted. Subject to the implementation of the mitigation measures identified in 6.2, the proposed development is expected to have an acceptable impact.

7. CONCLUSION

This Staging Report has been prepared on behalf of Minarah College to provide details of the proposed staged delivery of the new Minarah College campus at 268-278 Catherine Fields Road, Catherine Fields. This report is to be submitted alongside the Amended Environmental Impact Assessment to support the State Significant Development SSD-30759158.

The development is proposed to be undertaken across four stages to allow the school to grow in line with the expected growth and development of the surrounding area. The school will be operating at capacity from Stage 3. A breakdown of the student and staff numbers across each stage is as follows:

- Stage 1: 2026, 318 students (18 ELC, 290 School, 10, SSP), 15 FTE staff.
- Stage 2: 2031, 652 students (42 ELC, 600 School, 10 SSP), 33 FTE Staff.
- Stage 3, 2035, 980 students (60 ELC, 890 School, 30 SSP), 51 FTE Staff .
- Stage 4, 2037, 980 students (60 ELC, 890 School, 30 SPP), 51 FTE Staff.

This report provides further information and clarity on the proposed impacts of the development of the school on surrounding residents and considers the measures required to protect the operation of the school during the latter stages of construction.

This report therefore confirms that the proposed new school is capable of being delivered in a manner that will allow for the continued operation of the site and with minimal adverse impacts to the local community.

APPENDIX A

**ACCOMMODATION SCHEDULE PER
STAGE**

APPENDIX B

ACCOMMODATION SCHEDULE SUMMARY

ACCOMODATION SCHEDULE SUMMARY

ADMIN AND STAFF	1,192
CANTEEN	176
CIRCULATION	5,386
ELC	365
HIGH SCHOOL	2,654
HIGH SCHOOL - HALL	1,752
LIBRARY	1,008
OOSH	83
PRIMARY SCHOOL	2,750
PRIMARY SCHOOL - HALL	534
SERVICES	101
SSP UNIT	313
WELLBEING UNIT	104
TOTAL	16,418 m²

Source: Architectural Plans – Tonkin Zulaikha Greer

DISCLAIMER

This report is dated May 2025 and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Ltd (**Urbis**) opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of MINARAH COLLEGE (**Instructing Party**) for the purpose of Staging Report (**Purpose**) and not for any other purpose or use. To the extent permitted by applicable law, Urbis expressly disclaims all liability, whether direct or indirect, to the Instructing Party which relies or purports to rely on this report for any purpose other than the Purpose, and to any other person which relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

In preparing this report, Urbis was required to make judgements which may be affected by unforeseen future events, the likelihood and effects of which are not capable of precise assessment.

All surveys, forecasts, projections and recommendations contained in or associated with this report are made in good faith and on the basis of information supplied to Urbis at the date of this report, and upon which Urbis relied. Achievement of the projections and budgets set out in this report will depend, among other things, on the actions of others over which Urbis has no control.

In preparing this report, Urbis may rely on or refer to documents in a language other than English, which Urbis may arrange to be translated. Urbis is not responsible for the accuracy or completeness of such translations and disclaims any liability for any statement or opinion made in this report being inaccurate or incomplete arising from such translations.

Whilst Urbis has made all reasonable inquiries it believes necessary in preparing this report, it is not responsible for determining the completeness or accuracy of information provided to it. Urbis (including its officers and personnel) is not liable for any errors or omissions, including in information provided by the Instructing Party or another person or upon which Urbis relies, provided that such errors or omissions are not made by Urbis recklessly or in bad faith.

This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above

